

## Economic Analysis Of Maize Marketing In Surulere Local Government Area In Oyo State

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### ABSTRACT

The main objective of this research was to analyze the economic analysis of maize marketing in Surulere Local Government Area of Oyo-State. The data were collected with the aid of a well structured questionnaire and were later analyzed. About half of the maize marketers (49.9%) had their age between 31-40 years in the study area. Most of the maize marketers (80%) are female, while more than half of the maize marketers (60.8%) are married, and 63.3% of the respondents had no schooling experience. Again, high proportion of the marketers had experience less than 10years. For the maize marketers selling price, the significant variables include, age, educational level, major occupation, cost of shop, sellers association and barrier to entry and cost of loading. All of these have positive relationship with selling price. The age, educational level, major occupation, cost of shop and cost of loading are significant at 1% level, while sellers association and barrier to entry are significant at 5% level. An adjusted  $R^2$  value of 0.549 which implies that the regression equation accounted for 54.9% of the independent variable like age, educational level, major occupation, cost of shop and cost of loading while the remaining 45.1 percent is unaccounted for due probably to error embedded in the data itself. From the result of the study, the value of  $F_{cal} > F_{tab}$ . It is therefore concluded that there is a significant relationship between the socio-economic characteristics of the maize marketers and selling price and there is a significant relationship between cost and selling price.

**Keywords:** Economic analysis, Marketing, Cost, Model, Maize.

## INTRODUCTION

Market is described as a place where exchange function takes place. Market basically involves an arrangement where bargaining and exchange of goods are made at an agreed price. It may be through contact, telephone call and other available means. It has also been observed that market is a place where it is convenient to get partners which lead to the creation of market place and avenue to choose market days on periodic basis. Marketing is a process by which buyers and sellers, producers and consumers of goods and services come into contact with each other with intention of transacting business.

Marketing involves assembling, transporting, clearing, grading, sorting, packaging, processing, locating the supplier and consumers, distributing, looking for financing, informing the consumer and standardization of the produce (Adegeye and Dittoh, 1990). In marketing, there are some activities performed by the marketing system in relation to the characteristics of agricultural produce. They are exchange functions facilitating functioning physical features.

- ❖ **Selling** - This is the exchange function which entails all activities related to sales of commodity. It also involves protect marketing channel to use the most suitable packaging material, advertising and other promotion activities.
- ❖ **Grading or standardization** - This is the establishment and the maintenance of uniform measure of quantity and quality of goods and services. It reduces marketing problems.
- ❖ **Financing** - This is the use of money in the different processes of marketing.
- ❖ **Risk bearing** - This is the acceptance of the possibility of loss of a commodity during the process of marketing.
- ❖ **Storage** is concerned with making goods available at the desired time and in desired form. These goods are preserved overtime.
- ❖ **Transportation** - It makes goods available at the proper place.
- ❖ **Processing** - This concerns the changing of forms of products into more suitable form for consumption or use.

There are different types of markets: **Producer - consumer market**, here, the farmer or producer have the opportunity to sell directly to consumers and obtain the full consumer prices for their produce. **Local Assembly market**, This are usually organized and supervised by Local Government authority, much of this market activities may be conducted on or near the farm. **Central wholesale market** - This type of market is found in cities or other concentration points and are usually for the perishable produce (fruits, vegetables, meat, fish etc.) and also for grains. Others include: retail market, commodity exchange market future market and so on.

Marketing completes the cycles of production of goods and service, since production is creation of utility, hence, marketing helps improvising:

- i) Form (utility) through processing of the produce.
- ii) Place (utility) through transportation. The processed and packaged products
- iii) Time (utility) through storage of the products.

All the agents and media involved in marketing are rewarded within the marketing system, marketing margin is the difference between price paid by the consumer and price received by the producer. Marketing margin is therefore the cost of factors of production in producing marketing services.

Agricultural marketing is an indicator of consumer preferences through the prices they are prepared to pay, while consumer behavior shows clarity that the least possible cost of desirable as against the goal of marketing firms and sellers who are interested in profit and wish to sell at the highest possible price. However, the consumer rules and coordinates marketing activities in the society, he/she can decide to buy more or less, and this in turn affects production decision of farmers as they are most likely to produce crops and livestock which are readily demanded by the consumer (Adegeye and Dittoh, 1990).

Maize is one of the agricultural product which is essential in human and animal diet (Odunsi. *et al.*, 2001) it is acceptable fact that maize is indispensable and it is a staple food for man in Nigeria. It is also an essential feed ingredients for livestock especially *monogastric*, primarily, maize contain 13.5% mixture, 10% protein, 4% oil, 61% starch, 2% crude fibre, 1.4% ash and 0.4% other substance.

In conformity with (Olaniyan, 1995), it is obvious that human and livestock population depends on maize to generate energy. Therefore, an efficient marketing system is a must to enhance available and utilization of maize in Nigeria. Marketing can be broadly defined as the performance of all business activities which aid the flow of goods and services from the point of initial production until they are in the hand of ultimate consumer. This should however be done at the lowest possible cost in the line with the consumer desire so as to maintain efficiency.

Maize is classified as belonging to the sub-family *panicoideae* and tribe *Andropogoneae*. The tribe includes two general of new world origin. Craliant (1983) traced the origin of maize and discovered similarities between the wild species and edible maize. This fact is further ectobligh by the molecules systematic studies, carried out by Deobleyg Groodnan and Stuler (1987) and suggested that parviglumis Cow wild subspecies was the ancestral taton.

Lapido O.O. (2006) define market as a process by which buyers and sellers producers and consumers of goods and services came into contact with each other with the sale intention of transacting business It is not limited in terms of space or time. Anytime, anywhere two or more individuals groups or organizations entered into arrangement and an agreement is reached concerning exchange (Money)

Clement (1994) suggested that market should be defined as an economics market. This denotes a system which decomposes the whole of the physical market infrastructure, actions procedures and different regulations with respect to rules and custom which all play a role in the realization of the exchange. Marketing agencies carry out marketing functions and services, which may be individuals, cooperatives, government, departments and or corporations (Adegeye and Dittoh. 1985).

According to Adekanye (1988). Agricultural marketing activities are classified into the exchange activity, one of buying and selling, the physical ones of storage, transportation and the facilities ones of grading and standardization financing, risk bearing and the provision of marketing.

Also, William J. Slaton (1998) defines marketing as a total system of business activities designed to plan price, promote and distribute want satisfying goods and services to present and potential customers. From the above definitions, it can be seen that groups with vorun interest will view marketing different. The view part of customers will be interested in purchasing what they want al the least cost possible the producers will be interested in obtain the highest possible returns from the sale of their products. Maize is a staple food; fresh maize can be boiled in water or roasted for minutes. Dried maize can he processed, into soaking it in water for three days. After which it is grinded and sieved w h i l e the residue served as feed for ruminants and the nitrate is allowed to settle down and use in preparing hot or cold pap (etc). Dry maize can he broken into smaller and cooked as food (*egbo*)

Marketing concept defined as the movement of goods from producers at the lowest cost consistent with the provision of the services that consumers desires and are able to pay for (Abbott and Makehan, 1991). Maize is also processed industrially for hour, animal feeds, biscuits, beverages and beer and cereals in these form is consumed widely across Nigeria.

The ban on importation of cereals by the Federal Government of Nigeria, since 1986 as greatly exported, this later uses and thus demanded for maize or maize serves as a raw material for conversion in industries into some other products. It is used in bracing mall and alcoholic drinks beer, for baby cereals, biscuits, beverages which serve as sources of energy. Maize thrives and produces well enough in the Sahara region of northern and southern Nigeria. The production season for maize is between March and November. Planting is undertaken. It requires a considerable amount of rainfall evenly distributed. Also sunshine is needed for photosynthesis and growth. The yield of maize is between 300-6000kgandhrs of farmland. Majority of the maize being utilized in the country is from the middle belt and northern part of the country. (According to Salaudeen Toyin 2007). Hence, this study was designed to determine the profit margins of maize marketing in Surulere Local Government Area Oyo State by identify socio-economic characteristics and factors affecting selling price of the maize marketers in the study area.

## METHODOLOGY

The study was conducted at Surulere Local Government Area (LGA) in Oyo State. Surulere Local Government Area consists of many sizable settlements with its headquarters at Iresa-Adu. The population was approximately 166,034 as at 2006 census the total land area is 3342.82 square kilometers. The local government is located in the dry forest of Savannah and trees like Acacia. Teak and mango trees can be found there. The rainfall is also high as 192.22mm in the month of July and as low as 15mm or less in the month of December. The average monthly temperature is between 24°C and 30°C with February the hottest month while August and September record average monthly temperature of 22°C which is the lowest. The relative humidity of the local government area varies between 40% and 90%. The Local Government Area is bounded to North by Ifelodun Local Government and to the South-West by Ogbomoso North Local Government Area and bounded to the West by Orire Local Government Area.

The study area was chosen due to the existence of large numbers of small holder maize farmers in the area. Agriculture is the main occupation of the people and small scale traditional farming system predominates in the area. The major food crops found in area are: grain and cocoyam while the major cash crops grown are: Cocoa, kola nut and oil palm. The main instrument for collecting data was structured questionnaire. Data collected include maize supplied, demographic characteristics of the respondents, income level, and form of market.

Simple random sampling was used to select 120 respondents. Descriptive and inferential statistics were used to analyze the data collected. The descriptive statistical tools employed include frequency, table, percentage, mean, median, standard deviation etc to present the demographic character of the respondents. The independent variable are age, educational level, major occupation, cost of shop, sellers association, barrier to entry, cost of labour and cost of loading.

In this study, Linear Regression Model was used to capture the relationship between socio-economic characteristics of maize marketers and selling price and also the relationship between cost and selling price.

The empirical model of linear regression model was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \epsilon_i$$

Where Y= (selling price) is the dependent variable

$\beta_0$  = constant

$\beta_1 \dots \beta_8$  = are the coefficient power of the independent variable

$X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8$  are the independent variables which are

$X_1$  = Age

$X_2$  = Educational level

$X_3$  = Major occupation

$X_4$  = cost of shop

$X_5$  = sellers association

$X_6$  = Barriers to entry

$X_7$  = cost of labour

$X_8$  = cost of loading

## RESULTS AND DISCUSSION

Table 1 shows that the marketers are relatively young with average age of 43years; they are still in their active age thus enhance effective and efficient marketing of maize, 80% of the respondents are females while 20% are males. It was observed from the result of the findings that 60.8% of the respondents are married, 12.5% are widowed, 10% are divorced, 10% are single, and 6.7% are separated; Marriages make people to be more responsible which may be the reason towards recording larger percentage of maize marketers. The average household size of the respondents in the study area is approximately 6; these will reduce cost of labour. The average year of schooling by the respondents is 3years which implies a low level of educational standard exhibited by maize marketers in the study area. This implies that the maize marketers in the study area are illiterate. The average years of experience in maize marketing is approximately 11 years which is an indication that respondents in the study area had high years of experience in maize marketing. Also, 96.6% of the respondents are traders while 3.4% are teachers; this implies majority of the maize marketers are traders, 52.5% of the respondents had no secondary occupation, 21.7% are artisans, 17.5% are traders, 7.5% belong to other occupation not mentioned, and 0.8% is civil servant. This shows that majority of the respondents do not have any secondary occupation which will assist the marketers in concentrating on the marketing business of maize.

**Table 1: Summary of socio-economic characteristics of the Respondents**

<b>Socio- economic Characteristics</b>	<b>Means</b>
Age	43 years
Sex	Female (80%), Male (20%)
Marital status	Married (60.8%), Widowed (12.5%), Divorced (10.0%) Single (10.0%), Separated (6.7%)
Household Size	6 in Number
Educational Level	3 years
Trading Experience	11 years
Major occupation	Traders (96.6%), Teaching (3.4%)
Secondary Occupation	None (52.5%), Artisan (21.7%), Traders (17.5%), Civil Servant (0.8%), Others (7.5%)

**Source: Computed from field data, 2014.**

Table 2 shows that 25% of maize marketer indicate that fuel as a factor that affect cost of transportation, 54.1% indicate that it is the condition of road while 20.8% said it is inadequate transportation in the study area; this implies a major constraint of high cost of transportation as a result of the condition of roads, Government should keep roads that links farms and market places in shape in other to encourage the patronization of maize marketers to areas where maize can be source at minimal cost in other to maximize profit, 87.5% of the respondents rent shops while 12.5% own the shops they are using in the marketing of maize; this implies that majority of the respondents are shop owners in the study area. 40.8% of the respondents occupy the shop on monthly bases, 46.7% occupied the shop on yearly bases while 12.5% has unlimited period of occupancy. This in indicate that majority occupy their shops on yearly bases. 54.9% spend below ₦5000 on rent, 25.2% spent between ₦6000 - ₦10000 while 19.9% spent above ₦11,000 on rents. This shows that majority spend below ₦5000 on rent. 64.4% sell below ₦1000 as unit price, 24.1% sell between ₦1100 - ₦5000 while 11.5% sell above ₦5100 as unit price of maize sold; this show that majority sell below ₦1000 as unit price of maize.

5.8% of the respondents indicate through fire, 23.3% indicate through accident, 1.7% indicate through theft, 4.2% indicate through flood, 42.5% indicate through pest infestation while 22.5% did not indicate through any means. This show that majority indicate loss are sustained through pest infestation of maize which might cost a great loss on the maize marketers. 14.2% of the respondents inform buyers through advertisement while 85.8% inform buyers through display of maize. This means that majority of the respondents inform buyer through display of maize. 85.8% belong to sellers association while 14.2% indicate they didn't belong to sellers association. This show that majority belong to seller association and which might help stabilize price of maize in the study area. 67.5% of the respondents indicate that there is barrier to entry in the market while 32.5% indicate that there is no barrier to entry in maize marketing. 36.7% of the respondent indicate that initial capital was the barrier encountered, 45.8% indicate that trade association was the barrier, while 17.5% indicate other source. This implies that majority faced barrier of trade association, government should place policies that will help check the activities of trade association to encourage entry in maize marketing.

**Table 2: Distribution of the Cost associated with Maize Marketing**

<b>Cost associated with Maize Marketers</b>	<b>Percentage (%)</b>
Causes of High Transportation	Fuel (25%), Distance (54.1%), Condition of Road (20.9%)
Distribution of Maize marketers by Rent	Yes (87.7%), No (12.5%)
Period of Rent	Monthly (40.8%), Yearly (46.7%), Unlimited (12.5%)
Cost of Rent of Shops	≤ ₦ 5000 (54.9%), ₦ 6000- ₦ 10000 (5.2%), ≥ ₦ 11000 (19.9%)
Selling Price	≤ ₦ 1000 (64.4%), ₦ 1100- ₦ 5000 (24.1%), ≥ ₦ 5100 (11.5%)
Source of loss	None (22.5%), Fire (5.8%), Accident (23.3%), Theft (1.7%), Flood (4.2%), Pest Infestation (42.5%)
Means of Marketing	Advertisement (14.2%), Display (85.5%)
Sellers' Association	Yes (85.8%), No (14.2%)
Barrier to entry	Yes (77.5%), No (32.5%)
Problem associated with identified Barrier	Initial capital (36.7%), Trade association (45.8%), Others (17.5%)

**Source: Computed from field data, 2014.**

## Regression Analysis

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \epsilon_i$$

Y = price

X<sub>1</sub> .....X<sub>8</sub> are the independent variable

B<sub>1</sub> ..... B<sub>8</sub> are the coefficients of independent variables

$$Y = 17.104 + 0.035X_1 + 0.140X_2 + 0.705X_3 + 4.82X_4 + 0.902X_5 + 0.636X_6 + 0.000X_7 + 0.006X_8$$

(4.095)      (5.095)      (3.550)      (3.084)      (2.534)      (3.001)      (1.602)      (4.028)

X<sub>1</sub> (age), X<sub>2</sub> (educational level), X<sub>3</sub> (major occupation) X<sub>4</sub>, (cost of ship), X<sub>5</sub> (sellers association), X<sub>6</sub> (barrier to entry) X<sub>8</sub> (cost of loading).

Table 3 shows that Age (X<sub>1</sub>) with H-value of 4.094 is significant at 1% level with selling price what means a unit increase in age will raise the selling price maize by ₦0.035. Educational level (x<sub>2</sub>) with t-value of 5.095 is significant at 1% level has positive relationship with selling price which means a unit increase in educational level will the selling price of maize by ₦0.140. X<sub>3</sub> (major occupation) with t-value of 3.550 is significant at 1% level has a positive relationship with selling price which means a unit increase in major occupation will increase the selling price of maize by ₦0.705. X<sub>4</sub> (cost of shop) with -value of 3.084 has a positive relationship with selling price of maize which means a unit increase in cost of shop will raise the selling price of maize by ₦4.82. X<sub>5</sub> (sellers association) -value of 2.534 is significant at 5% level has a positive relationship with selling price of maize which complies that a unit increase in sellers association will increase the selling price of maize by ₦0.902. X<sub>6</sub> barrier to entry with t-value of 3.001 is significant at 5% level has a positive relationship with selling price of maize which implies that a unit increase in barrers to entry will increase the selling price of maize by ₦+0.636. X<sub>8</sub> cost of loading with a t-value of 4.028 is significant at 1% level his a positive relationship with selling price which implies that with a unit increase in cost of loading the selling price of maize will increase by ₦0.006.

The data in table 3 below shows the regression analysis of the variation between the cost and the socio economic characteristics. The adjusted R<sup>2</sup> of the results is 0.549 which implies the regression equation accounted for 54.9% of the independent variable like Age, Educational level, Major Occupation, cost of shop etc. while the remaining 45.1% is unaccounted for which might be due to the error embedded in the data itself.



**Table 3: Regression Analysis**

<b>Variable</b>	<b>Coefficient</b>	<b>t-ratio</b>
Constant	10.311	17.104
Age	0.035	4.095***
Educational level	0.140	5.095***
Major Occupation	0.705	3.550***
Cost of Shop	4.82E-005	3.084***
Seller's Association	0.902	2.534**
Barrier to Entry	0.636	3.001**
Cost of Labour	0.000	1.602
Cost of loading	0.006	4.028***

Dependent Variable: selling price

**Source: Computed from field survey data, 2014.**

\*\*\*significant at 1%

\*\*significant at 5%

R=0.767

R<sup>2</sup>=0.588

Adjusted R<sup>2</sup>=0.549

F<sub>tab</sub> = 14.973

F<sub>tab</sub> = 2.56 – 5% level of significance since  $f_{cal} > f_{tab}$ , hence we reject all the Null hypothesis i.e. (1) there is significant relationship between socio-economic characteristics of the maize marketers and selling price (2) There is significant relationship between cost and selling price. X<sub>1</sub> (age) , X<sub>4</sub> (cost of shop X<sub>5</sub> (seller's association), X<sub>2</sub> (educational level), X<sub>3</sub> (major occupation), X<sub>6</sub> (Barrier to entry), and X<sub>8</sub> (cost of loading) have positive relationship with the selling's price of maize.

### **CONCLUSION AND RECOMMENDATION**

The implication of this study is that any effort aimed at putting roads in proper shape, improve storage facilities and years of schooling will increase the profitability and marketing efficiency of the marketers. This study therefore recommends good road network, availability of storage facilities, proper policies to checkmate the activities of the association as well as mass literacy campaign in the study area in order to increase the efficiency of the marketers.

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