

# PROFITABILITY OF GROUNDNUT MARKETING IN KATAGUM LOCAL GOVERNMENT AREA, BAUCHI STATE, NIGERIA

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## Abstract

***This study analyzed the profitability of groundnut marketing in Katagum Local Government Area, Bauchi State, Nigeria. Data were obtained using simple random and purposive sampling techniques by the use of questionnaire. Descriptive statistics, gross margin and gini-coefficient was the analytical techniques used. The results revealed that majority of the respondents (81.7%) were within the age bracket of 21-40, all the respondents were male (100%). The study also revealed that majority of the respondents (71.7%) were married with the highest percentage (91.6%) of household size within the bracket 1-20. The marketing channel result indicated that most of the marketers (40.0%) purchase the groundnut from selling agent and majority (51.70%) of the marketers sell their groundnut to the retailers. The study also revealed that the market is highly competitive with a gini coefficient of 0.7048, the results also revealed that, groundnut marketing is a profitable business, with attractive gross margin of N1869/100kg bag on investment. This study shows that groundnut marketers are faced with several constraints in their marketing activities. Notable among them are high cost of transportation, instability of price, seasonality of production, inadequate capital base, high cost of input, inadequate market communication, scattered nature of production, small scale nature of producing area and inadequate storage facilities.***

**Keyword: Profitability, Marketing, Groundnut and Gross Margin.**

## 1.INTRODUCTION

Before the oil boom of 1970s, agriculture contributed to the real sector of Nigerian economy, which was characterized by a multitude of small scale farmers scattered over wide expanse of land area. Despite the discovery of crude oil in Nigeria, agriculture remain significant sector in Nigerian economy, because it provides primary means of employment for Nigerians and account for more than one-third of total Gross Domestic Product (Food and Agriculture Organization, 2003). Groundnut *Arachis hypogea* provided raw materials for edible and industrial vegetable oils and groundnut cake for livestock feed. The seed contain about 27% protein, 45% oil and 10% carbohydrate. It is eaten raw, boiled, roasted made into paste use for soup stews and is extensively used for West Africa as a cooking oil as well as in industries for making margarine (Nwanosike, 2011). As a cash crop, groundnut played an important role in the economy of Nigeria as over 20% of the total export was from the crop between 1960-1969, placing Nigeria as the third largest producers of the crop in the world after India and China (Nwanosike, 2011). The export market and local industrial processing of groundnut led to the famous pyramid of Kano in the peak production years of between 1950-1960 (National Agricultural Extension Research Liaison Service, 2005). Agricultural marketing according to Olukosi *et al.* (2005) is the performance of all business activities which direct the forward flows of good and services to consumers in

order to accomplish producer's objective. This system determines the price allocation of resources, income distribution and capital formation. Olukosi *et al.* (2005) furthermore he explained that, specialized production, structure and performance of the marketing system enhance the total production of a given commodity, consumer price, adoption of improved technology, development and growth of the entire economy.

The major producing countries include India, China, Nigeria, Burkina Faso, Uganda and Kenya (International Institute of Tropical Agriculture, 2006). Other groundnut producing countries next to Nigeria are Benin republic, Cameroon and Chad (FAO, 2003). The main groundnut producing states in Nigeria are Kano, Kaduna, Bauchi, Gombe and Borno (Adebayo, 2005).

Smallholder's groundnut marketers in Nigeria are faced with numerous challenges amid a network complicated complexities. Apart from assuming the full risk of business undertakings, they have very little capital to invest in modern production inputs, whose price have then doubled (Nwanosike, 2007). Price received for their produce is lower than the paid by the consumers, therefore, marketers faced higher transaction cost due to high transportation which is heightened by limited number of transport facilities and lack of access roads. This coupled with limited knowledge and information of other market outlets complicated the number. In addition to that, lack of adequate and proper storage facilities and arrangements force farmers to sell out at a time when prices are lowest. The nature of their produce (small quantities) and their numerical size (millions) reduce their bargaining power as individual sellers. Despite the importance of groundnut marketing in Nigeria, have or no much research as been conducted in Nigeria. This study was aimed at analyzing the structure and performance of groundnut marketing in Katagum Local Government Area of Bauchi State, Nigeria.

## 2.MATERIAL AND METHOD

The study was conducted in Katagum Local Government Area which is one of the 20 Local Governments of Bauchi State. It lies between latitude  $9^{\circ} 30'$  and  $12^{\circ} 30'$  North and Longitude  $8^{\circ} 45'$  and  $11^{\circ} 0'$  East (Katagum Local Government Council, 2003). It shares common boundaries with Itas-Gadua to the North-West, Jama'are in the West, Dambam in the East, Misau in the South-East, Giade in the South and Shira in the South-West

(Bello, 2003) as shown in Fig. 1. With the projected growth rate of 3.8%, the population of the study area is 349,825 as at 2011 (National Population Commission, 2006). The area consist of predominantly civil servant and small scale farmers using traditional farming systems. The highest mean temperature of the study area ranges from a maximum of  $32.6^{\circ}\text{C}$  occur in the February to June period and the lowest mean monthly maximum temperature of  $25.12^{\circ}\text{C}$  to  $27.5^{\circ}\text{C}$  occur in August. The hottest months are March and April while the coldest months are December and January (K.L.G. 2003). Also reported that an average rainfall of 780mm per annum is received in the area, with the rainy season which start from May-October with highest rainfall in August and dry season from November-April. The vegetation of the study area is classified under northern guinea savanna of the country with mass measuring about  $1,129\text{Km}^2$ , having grass and open savanna woodland with trees of high up to six meters (6m) and above (Bauchi State Agricultural Development Programme, 2004). The most prominent species of grass and trees commonly found in the study area include; Gamba (*Adropogon gayanus*), Locust bean (*Parkia biglobosa*), Neem (*Azadirachta indica*), Baobab (*Adansoniya digitata*) and Yellow acacia (*Acacia albida*) (K.L.G. master plan, 2008). Marketing activities in the area include, groundnut, beans, millet, maize sorghum marketing.

### 2.1. Sampling Techniques

Simple random and purposive sampling was employed. Three (3) markets (Namely; Azare, Madara and Chinade) were purposively selected out of five (5) markets in the study area for marketing of groundnut based on the size of the markets, a total of sixty (60) respondents were randomly selected which include 27, 19 and 14 respondents from Azare, Madara and Chinade market respectively. The use of simple random sampling techniques in each market is to avoid biasness in data collection.

**Table 1. Population of groundnut marketers and sample size of the respondents from different markets**

Markets	Population	Sample size (20 %)
Azare	135	27
Madara	96	19
Chinade	71	14
<b>Total</b>	<b>302</b>	<b>60</b>

*Source: Field survey, 2012*

### 2.2. Data Collection

Both primary and secondary data were used for the study. The primary data were collected by the use of questionnaire. It include socio-economic, marketing channel, costs and returns, structure and performance and the constraints variables. The sources of secondary information include textbook, journals and pamphlet.

### 2.3. Analytical Technique

The analytical tools used for the study include descriptive statistics, gross margin and gini-coefficient.

#### 2.3.1. Descriptive statistics

Descriptive statistics method used include frequency, percentages and ranges. These models were used to satisfy objectives i, ii and v.

#### 2.3.2. Gross margin

Gross margin was used to determine the costs and returns associated with groundnut marketing. The model is explicitly expressed as:

$$GM = GR - TVC$$

Where:

GM = Gross Margin (N/100kg bag)

GR = Gross Revenue (N/100kg bag)

TVC = Total Variable Cost (N/100kg bag)

The gross margin method was used on the assumption that fixed cost of production is negligible.

#### 2.3.3. The gini-coefficient

The analytical tool was used to analyze the structure and performance of groundnut markets and it is expressed implicitly as:  $GC = 1 - \sum XY$

Where:

GC = Gini-Coefficient

X = Percentage of marketers per period of study

Y = Cumulative percentage of marketers sales.

## 3.RESULTS AND DISCUSSION

**Table 1: Distribution of respondents according to Socio-economic Characteristics**

Items	Frequency	Percentage (%)
<b>Age group (years)</b>		
21 – 30	28	46.7
31 – 40	21	35.0
41 – 50	08	13.3
51 and above	03	05.0
<b>Gender</b>		
Male	60	100
Female	-	-
<b>Level of education</b>		
Qur'anic education	18	30.0
Primary education	08	13.3
Secondary education	13	21.7
Tertiary education	19	31.7
Adult education	02	03.3
<b>Age group (years)</b>		
1 – 10	20	33.3
11 – 20	35	58.3
21 – 30	05	08.3
<b>Marketing experience(yrs)</b>		
1 – 5	22	36.7
6 – 10	14	23.3
11 – 15	12	20.0
16 – 20	08	13.3
21 and above	04	06.7
<b>Source of capital</b>		
Personal savings	47	78.4

Friends and relations	09	15.0
Cooperative society	02	03.3
Bank	02	03.3
<b>Total</b>	<b>60</b>	<b>100.00</b>

Source: Field survey data, 2012

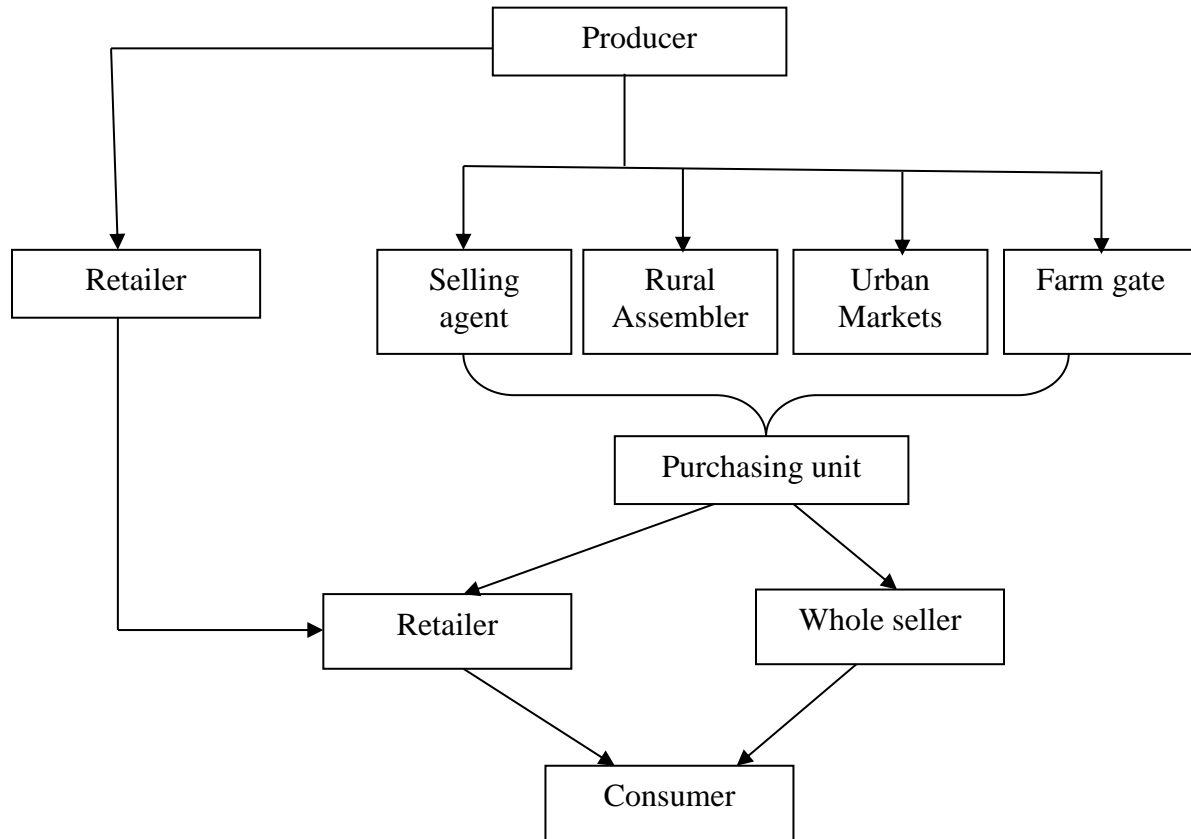
Table 1 shows that majority (81.7%) of the respondents were between ages 21-40 years. Respondent 41-50 years constituted 13.3%, while only 5% were above 50 years. Most of the marketers studied were youth. This result is in conformity with the findings of Maikudi (2009) who reported his mean age of 33 years old of cowpea traders in Bauchi State. This result shows that majority of groundnut traders in the study area are not only young but energetic and will be able and willing to take risk in the expectation of business failure or profit. Age has immense influence in decision making process of individuals with respect to risk taking and availability of human labour and it is aversive to risk taking. People who are young are more prone to taking risk because they recover faster from the after math of concentrated than old. Hence they adopt new agricultural innovations faster than old people with respect to marketing of groundnut. The result revealed that all the respondents in the study area were male (100 %). This clearly shows that males had greater ability, capability and strength in marketing of groundnut than females and this may be due to the religious, culture, norms are value of the people in the study area especially the Muslims (Hausa/Fulani) who do not allow their wives to go out for outdoor business activities which conforms with the findings of Maikudi (2009) findings on cowpea traders in Bauchi State and Ali *et al.* (2008) on fish marketing in North-Eastern Nigeria

The result shows that marketers that had tertiary education constituted 31.70% which is the highest while 30.0% of the respondents had Qur'anic education, 21.70% had secondary education. Other respondents had primary and adult education which constituted 13.30% and 3.30% respectively. This result also corresponded with the findings of Ali *et al.* (2008) on fish

marketing in North-Eastern Nigeria. Variation in education background of marketers is usually responsible for difference in their ability to evaluate manage farm risk (Afolabi, 2009). More so education is an important determinant of adoption new marketing innovation as well as tools for successful implementation of profitable. The result further revealed that the number of respondents with household size between 1-20 was the highest (91.6%) while household size between 21 and above had only 8.3%. Investigation also reveals that, the average family size in the study area was found to be 8.9 people. This slightly differs from the mean household size of 7.2 people reported by (Afolabi, 2009) for Gari traders in South-Western Nigeria. A household size is defined as group of people not necessary related who live together and share common feeding arrangement and recognized one person as their heads. i.e. head of household size. Household here is made up of marketers, his wives, children and any other person that live with them. The table also shows that majority of the respondents (60%) had marketing experience between 1 – 10 years, 20% had years of experience between 11 – 15 while only 6.7% respondent above 21 years of experience had. Investigation also reveals that, the years of experience in the study area was found to be 10.1 years. This slightly differs from the mean years of experience of cowpea marketing of 10.9 years reported by (Maikudi, 2009) for cowpea traders in Bauchi State and finally the result revealed that majority (78.40%) of the respondents obtained their capital for marketing of groundnut from their personal savings while 15.0% from friends and relations. The result also revealed only 3.3% got their capital through cooperative society and banks respectively. The dominance of personal savings, friends and relations as sources of capital suggest the small scale nature of the marketers. This result is also in conformity with the findings of Maikudi (2009) for cowpea traders in Bauchi State.

#### 4.MARKETING CHANNEL

Figure 1: Marketing channel of groundnut in the Katagum Local Government Area.



Marketing channel describes the movement of a product or commodity from the site of production to the place of consumption. It may include transportation, handling and storage, ownership transfers, processing and distribution (Pinkerton, 2002). Adegeye *et al.* (1990) opined that the sequence of intermediaries or middlemen and market through which goods passes from producers is known as marketing channels.

### 5. ANALYSIS OF COSTS AND RETURNS ASSOCIATED WITH GROUNDNUT MARKETING

This section analyzed the costs and returns of groundnut marketing in the study area. The gross margin of the respondents serves as the yardstick for measuring the performance of the market.

**Table 2: Costs and returns of groundnut market**

Items	Average amount in N (100kg bag)
Gross revenue	15,180.00
Variable Cost (VC)	
Acquisition Cost	12,873.00
Transportation cost	218.00
Cost of empty bag	80.00
Cost of loading and off-loading	40.00
Taxes	40.00
Labour	66.00
Total Variable Cost (TVC)	13311.00
Gross Margin (GM)	1,869.00

Source: Field Survey Data, 2012

The Table 2 revealed that the average acquisition cost of 100kg bag groundnut was N12, 873. Other variable costs incurred on the 100kg bag of groundnut are

transportation cost N218, cost of empty bag N80, cost of loading and offloading/bag N40, taxes/bag N40 and labour/bag N66, making a total of N13,311. Then at the point of sale, 100kg bag of groundnut was sold at N15, 180.00 which is the gross revenue from the sale of groundnut/100kg bag. The gross margin (GM) which is the difference between the gross revenue (GR) and the total variable cost (TVC) is N1, 869/100kg bag of groundnut. This show that the respondents make a profit of N1, 869 from each 100kg bag of groundnut marketing. This means the groundnut marketing is profitable business in the study area.

## 6.MARKETING CONCENTRATION

Gini coefficient was used to determine the concentration of the market. It is a standardized coefficient such that zero implies perfect equality in distribution, while one means imperfect inequality in earning in practice, the actual value of the gini-coefficient lies between these extremes. The closer the value to unity, the greater is the degree of inequality and therefore, the higher is the level of concentration. Higher market concentration signifies that a market is monopolistic in nature with few individual controlling the market, (Okereke *et al.*, 1988).

**Table 3: Marketing concentration of groundnut**

Weekly Sales (₦)	Number of sellers	% of sellers (X)	Total Value of Weekly sale	% of Total Sale	Cumulative % of sales (Y)	X/100	Y/100	XY
75900	29	48.3	2,201,100	27.6	27.6	0.48	0.28	0.1344
151800	20	33.3	3,036,000	38.1	65.7	0.33	0.38	0.1254
227700	8	13.3	1,821,600	22.9	88.6	0.13	0.23	0.0299
303600	3	5	910,800	11.4	100	0.05	0.11	0.0055
<b>TOTAL</b>	<b>60</b>	<b>100</b>	<b>7,969,500</b>	<b>100</b>				<b>0.2952</b>

*Source: Field Survey Data, 2012*

The table above combines the weekly sales of Groundnut Marketers

Mean value of weekly sales of Groundnut Marketers

Mean value of weekly sales = ~~N~~**7,969,500**

Gini Coefficient (GC) = **1 – 0.2952**

= **0.7048**

The Table 3 above shows the weekly sales of groundnut marketers. The results indicate that 48.3% of the respondents had weekly sales of N75, 900, 33.3% had a weekly sales of N151, 800 and weekly sales of N227, 700 and N303, 600 had 13.3% and 5% respectively. The highest weekly sale is N75, 900 which represent 48.3% of the respondents while the least percentage of the respondents was 5% with weekly sales of N303, 600.

## 7.CONSTRAINTS ASSOCIATED WITH GROUNDNUT MARKETING

**Table 4: Show the distribution of respondents according to the constraints associated with groundnut marketing**

Constra int factors	Freq uency	Perce ntage (%)
Transpo rtation problem	55	91.7
Instabilit y of price	46	76.7
Seasona lity of production	40	66.7
Inadequ ate capital base	39	65.0
High cost of input	34	56.7
Inadequ ate market communication	32	53.3
Scattere d nature of production	30	50.0
Small scale nature of producing area	29	48.3
Inadequ ate storage facilities	21	35.0

*Source: Field survey data, 2012*

Percentage exceeds 100% because multiple responses existed

Table 4 indicate that the respondents identified transportation problem 91.70% instability of price 76.70%, seasonality of production 66.70%, inadequate capital base 65.0%, high cost of input 56.70%, inadequate market communication 53.30%, scattered nature of production 50.0%, small scale nature of producing area 48.30% and inadequate storage facilities 35.0% as the major constraints associated with the business in the study area.

Majority of the traders in the study area comment freely on the following:

- Groundnut marketing could be more profitable if government will provide the marketers with credit to support their marketing activities.
- Provision of good roads and storage facilities will help boost the marketing of groundnut in the study area.

## 8.CONCLUSION AND RECOMMENDATIONS

This study analyzes the structure and performance of groundnut marketing in Katagum L.G.A Bauchi, Nigeria. The result showed that groundnut marketing in the study area was profitable with a Gross Margin of N1869 in each 100kg bag. I suggest that marketers of groundnut in the study area would get more profit by extending their business potential to the southern part of the country or to the export market. The following recommendations were made with respect to the findings of this study:

- i. For efficient marketing of groundnut in the study area, the constraints that marketers faced in the area must be drastically reduced to the barest minimum. This can be done through efficient policy formulation and implementation, proper supervision of groundnut marketing programmed, effective extension services and proper agricultural financing. It would pave a way to increase profit and will help alleviate poverty in Bauchi State.

- ii. Groundnut marketers in the study area should form cooperative group(s) to have access to loans from bank(s) for letter capital base for higher profit and
- iii. Effective policy measures to protect both the marketers and producers by educating the traders on good marketing principles through the extension agents to improved groundnut marketing activities in the area.

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