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## ANALYSES OF THE MARKETING OF CHARCOAL IN OYO EAST LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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### ABSTRACT

Charcoal has been found to be one of the forest products whose role as a source of rural dwellers' livelihood has contributed to their sustainability. Therefore the study analyzed the marketing of charcoal in Oyo East Local Government Area of Oyo state. A total of 150 respondents were sampled through purposive sampling technique. Primary data were collected with the aid of questionnaires. Descriptive statistics and marketing margin were used for data analysis. The results showed that 80% of the marketers were female, Majority (64.67%) of the respondents do not have formal education. The results revealed that average age of respondents was 46 years while the average charcoal marketing experience was 18 years among respondents. The major consumers of charcoal include food sellers, goldsmiths, bakers, blacksmiths and those who roast maize and plantain by the road side. Marketing margin shows that traders in Akinmorin had the highest marketing margin (₦20) followed by Kosobo (₦17.65) while the least is from marketers in Sabo (₦9.0). Marketing efficiency showed that Ajegunle and Bamgbose has the highest marketing efficiency of 9.71. This shows that all the charcoal sellers in each location were efficient. Problems encountered by charcoal marketers include high cost of charcoal, paucity of finance, high cost of transportation and limited storage facilities. There is the need for backward integration by the marketers by joining hands with producers to establish plantation of trees so as to ensure the sustainability of charcoal business.

**Keywords:** Charcoal, Marketing Margin, Oyo East, Nigeria

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### Introduction

Energy is one of the major needs of man and a crucial factor that contributes to the socio-economic growth and development of any nation. It is indispensable both in our daily lives and industrial activities. Our daily comfort and prosperity can only be sustained by undisturbed supply of energy. It is the backbone of industrialization, thus the life blood of our society. The use of energy has greatly affected man's activities since the beginning of civilization leading to improvement in physical comfort, food supplies, transportation, communication and

other forms of economic activities (Mgbenu *et al*, 1995). Various forms of energy are available to man and one of such energy sources is charcoal.

Charcoal is a solid residue obtained when wood is carbonized under controlled conditions in a closed space called charcoal kiln (FAO, 1993). Charcoal can be obtained from organic substances but wood is the most abundant and frequently used raw material. Charcoal is actually carbonized wood and is the simplest method of upgrading wood to a fuel of higher calorific value (Wikipedia, 2011). Charcoal has twice the energy content



of wood (FAO, 1993). This is one of its principal attractions for consumers. A small quantity of it provides an intense steady heat. It also burns without smoke. Charcoal consumers use the product as a source of energy for both domestic and commercial food preparation as well as cottage industries through the identified distribution system (Kalu and Izekor 2007). Brew-Hammond (2006) pointed out that anyone can engage in charcoal marketing, either as a retailer selling from his shop, a wholesaler selling in large bags, or as a supplier selling truckloads of charcoals to other wholesalers. Charcoal enterprise as well as other endeavour concerning renewable energy sources is an important aspect of rural economies. This is because domestic energy consumption is the major component of economies of most sub-Saharan Africa (Engelhard, 1992). The reasons for its popularity are that it is easy to find; it is an excellent domestic fuel, it requires no cutting or preparation; it burns with little flame and provide a clean and steady source of heat. This makes it convenient to use and cuts down on the amount of time spent on cooking compared to the use of firewood (Eniola *et al.*, 2018). Charcoal and fuel wood remain the important sources of energy in developing countries (Ghilardi *et al.*, 2009). Charcoal is used as modern fuel both in the rural and urban areas especially among the low income earners who cannot afford other means of energy such as electric and gas cookers (Adeagbo *et al.*, 2016). This scenario is likely to continue for a long time because of the lack of affordable alternative. Food and Agriculture Organization (FAO, 1993) reported that over 40 million metric tonnes of charcoal are consumed globally and approximately 24

billion people worldwide rely on wood and charcoal for their daily need.

Nigeria ranks next to Brazil in charcoal production and currently exports over 280,000 metric tonnes of charcoal annually (Adeagbo *et al.*, 2016). As a result of deregulation of Nigerian economy and frequent price adjustments of petroleum products especially cooking gas and kerosene, which have resulted in the hike in the prices of those sources of energy, many people have been forced to search for alternative sources of energy. This has resulted into enhanced economic value of charcoal, which is a forest product.

In Nigeria, charcoal serves as a multipurpose material for both domestic and industrial uses. Recent statistics show that Nigeria consumes over 900,000 metric tons of charcoal every year making her the 5<sup>th</sup> highest consumer of charcoal in the world (Eniola *et al.*, 2018). Kalu and Izekor (2007) found out that various categories of people have turned increased attention to the use of charcoal because of its availability, affordability, high temperature output and easy manipulation over other energy types. This probably may have caused an upsurge in the demand for charcoal and a boom in the charcoal business. The steady growth of population and the rising price of oil and gas-based energy will likely see the demand for charcoal rising for a long time to come. Unfortunately, field information on various aspects of charcoal production, distribution and consumption is limited especially in the area of marketing.

Marketing is the sum total of all business activities involved in the movement of commodities from production to consumption (Adekanye,1998). Usman *et al.* (2006) observed that the marketing of many forest



products, charcoal inclusive, is specialized, involving producers (gatherers), wholesalers, traders in rural, regional and urban areas and retail traders. This study is very relevant because according to Girard(1993) the sustainable production and use of charcoal through proper management and planning of supply source, together with rational trade and marketing infrastructures and efficient use, can also have a significant positive impact by helping to conserve resources, reducing migration from rural or forested areas and improving peoples income.

Studies on the marketing of charcoal are still very limited. A review of some of the studies on charcoal revealed that much emphasis is laid on the production and consumption of charcoal in Nigeria and its implications on the Nigerian environment. For example, Jamala *et al.* (2013) reviewed the socioeconomic implications of charcoal production and marketing in Nigeria and reported that although charcoal production and marketing is a lucrative business in Nigeria, it also has some adverse environmental implication like deforestation and its attendant consequences. Babalola and Opii (2012) examined the factors influencing charcoal marketing in Benue state and identified affordability and availability as main reasons for the use of charcoal in Benue state of Nigeria. Meanwhile, Adeagbo *et al.* (2016) in a study

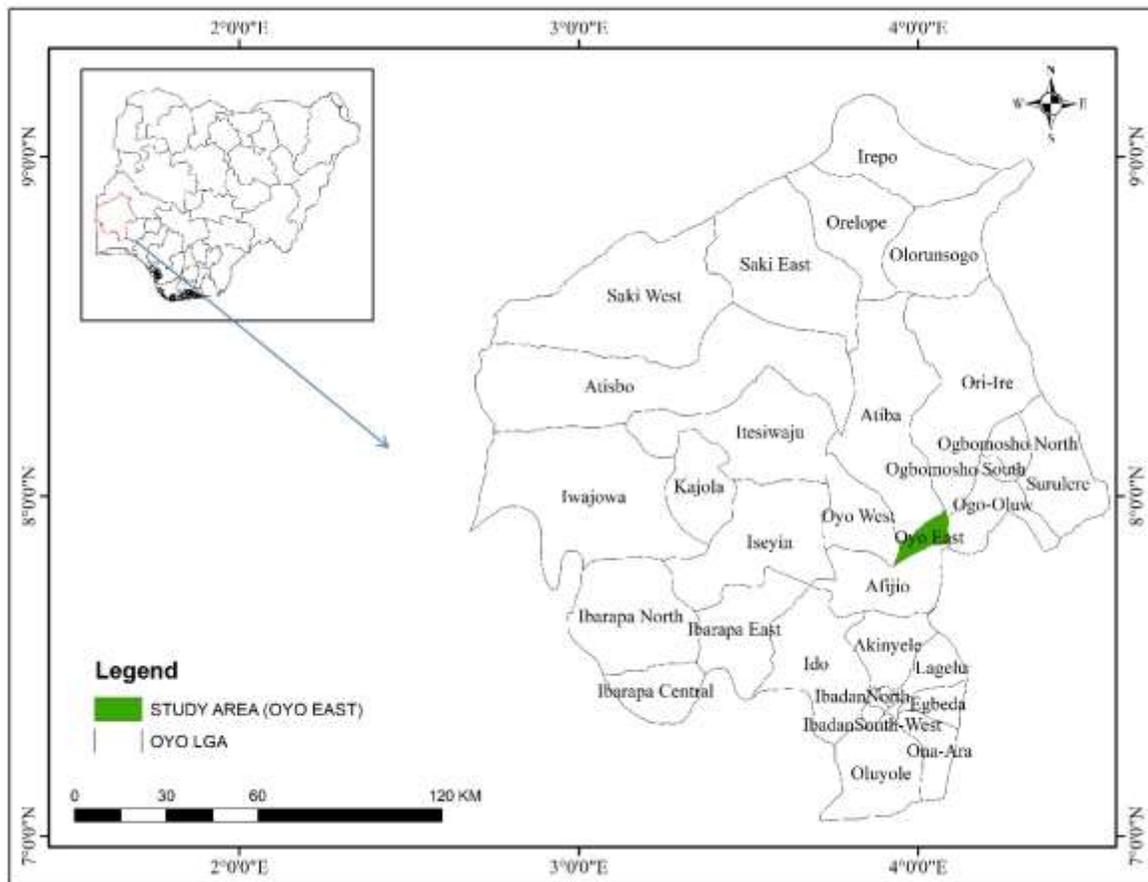
on the marketing of charcoal in Ibarapa Central Local Government of Oyo State reported on the profitability using the gross margin and Gini coefficient techniques. They reported that charcoal marketing is profitable in their study area. This study which is an extension of charcoal marketing in Oyo State looked at the profitability of charcoal marketing from another dimension, with emphasis on marketing margin.

The objective of this study, therefore, was to examine the marketing of charcoal in Oyo East Local Government in Oyo state of Nigeria. The study therefore looked at the profitability of charcoal marketing taking into consideration the profit and market margin of charcoal business in the area.

## **Methodology**

### **The Study Area**

Oyo East Local Government area is one of the thirty-three local government areas in Oyo state. It is located between latitudes 7.799°N to 7.954°N of the equator and longitudes 3.932°E to 4.078°E of the Meridian (Fig 1). Oyo state is bordered in the north by Kwara, in the east by Benin Republic and in the west by Osun State. The principal inhabitants are Yoruba people and the area is strategically located on the railway line connecting Lagos to Kano.



**Fig 1: Map of Oyo East Local Government Area, Oyo State, Nigeria**

### Sampling procedure, Data Collection and Analysis

Five communities were purposively selected based on the availability of charcoal selling point; the communities were Ajegunle, Akinmorin, Kosobo, Sabo and Bamgbose. A total number of hundred and sixty questionnaires were administered to charcoal sellers out of which 150 were retrieved. Primary data were collected using a well-structured questionnaire to obtain information from charcoal marketers. Descriptive statistics and market margin analysis were used for the analysis. The descriptive statistics include

mean, frequencies and percentages. For the determination of the profitability of the marketing of charcoal, Gross margin, marketing margin and marketing efficiency were applied. According to Olukosi and Isitor (1990) marketing margin is the difference between the price paid by the consumers (buyers) and that received by the producers (sellers). It is the outcome of the demand and supply of goods and services while marketing efficiency is the maximization of an input-output ratio; it is also the movement of commodities at the least cost consistent with the services consumers want (Idumah *et al*, 2007). On the other hand, marketing



efficiency is the maximization of the input and output ratio and involves the cost of movement of goods or commodities at the least cost consistent with the services the consumer wants. The following models as adopted by Olukosi and Isitor(1990) was used for the analysis:

Gross Margin = Total Revenue - Cost Price

Profit margin = Revenue – Marketing Cost

While Gross Profit = Total Selling Price – Total Cost Price

$$\text{Marketing Efficiency} = \frac{\text{selling price}}{\text{cost of marketing}} \times 100$$

Marketing margin can be computed using the following formula:

$$\text{Marketing Margin} = \frac{\text{selling price} - \text{cost price}}{\text{selling price}} \times 100$$

### Results and Discussion

The socio demographic characteristics of respondents are described in table 2 below. Their age, sex, marital status, gender and trading experience in charcoal marketing were considered. The socio demographic characteristics of respondents shows that (31.3%) of the charcoal sellers in Oyo East Local Government Area fall within the 40-49-age bracket. The cumulative percentage

shows that about 58% of the sellers are below 50 years of age. Average age was 46 years. This result shows that both young and elderly people are found in the business of charcoal marketing. This findings corroborates that of Rahman *et al.* (2002) and Oladejo (2013) who showed that traders who are in their active or younger age possess special skills or marketing strategies which may help them in the area of resources allocation and proper management. It was also observed that those who are married constitute the largest number of the sellers (78%). This is expected as they have greater responsibilities of catering for a larger number of people and they have to source avenues to feed and train their children (Mafimisebi *et al.*, 2000). This is in agreement with Oladejo (2013) that marital status is not a barrier to involvement in the business. Gender analysis revealed that (80%) were female. This implies that female is more involved in the marketing of the products than the males (20%). Majority of the sellers (93.3%) had no formal education while 27% and 9% had primary and secondary education, respectively. This result negates the finding of Oladejo (2013) who reported that 87.5% of charcoal marketers received some level of education.

**Table 1:** Socio-economic Characteristics of Charcoal Marketers

| Variable                  | Frequency | Percentage % |
|---------------------------|-----------|--------------|
| <b>Gender</b>             |           |              |
| Male                      | 30        | 20.0         |
| Female                    | 120       | 80.0         |
| <b>Total</b>              | 150       | 100          |
| <b>Year of experience</b> |           |              |
| 0-5                       | 8         | 5.3          |
| 6-10                      | 15        | 10.0         |
| 10-15                     | 30        | 20.0         |
| 15 above                  | 97        | 64.7         |
| <b>Total</b>              | 150       | 100          |



|  |           |       |
|--|-----------|-------|
| <b>Average Educational Qualification</b> | <b>18</b> |       |
| Non formal education                     | 97        | 64.67 |
| Primary education                        | 34        | 22.67 |
| Secondary education                      | 19        | 12.66 |
| Total                                    | 150       | 100   |
| <b>Age</b>                               |           |       |
| Below 30                                 | 15        | 10    |
| 31-40                                    | 25        | 16.7  |
| 41-50                                    | 47        | 31.3  |
| Above 50                                 | 63        | 42.0  |
| Total                                    | 150       | 100   |
| <b>Average Marital status</b>            | <b>46</b> |       |
| Married                                  | 117       | 78    |
| Single                                   | 43        | 22    |
| Total                                    | 150       | 100   |

Source: Field survey, 2016

### Profit Analysis of Charcoal marketing

Table 2 shows the mean gross margin derived from the sales of charcoal in the study area. The results revealed that marketers in Akinmorin area had the highest mean gross margin of ₦350 per jute bag followed by those in Kosobo(₦300) while the sellers at Ajegunle and Bamgbose had a mean gross

margin of ₦250 and ₦200 respectively; the least mean gross margin was obtained by sellers at Sabo(₦120).This is quite understandable because of the close proximity of Akinmorin both to Ibadan and Oyo townships, compared to other selling points, from where buyers come to patronize them on regular basis.

**Table 2: Profitmargin of charcoal in the study area**

| Market    | Buying price (per jute bag) | Selling price | Profit margin |
|-----------|-----------------------------|---------------|---------------|
|           | ₦                           | ₦             | ₦             |
| Ajegunle  | 1450                        | 1700          | 250           |
| Akinmorin | 1400                        | 1750          | 350           |
| Kosobo    | 1400                        | 1700          | 300           |
| Sabo      | 1450                        | 1650          | 150           |
| Bamgbose  | 1400                        | 1600          | 200           |

Source: Field survey 2016

The results of the mean marketing margins seem to follow the pattern of the gross margin

with marketers in Akinmorin having the highest mean marketing margin of 20.0 per



jute bag followed by Kosobo (17.65), Sabo(9) as shown in Table 3. Ajegunle (14.7) and Bamgbose (12.54) and

**Table 3: Marketing Margin**

|                      | Ajegunle | Akinmorin | Kosobo | Sabo  | Bamgbose |
|----------------------|----------|-----------|--------|-------|----------|
| Buying price         | ₦1450    | ₦1400     | ₦1400  | ₦1450 | ₦1400    |
| Selling price        | ₦1700    | ₦1750     | ₦1700  | ₦1650 | ₦1600    |
| Marketing margin (%) | 14.7     | 20.0      | 17.65  | 9.0   | 12.54    |

Source: Field survey 2016

The result in table 4 shows that in the order of ranking, marketers in Akinmorin are 1<sup>st</sup> both in gross and marketing margin followed by Kosobo and Ajegunle. What the results clearly show is that the marketing of charcoal is more profitable at Akinmorin than at Kosobo and also that the least gain or profit is

obtained by marketers at Sabo. A plausible reason for this is that Akinmorin and Kosobo are along the major highway from Ibadan to Ogbomosho where people often stop and buy some items including charcoal. In other words, traders in these areas probably have more patronage than others.

**Table 4: Ranking of the study Areas according to Gross Margin and Marketing margin**

| Study Area | Profit Margin | Ranking         | Marketing Margin | Ranking         |
|------------|---------------|-----------------|------------------|-----------------|
| Ajegunle   | N300          | 3 <sup>rd</sup> | 14.7             | 3 <sup>rd</sup> |
| Akinmorin  | N450          | 1 <sup>st</sup> | 20.0             | 1 <sup>st</sup> |
| Kosobo     | N400          | 2 <sup>nd</sup> | 17.65            | 2 <sup>nd</sup> |
| Sabo       | N250          | 4 <sup>th</sup> | 9.0              | 5 <sup>th</sup> |
| Bamgbose   | N300          | 3 <sup>rd</sup> | 12.54            | 4 <sup>th</sup> |

Source: Field survey 2016

#### Marketing Efficiency

The marketing efficiency indicators in Table 4 show that the sellers in each of the locations are efficient since the ME is higher than 1. The

result is corroborated by the findings of Adeagbo *et al.* (2016). Charcoal sellers in Akinmorin are more efficient than sellers in other locations.

**Table 4: Marketing Efficiency of Charcoal Sellers in the study area**

| Location  | Selling Price (N) | Cost of Marketing Functions (₦) | Marketing Efficiency % |
|-----------|-------------------|---------------------------------|------------------------|
| Ajegunle  | 1700              | 175                             | 9.71                   |
| Akinmorin | 1750              | 175                             | 10                     |
| Kosobo    | 1700              | 180                             | 9.4                    |



|          |      |     |      |
|----------|------|-----|------|
| Sabo     | 1650 | 175 | 9.4  |
| Bamgbose | 1600 | 175 | 9.14 |

**Source:** Field survey 2016

### Problems encountered by Charcoal Sellers

The major problems encountered in charcoal marketing in the area include finance, transportation and the storage of the products (as shown in Table 5) which are very peculiar with small scale businesses. All the marketers complained of the rising cost of charcoal apparently because of the dwindling wood resources that has necessitated the sellers to travel long distances to source for charcoal. Majority (69.33%) complained of lack or

insufficient capital to run the business while over 95% mentioned transportation as a major challenge they had to contend with the marketing business. Usually sellers convey the charcoal from the bush where they are produced to the urban areas through the bad roads prevalent in the rural areas and because of the bad condition of the road they are made to pay higher for the transportation of their products.

**Table 5: Problems in charcoal marketing problems encountered**

| Problems                | Frequency | Percentage |
|-------------------------|-----------|------------|
| High cost               | 150       | 100        |
| Finance                 | 104       | 69.33      |
| Transportation          | 143       | 95.33      |
| Storage and procurement | 09        | 6.00       |

### \*Multiple response

### Conclusion and Recommendations

The study shows that females were predominant in charcoal marketing. The average mean age was 46. Charcoal marketing is a profitable enterprise as there was at least 9.14% returns on investment from the market in the study area. The sustainability of the charcoal business depends largely on the availability of trees for its continued production hence government should encourage trees planting especially among the charcoal producers, so as to ensure

that the forests are protected. In addition good roads should also be provided for easy transportation of charcoal from the point of production to the city centers.

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