THE IMPACT OF RELATIVE COST OF PROCESSING CASSAVA INTO DIFFERENT END-PRODUCTS ON RELATIVE RETURNS

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ABSTRACT

The study was conducted to assess the impact of relative cost of processing cassava into different end-products on relative returns. The study was carried out in Oruk Anam Local Government Area of Akwa Ibom State, a state situated in the South South geographical zone of Nigeria. The study area has a preponderance of rurality whose major occupations include farming and trading. Stratified random sampling was used to select cassava processors in the study area. The questionnaire was used in data collection with respect to objectives (1) and (2) as descriptive and inferential statistics were used in analyzing data obtained. Acceptability of the end product, price of the end product, adhering to the traditional method of processing cassava and consideration of the profit association with the end-products were considered as the factors affecting cassava processing. From the result, it was observed that there is significant difference in the returns from the processing of Cassava into different end product and there is significant difference in the cost of processing Cassava into different end product. Also, acceptability of the end product, price of the end product, adhering to the traditional method of processing cassava and consideration of the profit association with the end-products were affecting cassava processing. One of the recommendations was that government should assist in donating machines to Cassava processers which will enable them produce cassava on a large scale.

KEYWORDS: Relative Cost, Processing, Cassava, End- Products, Relative Returns

INTRODUCTION

Cassava is Africa's second most important staple food after maize (Nweke, et al; 1999). As a food crop, cassava has higher yields per hectare, is tolerant to drought and has great flexibility in its planting and harvesting (Nkweke, et al., 1999). As a source of starch, it is highly competitive. The root contains more starch by weight than almost any other crop, and the crop starch is easy to extract using simple technologies. A desirable outcome for the Nigerian population is a strong diversified economy able to generate employment and sustained incomes for its citizens increasing the utilization of industrial capacity, diversifying export earnings and providing gainful employment for the population. To achieve these, former president Olusegun Obasanjo in 1999 pledged to support the agricultural sector and announce the need for immediate action in five agricultural subsectors, cassava, rice vegetable oils, livestock and tree crops.

As a food crop, cassava fits well into the farming systems of the small holder farmers in Nigeria because of its availability all year round, thus providing household food security (FAO, 2003). However, increased demand has put a lot of pressure on cassava utilization. The principal mode of cassava utilization is the traditional food processing at home or in cottage and small scale operations. It was estimates by FAO (1998) that 88 percent of cassava produced in African countries, including Nigeria, is consumed in the form of human food in different forms of Garri, fufu, and Tapioka to a lesser extent. The demand for chips especially

for animal feeds is just emerging and is very low. However, there is an appreciable level of demand for textile, pharmaceutical and pulp and paper industries, adhesive for packaging industries and flour for bakery and confectionery industries.

Statement of Problem

Although, Nigeria is the largest producer of cassava in the world, harvesting and processing technologies adopted is at its infancy. The rate of cassava processing does not match the rate of cassava production in Nigeria (Oke, 2005). Inadequate investment in cassava processing has therefore led to a glut of the crop in the domestic market. Evidence from South East Nigeria shows that high root yields have substantial cost-saving advantage under manual processing technology. There is therefore the need to process cassava substantially into products such as chips, pellets, flour starch which are vital raw material in the livestock feed alcohol/ethanol, textile, confectioneries, wood, food and soft drinks industries. These products are also tradable in the international market. Oko, (2005) indicated that approximately 16 percent of cassava root produced in Nigeria in 2001 was utilized as industrial raw materials. About 10 percent was used chips in animal feed, 5 percent was processed into a syrup concentrate for soft drinks, less than 1 percent was processed into high quality Cassava flour used in biscuits and confectionery, dextrin pre-gelled starch for adhesives, starch and hydrosylates for pharmaceutical, and seasonings (Kormawa and Akowoda, 2003).

Objective of the Study

The objectives of the study are to:

1. Determine the relative cost of processing cassava into different end- products.
2. Determine the relative returns from the different end products of cassava processing.

Hypothesis of the Study

1. There is no significant difference in the returns from the processing of cassava into different end-products.
2. There is no significant difference in the cost of processing Cassava into different end-products.

Literature review

Contribution of Cassava to the Nigeria economy

The average Nigerian meets about 95 percent of his minimum energy requirement mainly from cereal and roots and tubers, followed by gains (Ugwu, 1996). Cereal constitutes the highest group of foods produces and consumed in the Northern zones of the country while roots and tubers constitute the highest group in the South and central zone (NRCRI, 1996). Cassava food productions are the most important staple of rural and urban household in Southern Nigeria. Recent estimates show that the dietary caloric equivalent of per capital consumption of cassava in the country amounts to about 238 Kcal (Cock, 1985). This is derived from the consumption of garri (toasted granules), chips/flour fermented pasted and/or fresh roots the principal cassava forms.

In the south, cassava followed by yam is the staple food. Yam consumption in most of the South is seasonal, being highest in the months of November to January, the period of harvest. Thereafter, cassava products and other supplementary foods take over. In the middle belt, yam is the preferred staple in most of the zone followed by Cassava. These crops are grown primarily for food and consumed as such but substantial proportions are sold. 40 percent of Cassava is consumed and rest (60 percent) sold (NRCRI, 1996). During the growing season or hungry period, as much as 50 percent of food intake is from cassava along with grains, as less yam is available. In all locations, Cassava has become a very popular crop and it is fast replacing yam and other traditional staples, gaining ground increasingly as an insurance crop against hunger.

Cassava is also a major cash crop. A large proportion of cassava, probably large than from most other staples is planted purposefully for scale. (FAOLLC, 1995). In comparison with other staples, cassava generates income for the largest number of households. Planting of high yielding varieties has resulted in higher cash income, especially increase with access to improved technology and market- FMANR (1997) suggest that income from the marketing of cassava produce generates up to 34 percent of the total household farm income in Imo and Ogun State and 20 percent in Benue State. Considerable income is also generated from cassava processing. As women are largely responsible for growing and processing cassava, it provides them with an income-earning opportunity, enabling them to purchase commodities which can contribute to household food security and improved social status. Thus, the roles of Cassava in Nigeria's economy include its function as a famine-reserve crop, as rural staple food; cash crop and urban staple food, industrial raw material and as a cheap source of livestock feed.

Method

Area of Study

The study was conducted in Oruk-Anam local government Area of Akwa Ibom State.

Population of the Study

The study population was cassava processors/farmers in Oruk-Anam local government area of Akwa Ibom state

Sampling Procedure and Sample Size

Oruk-Anam was purposively sample for the study because of cassava processing activities taking place there. Stratified random sampling was used to select cassava processors in the study area.

Instrument for Data Collection

A survey questionnaire was developed, adopted and used in the study. The questionnaire was used in data collection with respect to objectives (1) and (2)

Analysis of Data

To accomplish the objectives of the study, a combination of descriptive and inferential statistics was used in analyzing data obtained. Descriptive statistics such as tables were used to achieve objective (1) and (2).

Method of Data Analysis

Various analytical techniques were used for the analysis of data obtained through the questionnaire. These include description and inferential statistics used in analyzing data obtained. Descriptive statistic such as tables were used to achieve objectives (1) and (2) while one-way analysis of variance was used to analysis of variance was used to analysis the data with respect to objective 3 and 4 in order to produced f-value.

Hypothesis Testing

Hypothesis one

The null hypothesis stated that there is no significant difference in the returns from the processing of cassava into different end products.

In order to test the hypothesis, one-way analysis of variance was used to analyze the data in order to produce f-value (see table 1)

Table 1

One-way analysis of variance of the difference in the returns from the processing of cassava into different end products.

Groups	N	X	SD
Garri	43	1050.6977	384.72251
Fufuf	43	899.1163	545.74315
Tapioka	6	828.5000	152.96372
TOTAL	**92**	**965.3587**	**462.39687**

\Source of variation	Ss	Df	Ms	f
Between groups	614226.17	2	307113.087	1.451
Within groups	18842563	89	211714.191	
TOTAL	**704165.22**			

***significant at 0.05; level df 2& 89; critical f-value**

The above table 1 shows that the calculated f-value as (1.451) this value was tested for – significance by comparing the obtained f-value (1.45) with the critical f-value (3.15) at 0.05 level with 2& 89 degree of freedom. The calculated f-value (1.415) was less than the critical f-value (3.15). Hence, the result was not significant. The result therefore means that there is no significant difference in the returns from the processing of Cassava into different and products.

Hypothesis Two

The null hypothesis stated that the there is no significant difference in the cost of processing Cassava into different end products.

In order to test the hypothesis, one-way analysis of variance was used to analyzed the data in order to produce f-value (see table 2).

Table 2
One-way analysis of variance of the difference in the cost of processing cassava into different end products.

Groups	N	X	SD
Garri	43	201.8605	64.07792
Fufuf	43	141.8605	101.37755
Tapioka	6	110.000	15.49193
TOTAL	**92**	**167.8261**	**87.96635**

Source of variation	Ss	Df	Ms	F
Between groups	98862.892	2	49431.446	7.268*
Within groups	605302.33	89	6801.150	
TOTAL	**704165.22**	**91**		

***significant at 0.05; df 2& 89; critical f-value 3.15**

The above table 2 shows that calculated f-value as (7.268) the value was tested for significance by comparing it with the critical f-value (3.15) at 0.05 level with 2 & 89 degree of freedom. The calculated f-value (7-268) was greater than the critical f-value (3.15). Hence the result was significant. The result therefore means that there is significant difference in the cost of processing cassava into different end products.

Discussion of Findings

The result of the data analysis in table 1 was not significant due to the fact that the obtained f-value (1.451) was less than the critical f-value (3.15) at 0.05 level with 2 & 89 degree of freedom. The result implies that there is significant difference in the returns from the processing of Cassava into different end products. The significance of the result caused the null hypothesis to be accepted while the alternative one was rejected.

The result of the analysis in table 2 was significant due to the fact that the obtained f-value with 2 & 89 degree of freedom. The result implies that there is significant difference in the cost of processing Cassava into different end product. The significance of the result caused the null hypothesis to be rejected while the alternative one was accepted.

Conclusion

From the study, it was concluded that sources for cassava processing includes their own farm and purchases made from the farm. The result implies that there is significant difference in the returns from the processing of Cassava into different end products. Also, acceptability of the end product, price of the end product, adhering to the traditional method of processing cassava and consideration of the profit association with the end-products are affecting cassava processing.

Recommendation

The researcher wishes to present the following recommendation

1. Government should assist in donating machines to Cassava processers which will enable them produce cassava on a large scale.
2. Training and awareness should be carried out on the benefits of cassava products to enable more SMEs start-ups.
3. Since more people prefer Fufu to Garri because of its weight, Cassava should be processed into Fufu.

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