



Economics of Cassava Flour Production in Iwajowa Local Government Area of Oyo State

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

This study investigated the economics of cassava flour production in Iwajowa Local Government Area of Oyo State, Nigeria. The instrument of data collection was a well-structured questionnaire and interview schedules. A simple random sampling technique in proportion to population was used to select 120 respondents in the study area. Descriptive statistics and gross margin analysis were used to analyze the socioeconomic characteristics and cassava flour production inputs. The cassava flour processors in the study area were still in their active age with a relatively low level of education and moderate family size. Majority engaged in cassava flour production as primary occupation using soaking and sundry processing techniques. Therefore ₦23064 was the mean of gross margin in the area. It is recommended that cassava flour processors should be educated on new production technologies, assisted to have access to improved processing machine and to solve the problems itemized.

Keywords: Economic; cassava flour; production; Iwajowa LGA; Oyo State and Nigeria.

1. BACKGROUND OF STUDY

Cassava (*Mainhot esculenta*) is one of the World's important food crops especially in Nigeria where it plays essential roles in the food and industrial economy [1,2]. It is a staple food crop in South-East, South-West and other parts of Nigeria. Cassava per capital consumption is very high and provides about 80% of the total energy intake of about 60 million Nigerian [3,4].

Cassava flour is suitable for several applications at the household level and as acceptable raw materials for many manufacturing industries. Cassava flour should be white and have a good smell without contamination [5,6]. Increasing in cassava flour demand has been primarily due to government policy, rapid population growth and large market demand [7]. Therefore, industrial production of cassava flour may not be able to satisfy the pressure of consumption and enormous uses of cassava flour that will further increasing demand. Cassava production globally and specifically the presently available cassava production level in globally and in Nigeria [8].

There is an urgent need to stimulate local cassava flour production policy to meet all these industrial and local utilities. As part of stakeholders in the production of cassava, flour small and medium cassava flour processors need to be encouraged to improve the quality of their products. To improve the quality of cassava flour produced by local small and medium processors, the current economic analysis situations need to be researched by an attempt to provide answers to the following questions: What are the socio-economic characteristics of cassava flour processors? What is the level of profitability of cassava flour production? What are the various methods of processing cassava flour? Is there any constraints faced by the cassava flour farmers in their production activities in the study area? Thereafter, relevant empirical-based policy recommendations that will further enhance the quantity and quality cassava flour produce in mitigating the demand-supply gap will follow

The raw materials for cassava processing activities readily available in the area. Therefore, performing economic analysis of cassava flour production in Iwajowa local government area of Oyo state is suitable and relevant

2. STUDY AREA

The study was carried out in Iwajowa Local Government Area of Oyo State, Nigeria. Its

headquarters is Iwere-ile town, has an area of 2,529 km² and a population of 102,980 according to 2006 census. It bounded in the west by Benin Republic, in the North by Atisbo Local Government and in the South by Ibarapa Central Local Government Area of Oyo State. It comprises of several towns and village among them are Iwereile, Iganna, Idiko-ile, Ayetero. Iwajowa Local Government Secretarial is located at Iwere-ile, the headquarter of the local government is under Oyo North senatorial district, Oyo State, Nigeria. This Local Government is naturally endowed with fertile land for food and cash crop like cocoa, cashew and other minerals resources like Kaolin, Tantalite, Granite, and Limestone etc. The study area for this study is Iwajowa Local government of Oyo State. The predominant occupation of the inhabitants is agriculture, specifically crop production and cassava is of the key crops produce in the area.

3. DATA COLLECTION AND SAMPLING PROCEDURE

The instrument of data collection for this study was a well-structured questionnaire. The data was collected using an interview schedule for the respondents. The population of the study comprises of cassava flour processor in the study area. A simple random sampling technique in proportion to population was used to select 120 respondents in the study area. The villages that were randomly selected for the study include; Ayetero, Idiko-ile village, and Iwere-ile village. After thorough data cleaning, about 90 respondents with complete data set that usable were employed in the final analysis of this study.

3.1 Data Analysis

Descriptive statistics such as frequency count, means and percentage were used to analyze the socio-economic characteristics such as age, sex, religion, marital status, family size. The gross margin analysis was employed as tools for economics analysis of cassava flour production for this study.

4. RESULTS AND DISCUSSION

4.1 Socio-economic Characteristics of Respondent

This section presents the outcome of the analysis on the socioeconomic variables of the

respondents in forms of frequency, percentage, mean and standard deviation. Some of the variables considered include; sex, age, educational qualification, marital status, religion, household size and occupation. Table 1 show that 7.8% of the respondents were male while 92.8% of the respondents were female. This shows that both male and female involved in the cassava flour production, though the proportion of male was not so much. Also, about 17% of the respondents were between less than 40years of age, 16.7% were between 40-45 years of age, 25.6% fall between 46-50 years of age while 41.1% of the respondents were above 50years of age. The mean age of respondents was 49 years with 8years as the standard deviation. This shows that a very large proportion of cassava flour producers in the study area were still in their active age.

Moreover, the result reveals that close to 56% of the respondents have primary education, 10% of the respondents have secondary education, while about 34% have non-formal education. This indicated that the majority of cassava flour producers in the study area have a relatively low level of education. The relatively low level of education among the respondents could negatively affect the rate of adoption of improving and hygienic techniques of cassava flour production. Table 1 further shows that 78.9% of the respondents have married, 8.9% have divorced, while 12.2% are widowed. This indicates that many of producer of cassava flour had being in family way. And about 60% of the respondents were Christian, 38.9% of the respondents practise Islam while the remaining were traditional worshippers. This was evident that there were no religious barriers to cassava flour production in the study area.

Table 1. Socio-economic characteristics of respondents

Variables	Frequency	Percentage	Mean	SD
Sex				
Male	7	7.78		
Female	83	92.22		
Age [years]				
≤40	15	16.67		
40-45	15	16.67		
46-50	23	25.56	49.32	8.29
<50	37	41.08		
Education Level				
Primary	50	55.56		
Secondary	9	10.00		
No formal education	31	34.44		
Marital Status				
Married	71	78.89		
Divorced	8	8.89		
Widowed	11	12.22		
Religion				
Christianity	54	60.00		
Islam	35	38.89		
Traditional	1	1.11		
Household size				
<3	17	18.89		
3-6	72	80.00	3.52	1.19
>6	1	1.11		
Primary Occupation				
Farming	27	30.00		
Trader/business	63	70.00		
Secondary Occupation				
Farming	89	98.89		
Trader/business	1	1.11		

Further, analysis reveals that nearly 19% of the respondents have between less than 3 members in their household, 80% of the respondents have between 3-6 members and almost 1% of the respondents have above 6 members. The mean average of a typical household in the area was about 4 members, while the standard deviation of the household size was 1 member. The outcome of the result also shows that 30% of the respondents engage in farming as their primary occupation; while 70% of the respondents were engaged in cassava flour processing as their primary occupation. This indicates that cassava flour producers are also engaged in cassava production as primary occupation. Moreover, the analysis carried out reveals that 98.9% of the respondents engage in farming as their secondary occupation, while 1.1% of the respondents engage in trader as their secondary occupation. This indicates that cassava flour producers are engaged in farming as a secondary occupation and this is complimentary. It is an attribute of rural dwellers that usual engage in farming activities to supplement their primary source of income.

4.2 Cassava Flour Cost and Processing Analysis

Table 2 below shows that 100% of the respondents were using pick-up to buy cassava tuber. This shows that the common unit of measurement for purchasing cassava tuber in the study is pick-up van. The result also shows that 32% of respondents were buying cassava tuber at the rate of ₦18,000 per pick-up while 67.8% of cassava flour processors were buying cassava at the rate of ₦18,500 per pick-up. The mean cost of cassava tuber was ₦18338, while the standard deviation of cassava tuber was ₦234.97.

Furthermore, the cost of peeling cassava tubers varies among the respondents, about 34.4% expended ₦300 per pickup van, 33.3% spent between ₦350 to ₦400 per load of pick up, while 32.2% incurred ₦400 per full pickup. The mean cost of cassava peeling was about ₦397.8, with a standard deviation of ₦82.1. Almost all (100%) of respondents employed soaking processing technique. These indicate the common technique of cassava flour production in the study area is soaking method. This is to reduce production cost and the cyanide content of the cassava.

All the respondents engage in production of cassava flour for commercial purpose. This indicates cassava flour producers in the study area were engage as a source of income and livelihood. The result also shows that 17.8% of the respondents realized between 3-3.9 bags of cassava flour, 75.5% of the respondents produced between 4-6 gags while 6.7% of the respondents obtained more than 6 bags. The average mean of the cassava flour was almost 5 bags while the standard deviation of cassava flour quantity was about 1 bag. The table further shows that 36.7% of the respondents sold cassava flour for less than ₦8,000 a bag, 30% of the respondents sold ₦8,500 per bag while 33.3% offered a bag for more than ₦8,500. The average selling price of a bag of cassava flour was ₦8,483 while ₦420.34 was the standard deviation. All the cassava flour processors employed the sundry technique. This indicates that sundry processing techniques were the only option available to cassava flour processors in the study area. The drying duration of 4days was indicated by the majority of respondents.

4.3 Constraint Faced by Cassava Flour Processors

The result on Table 3 shows that 30% of the respondents ranked rain as major severe challenge during wet season, 21.1% of the respondents were ranked animal disturbance, 26.7% of the respondents were facing scarcity of water supply, 10% of the respondents identified security as major problem, while 12.2% of the respondents indicated long distance to market as hindrance to efficient distribution of cassava flour in study area.

4.4 Gross Margin Analysis

Table 4 below shows that the economic analysis was performed to estimate the gross margin as an indicator of the profitability of cassava flour production among the respondents in the study area. The outcome of the analysis is presented on Table 4 below and this shows that the mean of total revenue was ₦41800.67 with ₦8364.99 as standard deviation. The mean of total cost ₦18736.67 with ₦185.10 was the standard deviation. Therefore ₦23064 was the mean of gross margin with ₦8337.42 as the standard deviation of the gross margin. The value of the gross margin analysis revealed that cassava flour production among the respondents was profitable.

Table 2. Distribution of Cassava Flour Cost and Processing Analysis

Variables	Frequency	Percentage	Mean	Standard deviation
Measurement (unit)				
Pick-up	90	100		
Cassava Tuber Cost				
<₦18,000	29	32.22		
>₦18,500	61	67.78	18338.89	234.97
Cost of peeling				
<₦300	31	34.44		
₦350-400	30	33.33	397.78	82.1
>₦400	29	32.22		
Cassava flour Purpose				
Commercial purpose	90	100		
Cassava flour Quantity (bag)				
3-3.9	16	17.77		
4-6.0	68	75.53	4.79	0.95
< 6.1	6	6.66		
Cassava flour selling price				
>₦8,000	33	36.67		
₦8,000-8,500	27	30.00	8483.33	420.34
< ₦8,500	30	33.33		
Processing Methods				
Soaking	90	100		
Sun drying	90	100		
Drying duration				
4 days	89	98.89		
6 days	1	1.11		

Table 3. Distribution of constraint faced by Cassava Flour processors

Variables	Frequency	Percentage
Rain	27	30.00
Animal disturbance	19	21.11
Scarcity of water	24	26.67
Security	9	10.00
Market distance	11	12.22

Table 4. Sum total revenue total cost and gross margin

Variable	Mean	Standard deviation
Total revenue	41800.67	8364.99
Total cost	18736.67	185.10
Gross Margin	23064.00	8337.42

5. CONCLUSION AND RECOMMENDATION

The cassava flour producers in the study area were still in their active age with a relatively low level of education and moderate family size. Majority engaged in cassava flour production as primary occupation using soaking and sundry processing techniques. Therefore ₦23064 was the mean of gross margin. Summarily, cassava flour production among the respondents was

profitable. The following recommendations are suggested based on the findings of the research carried out; Cassava flour processors should be educated on new cassava flour production technologies in order to make the product to meet international standard for exportation. Processor should be assisted to have access to improved processing machine in order reduce the drudgery. Also the problems itemized should be addressed accordingly.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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