



**Statistics Sierra Leone**

## **2012 SURVEY OF CHARCOAL BUSINESSES IN URBAN CENTERS OF SIERRA LEONE**



**SEPTEMBER, 2013**

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## ACKNOWLEDGEMENTS

This Charcoal Survey is the first to be conducted by Statistics Sierra Leone (SSL) so as to obtain pertinent information on charcoal sales, employment and other information in the country. Charcoal form part of the major source of energy for cooking in many urban households. The charcoal product is part of the forestry output included in the computation of the gross domestic product (GDP), which is a key development indicator used to assess the performance of the economy. This was conducted under the Statistics Act 2002, which makes it mandatory for all business establishments operating in Sierra Leone to respond to Statistics Sierra Leone's data requests. The Act also stipulates that the content of individual returns received would be kept confidential and used only for statistical purposes.

The aim of this charcoal survey is to provide basic statistics (such as price, ownership status, employment, and expenditures) of charcoal businesses operating in the urban cities.

This survey report has been compiled by a dedicated Team of Statisticians and data collectors and supervisors under my Supervision. SSL Management therefore acknowledges the immense contribution which the following people made towards the conduct of the survey: Abu Bakarr Turay, Director of Economic Statistics Division; Isata M. Allieu-Keikura, Statistician, Agriculture Statistics Section and Martha K. Koroma, Assistant Statistician, Agriculture Statistics, Statistics Sierra Leone (SSL)

We also wish to thank our Data Collectors, Supervisors and our valued respondents who took part in the data collection exercise.

We are also grateful to Government for funding this exercise.

Finally, we thank God for everything we have been able to accomplish with this survey.

**Mohamed King Koroma**  
**Statistician General**

## EXECUTIVE SUMMARY

Many surveys and even the 2004 Population and Housing census have revealed that the majority of Sierra Leonean households depend on traditional fuels (charcoal /fuel wood) to meet their daily energy needs for cooking and kerosene for lighting for many decades. After the civil war, which ended in 2002, people in the rural area have engaged in extensive charcoal and fuel wood production in response to the increasing demand in the urban centers. Today, there is no district among the 12 districts of the country, where charcoal production is not a lucrative business.

At the National level, 87 percent and 7 percent of the households use wood and charcoal respectively as the principal sources of energy for cooking in 2004. The pattern of fuel use for cooking is similar at the provincial and district levels. Between the 1985 and 2004 censuses, there were insignificant drops in the uses of Kerosene and Electricity for cooking at national level. However, charcoal use increased from 1 percent in 1985 to 7 percent in 2004. By locality, the proportion of households using charcoal as a sources of fuel for cooking increased from 0.9 percent in 1985 to 9% in 2004 in the rural area, whereas in the urban areas, the proportion of households using charcoal as a main source energy for cooking increase significantly from 3.5% in 1985 to 34.2% in 2004. This significant increase in the use of charcoal in the urban areas as main energy source for cooking coincided with a decline in the generation and supply of electricity in the country.

These statistics show that charcoal and fuel wood constitute an important component of energy production and consumption in the country. However, a major gap in the monitoring of the contribution of these products to the gross domestic product (GDP) is the absence of comprehensive data on them. Although the production of such items is on the increase, especially as economic activities expand, in mining and other sectors of the economy, data is at best scanty and in most cases not available at all. This survey therefore collects basic information on the sale of these commodities in the urban cities of Freetown, Bo, Kenema and Makeni that guides policy to direct and control charcoal production and consummating in the country. Such information is useful to policy maker as they look for possible ways of expanding sources of energy for households.

This Charcoal survey targeted a sample size of 135 charcoal selling centers selected from a list of 431 charcoal centers in the country. The survey was a nationwide survey, covering the regional cities of Freetown, Bo, Kenema and Makeni. This was conducted under the Statistics Act 2002, which makes it mandatory for all business establishments operating in Sierra Leone to respond to Statistics Sierra Leone's data requests. The Act also stipulates

that the content of individual returns received would be kept confidential and used only for statistical purposes. An invitation letter signed by the Statistician General of SSL was enclosed with all questionnaires to encourage business owners/executives to provide the relevant data relating to their businesses and to assure them of the confidentiality of the data collected. The survey was designed such that Charcoal Establishments were visited several times so as to get the requested data from these establishments. Out of the targeted 135 charcoal establishments, 120 (88.9%) charcoal establishments were successfully interviewed. The non-responses (11.1%) were largely due to delay in retrieving the questionnaires as well as outright refusal to provide the relevant information.

## Coverage and Limitations

This charcoal survey covered only the sales aspect of the charcoal production; it did not therefore include actual production of charcoal that is going on all over the country as such an activity would usually be covered in a household-based survey.

The survey covered only charcoal businesses operating the regional cities of Freetown, Bo, Kenema and Makeni. The district and other urban towns were not covered. The data is therefore representative at national and regional levels and not at district level

## The results obtained from the survey shows:

- ◆ That 88.4% of respondents were females, which means that only 11.6% were male respondents for this survey.
- ◆ That majority of persons in the charcoal business (96.2%) are Sierra Leoneans, compared with only 3.9% that are Foreign Nationals. This means that Sierra Leoneans are mainly in control of the charcoal trade in the country-from the production, transportation, distribution and sale of charcoal all around the country.
- ◆ That 61.9% of persons in the charcoal business have never being to school, followed by 22.0% with primary education level and 14.5% with secondary education level. This means that charcoal business is an important source of income for those who never went to school in this country, as 80.5% of them believe that charcoal business is the main source of income;

- ◆ That 88.9% of respondents owned their charcoal businesses; of 11.1% (48 persons) who indicated that they were not owners of the business, 51.8% of such businesses were owned by the neighbours, 20.6% were owned by the parents or guardian while 27.6% were owned by other persons including brothers/sisters and friends.
- ◆ That about 821 persons were engaged in charcoal business in the regional cities of Western Area (Freetown), Southern Region (Bo), Eastern Region (Kenema) and Northern Region (Makeni). Out of this number, 79.7% were women, while 66.1% were children below 18 years of age. This underlines the important contribution of women and children to household income around the country.
- ◆ That the average price per bag (rice bag) is lower in the Eastern Region (Le 10,200 per bag) than any of the other regions; the average price is highest in the Western Area (Le 18,993 per bag), followed by Northern Region (Le 14,500 per bag) and the Southern Region (Le 13,700 per bag).
- ◆ That a 'rice bag' of charcoal is heavier in the Northern Region weighing 27kg compared with 20kg in the Eastern region and Western Area and 22kg at the National Level.
- ◆ That the charcoal trade generated an average of Le 22,990 million in 2012 as income, compared with Le 13,876 million expended in the same period; this means that there is an annual operating profit of Le 9,114 million; the data also shows the East spends only 24.4% of their revenue to cover the cost of supplying the charcoal to the local market, compared with 65.9% of revenue spent in the Western Area.
- ◆ That only 49 (11.4%) of Charcoal Businesses obtained loan from any sources in the past 12 months; and that only 6.1% of the 49 Charcoal Businesses that have obtained loans, have obtained loans from formal banks in the last in the past 12 months.
- ◆ That charcoal business that did not obtain loan from any source pointed out they did not obtain loan because they thought that the interest rate was too high (31.9%); while 10.7% pointed out the normal problem of lack of collateral to secure the loan.
- ◆ That 47.2% of respondents have savings accrued from charcoal business; this means that more than half 52.8% do not have savings at all, which underlines the hand-to-



mouth nature of charcoal business in the country; and that 65% of those respondents who have savings saved less than Le 500,000; while only 2.5% have saved Le 3,000,000 or more.

## Recommendation

Charcoal production is still done at the household, informal level; as a result there is no regulatory framework in place to regulate charcoal production, distribution and sales in the country, which is affecting the environmental aspect of our economy. There is therefore need to establish a legal regulatory framework spelling out the coordination mechanism among various stakeholders in the charcoal industry.

There is also need to support charcoal businesses as part of the small-and-medium scale enterprise development in the country since such business have been found to be an important source of income to many households.

There is need to extend the charcoal survey to cover district and other big urban settlements in the country.

## 1.0 INTRODUCTION

This section contains the background, objectives, justification and data collection and processing procedures of the survey

### 1.1 Background

Sierra Leone has suffered many years of bad governance and corruption; which resulted into low growth and widespread poverty, especially among the rural populations in the country. The situation was exacerbated by the 10-year civil conflict which destroyed both economic and social infrastructures in the country. This in turn affected the ability of the state to provide basic services to the population, a situation that continued till the end of the war in 2002.

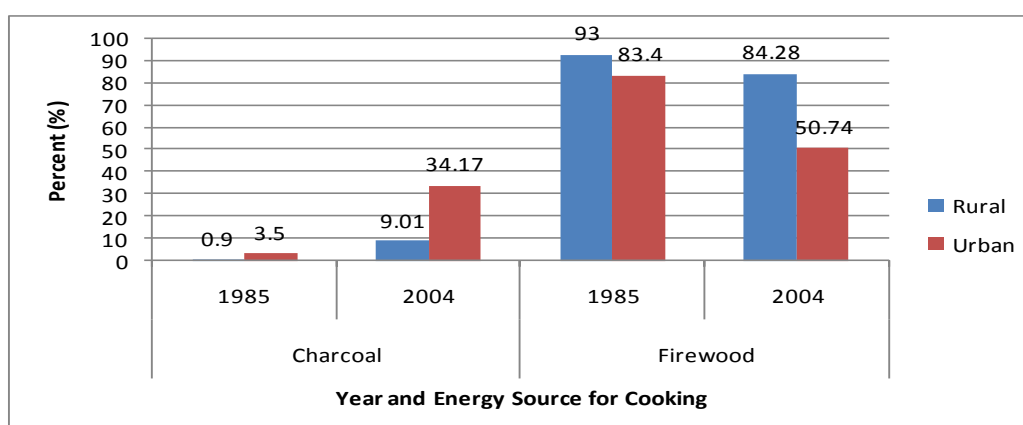
The Sierra Leone economy is recording significant progress since the end of the war in 2002, which is measured by the impressive gross domestic product (GDP) figures reported by Statistics Sierra Leone. With a population of a little over 5 million and with huge deposits of minerals, Sierra Leone is country of great potentials for growth and development. The economic activities measured by the country's Gross Domestic product (GDP) have been expanding since 2002 with an average growth rate 6.0 recorded between 2002 and 2012 due mainly to progress made in the Agriculture sector over the years. The discovery and commencement of mining of iron ore in the North, has added new impetus to the government development effort as the economy is projected to grow by 51% in real terms in 2012 on account of the exports of this ore starting with 2011.

The Sierra Leone Government adapted decentralization in 2004 as a strategy of reaching out to the many rural populations with services such as health, education, electricity and water supply, and many other amenities. Electricity supply has notably been a major problem for both urban and rural populations in the country and it has taken the government many years to provide such a key amenity to the people. The absence of the electricity from the national grid, the population turned to many sources of energy for cooking and lighting in their various homes.

Surveys after surveys have revealed that the majority of Sierra Leonean households depend on traditional fuels (charcoal /fuel wood) to meet their daily energy needs for cooking and kerosene for lighting for many decades. After the civil war, which ended in 2002, people in the rural area have engaged in extensive charcoal and fuel wood production in response to the increasing demand in the urban centers. Today,

there is no district among the 12 districts of the country, where charcoal production is not a lucrative business. Charcoal/fuel wood are potentially renewable forest products and are commonly called the poor man's fuel. It is also a vital energy source for the urban poor and occupies one of the largest industries. Charcoal/fuel wood Low-income households have a higher per capita income. Charcoal/fuel wood accounts of about three-quarters of the total household energy expenditure, in Sierra Leone. Nevertheless electricity is the main source of energy among more affluent households (those in low and medium-density areas); but these households also use charcoal in significant amounts: the difference in expenditure on charcoal/fuel wood between low-income and high-income household's is indeed very small, It's greatest use is for home and outdoor recreational cooking.

**Figure 1.1: Source of Energy for Cooking by year and Locality**



Source: 2004 Population and Housing Census-Housing Monograph

The energy sources available in Sierra Leone are electricity, gas, kerosene, charcoal and wood. At the National level, 87% and 7% of the households use wood and charcoal respectively as the principal sources of energy for cooking in 2004. The pattern of fuel use for cooking is similar at the provincial and district levels. Between the 1985 and 2004 censuses, there were insignificant drops in the uses of Kerosene and Electricity for cooking at national level. However, charcoal use increased from 1% in 1985 to 7% in 2004. By locality, Figure 1 shows that the proportion of households using charcoal as a source of fuel for cooking increased from 0.9% in 1985 to 9% in 2004 in the rural area, whereas in the urban areas, the proportion of households using charcoal as a main source energy for cooking increase significantly from 3.5% in 1985 to 34.2% in 2004. This significant increase in the use of charcoal in the urban areas as main energy source for cooking coincided with a decline in the generation and supply of electricity in the country.

The main vegetation cover used by the households to produce charcoal in the study countries is obtained from miombo woodlands, which are dry tropical woodlands. The harvesting of miombo woodlands and other forest vegetation types is essential for the livelihood of the rural dwellers (employment, income, consumption goods and services). The harvesting is stimulated by the purchasing power of urban dwellers. This can be seen in the growth in fuel, wood and charcoal consumption substituting electricity and gas as alternative sources of energy, and the increased use of wood based products for building houses. The major consequence charcoal production has is deforestation, which in turn leads to soil erosion, which constitutes an environmental threat in the country and many other sources of livelihood and human counties.

## 1.2 Aims and Objectives

The aim of this exercise will provide basic statistics (such as price, ownership status, employment, and expenditures) of charcoal business operating in the urban cities. Specific objectives include:

- ◆ To obtain basic statistics such as ownership status, age of respondents and educational level of respondents in the charcoal business;
- ◆ To determine the scale and economic value of the charcoal industry in urban cities;
- ◆ Quantify the employment contribution of charcoal businesses in the country;
- ◆ To identify the sources of loans and amount of savings that accrue from charcoal businesses.

## 1.3 Justification

One of the targets of the Millennium Development Goals (MDG) target 9 indicators is to reduce the proportion of population using solid fuel. In Sierra Leone, according to the 2004 Population and Housing Census Report, most households use wood (88%), charcoal (7%) and kerosene 4% for cooking. The pattern of distribution is similar in the regions except for Western Area where 30% of households use charcoal and 15% use kerosene, nationwide. At the urban/rural level, 74% of households in the urban and 97% of households in the rural use wood. However,

another 16% and 8% use charcoal and kerosene respectively in the urban area. Solid fuel comprises wood and charcoal in this analysis; hence most Sierra Leoneans (96%) use solid fuel for cooking.

These statistics show that charcoal and fuel wood constitute an important component of energy production and consumption in the country. However, a major gap in the monitoring of the contribution of these products to the gross domestic product (GDP) is the absence of comprehensive data on them. Although the production of such items is on the increase, especially as economic activities expand, in mining and other sectors of the economy, data is at best scanty and in most cases not available at all. This survey therefore collects basic information on the sale of these commodities in the urban cities of Freetown, Bo, Kenema and Makeni that guides policy to direct and control charcoal production and consummating in the country. Such information is useful to policy maker as they look for possible ways of expanding sources of energy for households.

## 1.4 Questionnaires

The questionnaire was developed through a consultative process, wherein stakeholders were invited to make meaningful input to the proposed questions designed to capture employment information. Some form of pre-testing was done in order to finalize the instrument. A structure questionnaire was used to train Data Collectors to collect the information from retailers of charcoal and fuel wood in the data collection centers all over the country. The questionnaire captured information such as:

- ◆ Basic characteristics of the business and the business owners;
- ◆ Characteristics of workers of the business;
- ◆ Income and expenditure of the business;
- ◆ Savings and loans of charcoal businesses.

## 1.5 Data Collection

The Charcoal survey targeted a sample size of 135 charcoal selling centers selected from a list of 431 charcoal centers in the country. The survey was a nationwide survey, covering the regional cities of Freetown, Bo, Kenema and Makeni. This was conducted under the Statistics Act 2002, which makes it mandatory for all business

establishments operating in Sierra Leone to respond to Statistics Sierra Leone's data requests. The Act also stipulates that the content of individual returns received would be kept confidential and used only for statistical purposes. An invitation letter signed by the Statistician General of SSL was enclosed with all questionnaires to encourage business owners/executives to provide the relevant data relating to their businesses and to assure them of the confidentiality of the data collected.

Training of enumerators was conducted for two days; and total number of 43 Data collectors and 3 supervisors were recruited and trained for the data collection exercise. The survey was designed such that Charcoal Establishments were visited several times so as to get the requested data from these establishments.

The Coordinators of the Survey monitored the data collection exercise on a daily basis in Freetown as well as in the Provinces through telephone and other means to assist Enumerators to do their work effectively and diligently. In addition, visits were made to some establishments in Freetown and in the Provinces to validate the data collected in each of these centers.

## **1.6 Sample Achieved**

Out of the targeted 135 charcoal establishments, 120 (88.9%) charcoal establishments were successfully interviewed. The non-responses (11.1%) were largely due to delay in retrieving the questionnaires as well as outright refusal to provide the relevant information.

## **1.7 Data Processing**

Data capturing for the Charcoal Survey started immediately the data collection was completed in June 2013. Data entry was done within five days after the data collection. The employment data entry centre was centralized at the Statistics Sierra Leone Office headquarters and the information in completed questionnaires was manually scrutinized, edited and coded before sending them for entry. Computer editing was also done as a way of validating the data as the software provided automatic data checks for acceptable values for the variables and checks between different components of the questionnaires.

## 2.0 DATA PRESENTATION AND ANALYSIS

This section presents and analyses the data obtained from the charcoal survey.

This section presents the findings of the survey and highlights key issues for policy formulation.

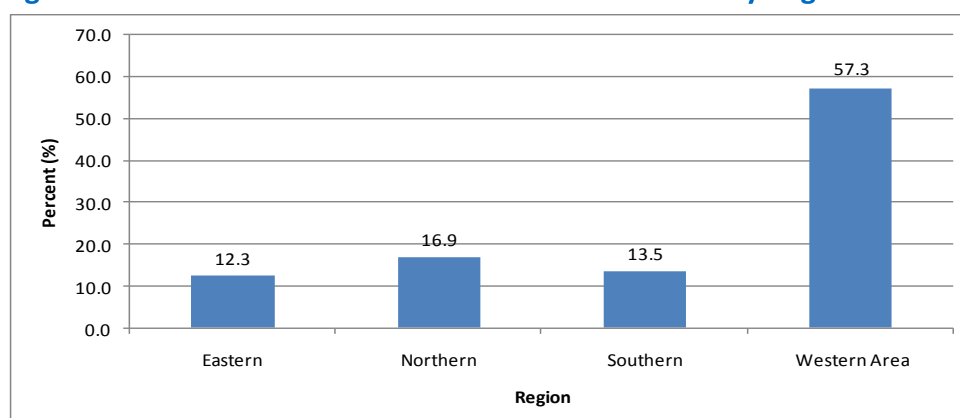
### 2.1 Basic General Information of Respondents

The survey collected general information on the individuals and/or establishments operating in charcoal businesses in the country. The information collected ranges from name and locality of business, registration status as well as organization status of the establishments canvassed in the survey, sex of respondents, age, ethnicity and marital status of respondents.

#### 2.1.1 Region/Locality Distribution of Charcoal Establishments

The survey collected information from the regional cities of Freetown in the Western Area, Bo (in the Southern Region), Makeni (in the Northern Region), and Kenema (in the Eastern Region); and the distribution is shown in Figure 2.1.1

**Figure 2.1.1: Distribution of Charcoal Establishments by Region**



The data in Figure 2.1.1 shows that majority of charcoal selling centers (57.3%) are in Western Area, followed by the Northern Region with 16.9% and Southern Region 13.5%. This shows that Freetown, the capital city has the largest market for charcoal since it is the largest single urban settlement in the country.

### 2.1.2 Sex of Respondents

The charcoal survey collected data on the sex of respondents and the responses are shown in Figure 2.1.2.

**Figure 2.1.2: Sex of Respondents by Data Collection Center**



The results in Figure 2.1.2 show that 88.4% of respondents were females, which means that only 11.6% were male respondents for this survey. At data collection city level, no male respondent was interviewed in Bo, while only 6.8% of the respondents in Makeni were males and 8.1% of respondents were males in Freetown. However about half (47.2%) of respondents in Kenema were males. In general, females more females were involved in charcoal trading than males in all the data collection cities.

### 2.1.3 Age of Respondents

The survey collected data on the age of respondents measured as age in completed years, and the result is shown in Table 2.1.3.

**Table 2.1.3: Age of Respondents by Data Collection City**

Data Collection City	Minimum	Mean	Maximum
Kenema	28	46	56
Makeni	32	45	78
Bo	23	41	85
Freetown	22	40	63
<b>National</b>	<b>22</b>	<b>42</b>	<b>85</b>

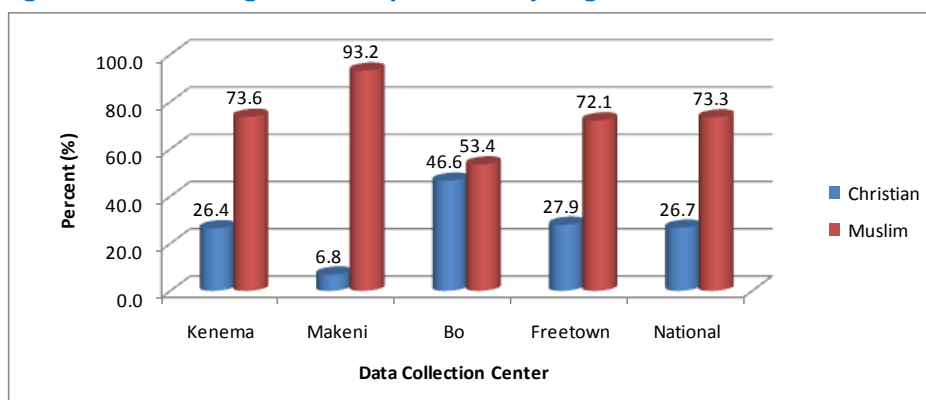
Table 2.1.3 shows that the minimum age of respondent was 22 years, while the maximum age was 85 years at the national level; on average respondents were around 42 years old. This means that charcoal businesses are mainly being run by adults, and that children may only be playing a supportive role.



## 2.1.4 Religion of Respondent

Respondents were asked to provide information on their religion, and the results are shown in Figure 2.1.4.

**Figure 2.1.4: Religion of Respondent by Region**



The data in Figure 2.1.4 shows that 73.3% of respondents were Muslims compared with 26.7% Christians, which is very similar to the 2004 Population and Housing Census estimates. This national picture is reflected in all the regions of the country, except in Bo, where the proportion is very close to each other, with half of the respondents being in one region or the other.

## 2.1.5 Marital Status

The data collected on the marital status of respondents is shown in Figure 2.1.5

**Figure 2.1.5: Marital Status**

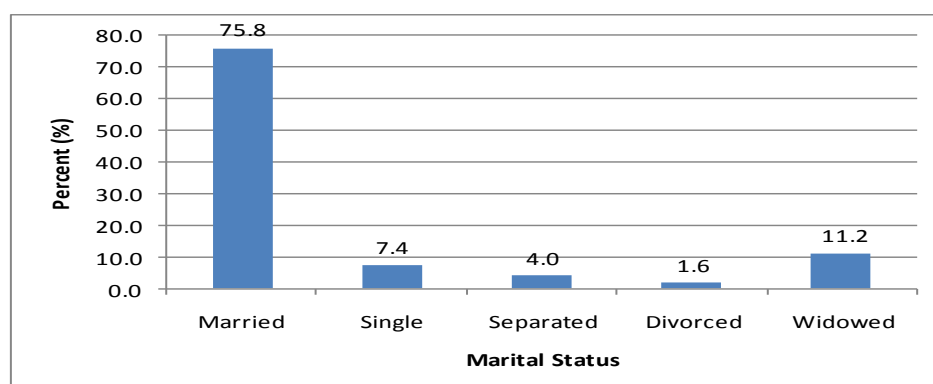
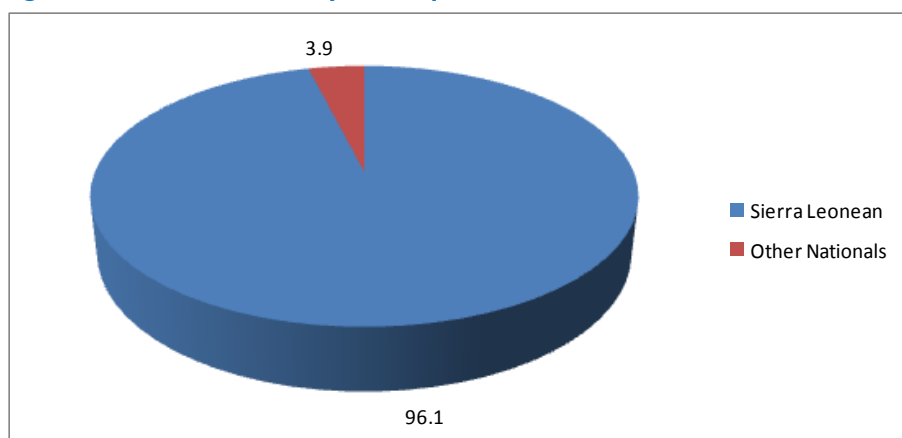


Figure 2.1.5 shows that majority of respondents operating in the charcoal business are married people, mostly females trying to make ends meet for their families.

## 2.1.6 Nationality of Respondents

The survey collected data on the nationality of respondents, and the responses are shown in Figure 2.1.6

**Figure 2.1.6: Nationality of Respondents**



The data in Figure 2.1.6 shown that majority of persons in the charcoal business (96.2%) are Sierra Leoneans, compared with only 3.9% that are Foreign Nationals. This means that Sierra Leoneans are mainly in control of the charcoal trade in the country-from the production, transportation, distribution and sale of charcoal all around the country.

## 2.1.7 Educational Level

The Survey collected information on the level of education of persons in the charcoal business and the responses are shown in Figure 2.1.6

**Figure 2.1.7: Educational Level of Respondents**

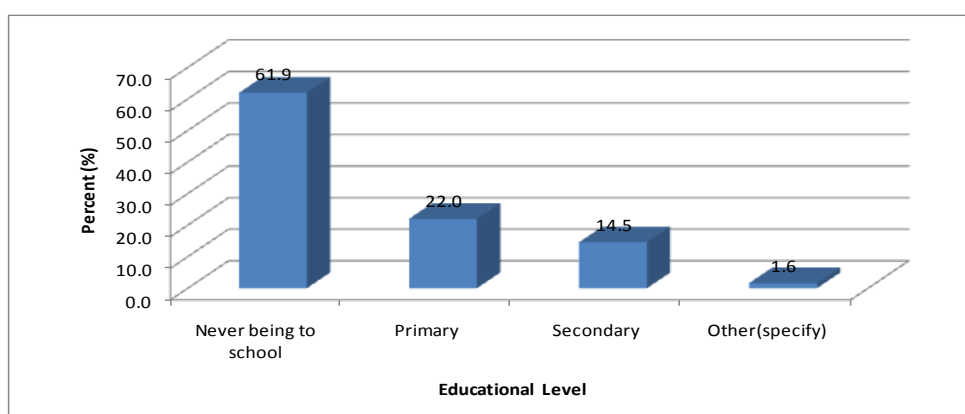


Figure 2.1.7 shows that 61.9% of persons in the charcoal business have never being to school, followed by 22.0% with education level and 14.5% with secondary education level. This means that charcoal business is an important source of income for those who never went to school in this country.

## 2.1.8 Main Source of Income

Information was collected on whether or not charcoal business was the main source of income to the household; this is shown in Figure 2.1.8

**Figure 2.1.8: Main Source of Income**

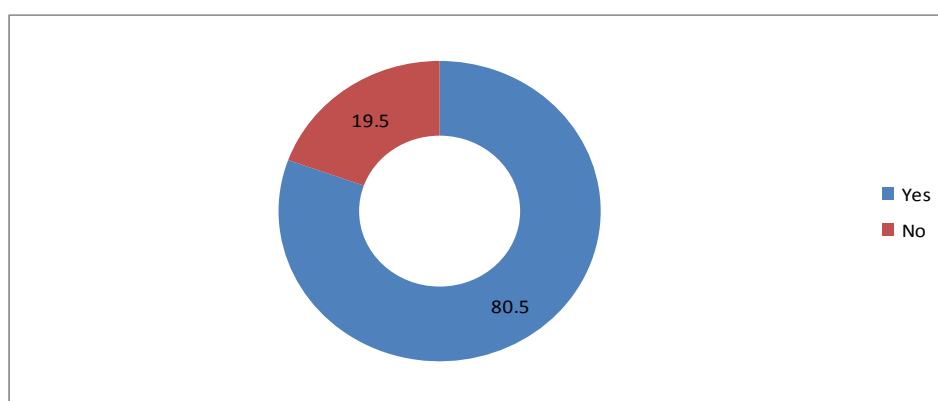


Figure 2.1.8 shows that 80.5% of respondents believe that charcoal business was the main source of income; this underscores the important role of charcoal not only as a source of cooking but also as a sources of income for household.

## 2.2 Charcoal Business Information

The survey obtained information relevant information on the nature of charcoal business being run in the country including ownership status, year of commencement of operations, and number of persons engaged in such businesses.

### 2.2.1 Ownership Status

The information obtained on ownership status of the charcoal business is shown in Figure 2.2.1 and Figure 2.2.1b.

**Figure 2.2.1a: Self Ownership**

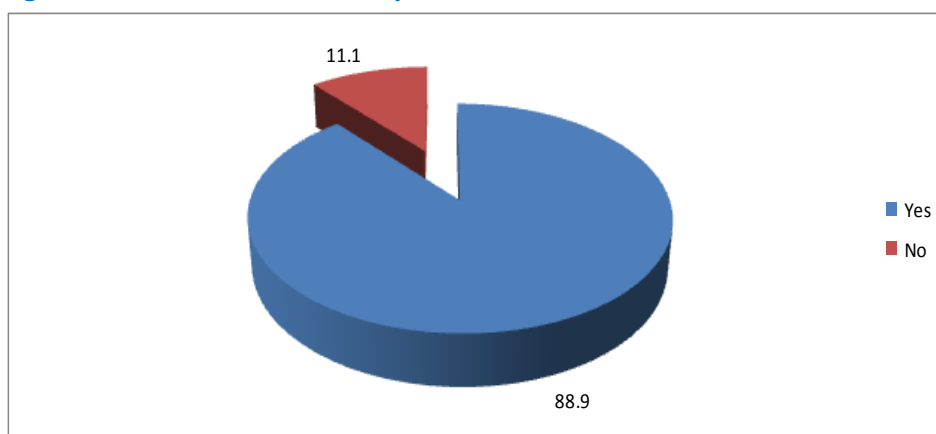
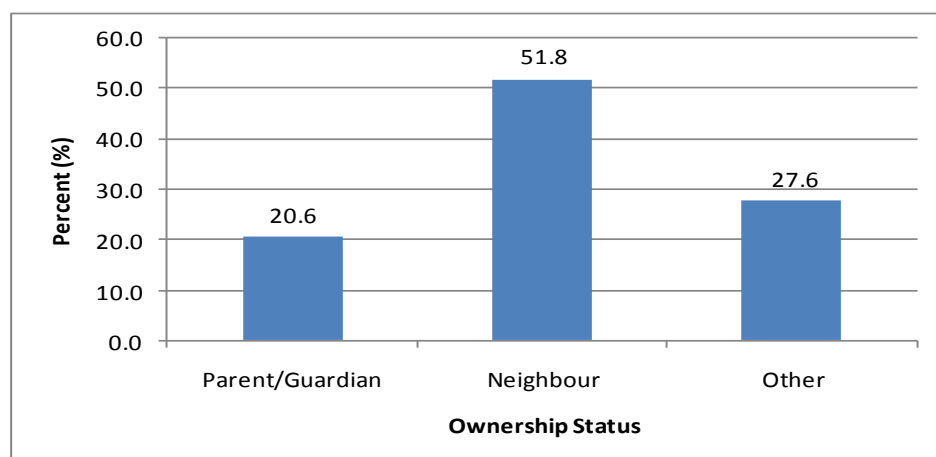


Figure 2.2.1 shows that 88.9% of respondents own their charcoal businesses, which means that only 11.1% (48 persons) who are not owners of such businesses, although they are playing a key role in the running of the business.

**Figure 2.2.1b: Other Ownership**



Of the 48 persons who indicated that they were not owners of the business, 51.8% of such businesses were owner by the neighbours, 20.6% were owned by the parent or guardian while 27.6% were owned by other persons including brothers/sisters and friends.

## 2.2.2 Length of time in the Business

The survey asked for the year the business was established and the length of time respondents have spent doing the same business, the responses are shown in Figure 2.2.2a and figure 2.2.2b.

**Figure 2.2.2a: Year of Commencement of Operations**

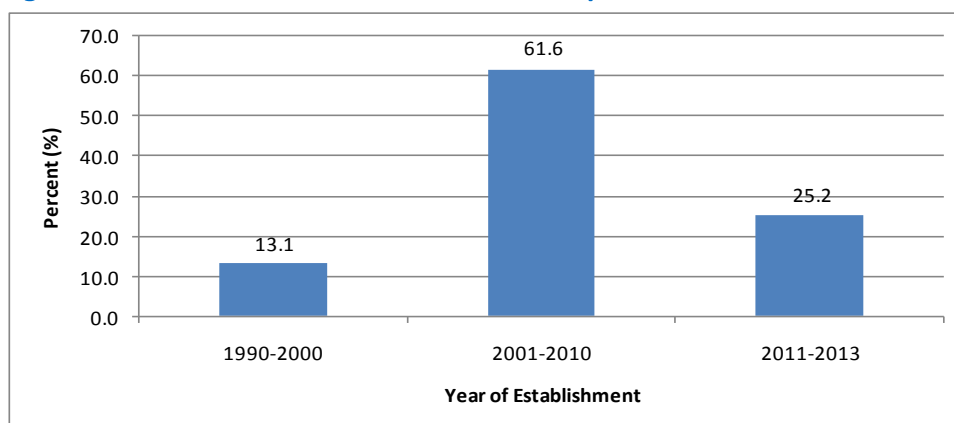


Figure 2.2.2 shows that most of charcoal businesses (61.6%) commenced operations between 2001 and 2010, followed by 25.2% established between 2011 and 2013. This shows that most charcoal businesses were established after relative peace was experienced throughout the country.

**Figure 2.2.2b: Length of Experience of Respondents**

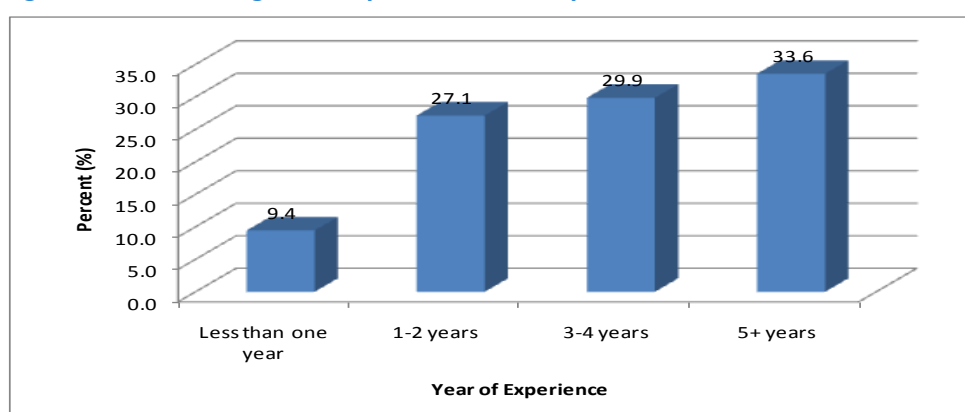


Figure 2.2.2b shows that most charcoal business operators (33.6%) have spent at least 5 years doing the business; this is followed by those who have spent between 3-4 years (29.9%) and those who have spent between 1-2 years (27.1%). This means that most respondents have spent at least 3 years on doing charcoal business in the country.

### 2.2.3 Persons Engaged in Charcoal Business

The survey collected information on the number of persons working in the charcoal business including children; and the information is shown in Table 2.2.3.

**Table 2.2.3: Number of Persons Engaged by Region**

Region	Male	Female	Total	% Female	Adult	Children (<18 years)	Total	% Children
Eastern	39	69	<b>108</b>	63.9	35	73	<b>108</b>	67.6
Northern	29	175	<b>204</b>	85.8	58	146	<b>204</b>	71.6
Southern	23	117	<b>140</b>	83.6	43	97	<b>140</b>	69.3
Western Area	76	293	<b>369</b>	79.4	142	227	<b>369</b>	61.5
<b>National</b>	<b>167</b>	<b>654</b>	<b>821</b>	<b>79.7</b>	<b>278</b>	<b>543</b>	<b>821</b>	<b>66.1</b>

Table 2.2.3 shows that about 821 persons were engaged in charcoal business in the regional cities of Western Area (Freetown), Southern Region (Bo), Eastern Region (Kenema) and Northern Region (Makeni). Of this number, 79.7% were women, while 66.1% were children below 18 years of age. This underlines the important contribution of women and children to household income around the country.

**Figure 2.2.3: Percentage Distribution of Persons Engaged by Region**

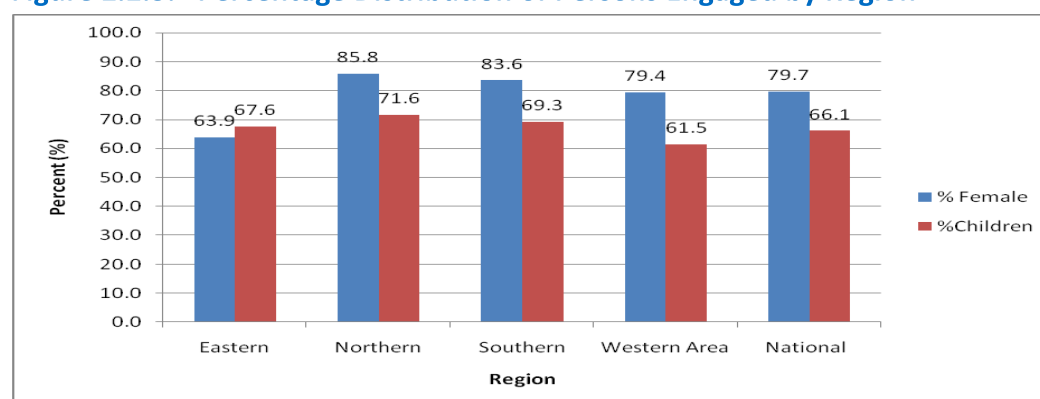


Figure 2.2.3 shows that at the national level 79.7% of persons engaged in Charcoal Business are female; the Northern Region however has the highest proportion of 85.8% followed by the Southern Region 83.6% and Western Area 79.4%. This underscores the important role of charcoal business as a source of income to many of the women around the country. In addition, 66.1% of the persons engaged in charcoal business are children below 18 years at the national level, while in the Northern Region the proportion is higher at 71.6% followed by the Southern Region 69.3%; which also underlines the widespread child labour activities in such an informal business environment.

## 2.4 Financial Resources of Charcoal Businesses

The survey collected data on the financial resources including revenue and expenses of charcoal businesses in the country.

### 2.4.1 Price and Weight in kg per bag of charcoal

The survey collected data on the price and weight of each bag of charcoal bought and sold and the information is shown in Table 2.4.1

**Table 2.4.1: Price and Weight in kg per Bag of Charcoal**

Region	Price per Bag of Charcoal (Le)			Average weight per bag (kg)
	Minimum	Mean	Maximum	
Eastern	8,000	10,200	15,000	20
Northern	12,000	14,867	17,000	27
Southern	9,000	13,700	16,000	23
Western Area	15,000	18,993	29,000	20
<b>Total</b>	<b>8,000</b>	<b>15,724</b>	<b>29,000</b>	<b>22</b>

Table 2.4.1 shows that the price per bag (rice bag) is lower in the Eastern Region than any of the other regions. It also shows that the price of bag of charcoal is more expensive in the Western Area followed by the Northern region than in the other regions, possibly due to the population in Freetown as well as the lack of reliable power supply in the city that could have been used as alternative source for cooking. In the Northern in the surge in the population as a result of iron ore mining may have contributed to the high price of charcoal in the region. Table 2.4.1 further shows that a 'rice bag' of charcoal is heavier in the Northern Region weighing 27kg compared with 20kg in the Eastern region and Western Area and 22kg at the National Level.

### 2.4.2 Bags Sold

The Survey collected data on the amount of bags sold per day and the information is presented in Table 2.4.2.

**Table 2.4.2: Quantity Sold**

Region	Quantity Sold		
	Minimum	Mean	Maximum
Eastern	2	6	11
Northern	3	12	30
Southern	1	6	17
Western Area	1	7	31
<b>Total</b>	<b>1</b>	<b>8</b>	<b>31</b>

Table 2.4.2 shows that on average, a higher quantity of charcoal 12 (27kg bags) were sold in the Northern Region than even in the Western Area by a single business. This could be due to the increased demand for charcoal in the region resulting from the surge in the population as result of booming iron ore mining activities.

### 2.4.3 Revenue and Expenditure

Sales/revenue is an important component of business activities, as it represents the income that an establishment receives from the direct sale of its goods or service. It is what the establishments use to meet running cost, pay the wage bill, and where possible plough back the profit into the business. For this survey, SMEs were asked questions bordering on sale/revenue and their views on the business profitability status.

The survey collected data on the revenue and expenditure of the charcoal businesses operating in the country; and the results are displayed in Table 2.4.3

**Table 2.4.3: Revenue and Expenditure in Million of Leones**

Region	Total Annual Revenue	Total Annual Expenditure	Exp/Rev Ratio
Eastern	1,020	249	24.4
Northern	3,690	2,290	62.1
Southern	1,580	337	21.3
Western Area	16,700	11,000	65.9
<b>Total</b>	<b>22,990</b>	<b>13,876</b>	<b>60.4</b>

Table 2.4.3 shows that the charcoal trade generated an average of Le 22,990 million annually as income, compared with Le 13,876 million expended annually. This means that there is an annual operating profit of Le 9,114 million. The data also shows that Eastern region spends only 24.4% of their revenue to cover the cost of supplying the



charcoal to the local market, compared with 65.9% of revenue spent in the Western Area.

## 2.5 Loans and Savings

The survey collected information on additional sources of income such as access to loans and savings.

### 2.5.1 Source of Loan

The data collected on loans and source of loans is shown in Figure 2.5.1 and Figure 2.5.1b.

**Figure 2.5.1a: Obtained Loans**

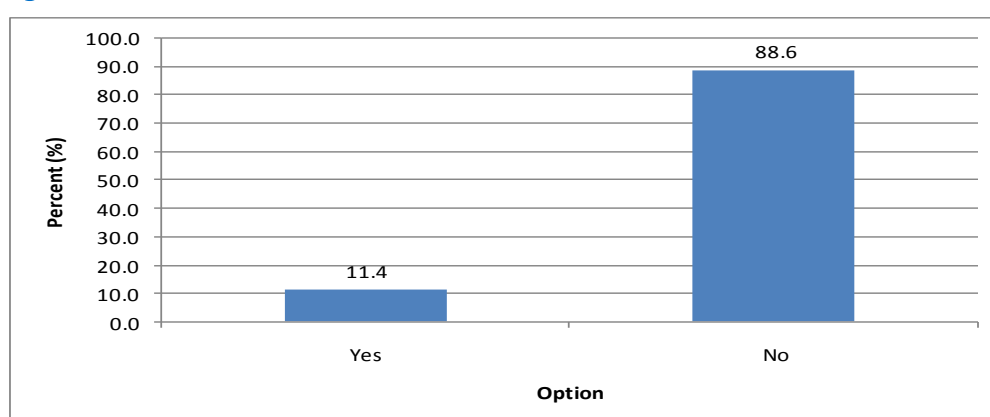


Figure 2.5.1 shows that only 49 (11.4%) of Charcoal Businesses obtained loan in from any sources in the past 12 months.

**Figure 2.5.1b: Source of Loans**

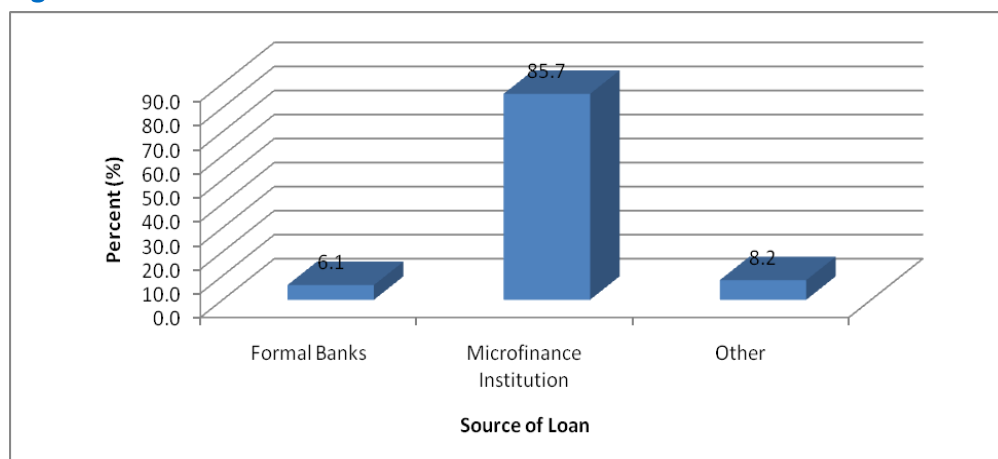


Figure 2.5.1b shows that only 6.1% of the 49 Charcoal Businesses, who have obtained loans, have obtained loan from formal banks in the last 12 months. This is not surprising given the fact that commercial banks will normally loan only formal businesses that have accounts with them. 85.7% has obtained loans from Microfinance Institutions and 8.2% has obtained loans from other sources including relatives and friends.

## 2.5.2 Amount and Repayment of Loan

The survey collected information on the amount and repayment status of loans obtained and the results are shown in Figure 2.5.2.

**Figure 2.5.2: Amount and Repayment of Loan**

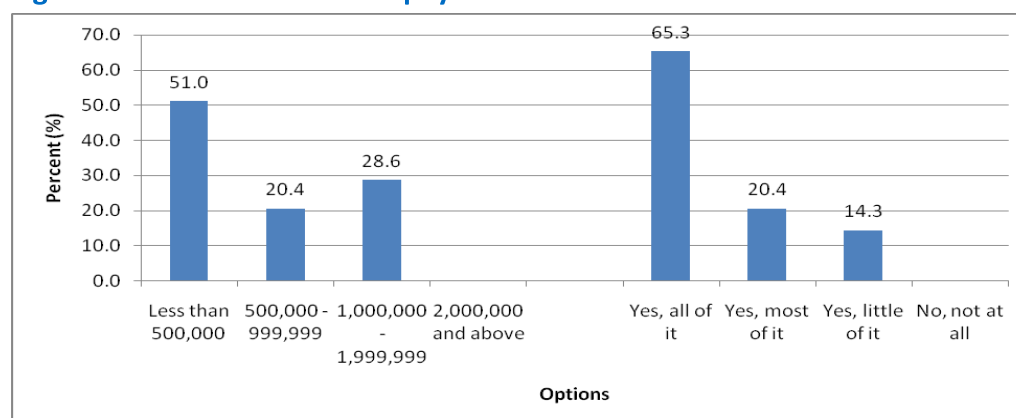


Figure 2.5.2 shows that more than half of the respondents (51%) obtained loan amount of less than Le 500,000; while no respondent obtained loan amount of Le 2,000,000 and above. This underscores the small and informal nature of charcoal business in the country. On the other hand, 65.3% of those who took loans have repaid all of it in the last 12 months.

## 2.5.3 Why not obtain Loans

The survey asked respondent that have not obtained loans to provide the main reason why they have not access loans to run their charcoal businesses; and the responses are presented in Figure 2.5.2.

**Figure 2.5.3: Why not obtain Loans**

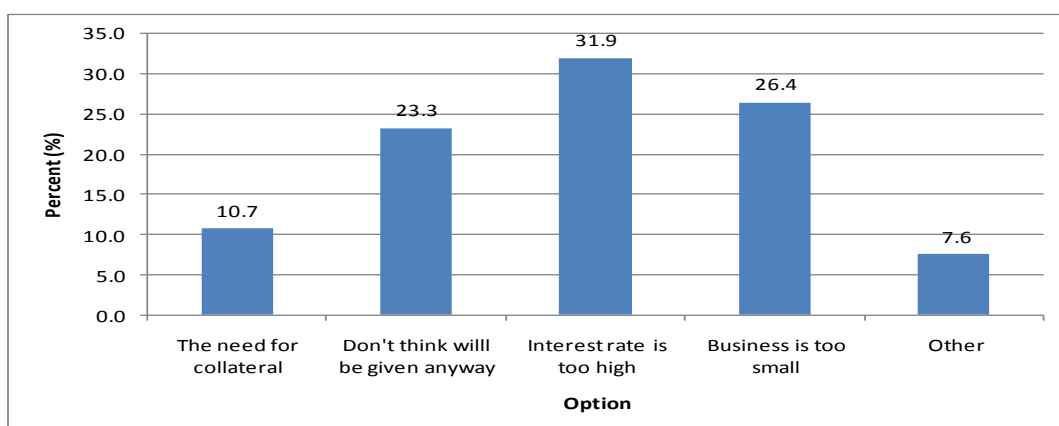


Figure 2.5.2 show charcoal business did not get loan from any source pointed out they did not obtain loan because they thought that the interest rate was too high (31.9%); 26.4% thought because the business was small; 23.3% thought they will not be given anyway, while 10.7% pointed out the normal problem of lack of collateral to secure the loan.

## 2.6 Savings

The Charcoal survey collected some information on savings either held in a bank or group or at home as the case may be.

### 2.6.1: Have savings with OSUSU Group

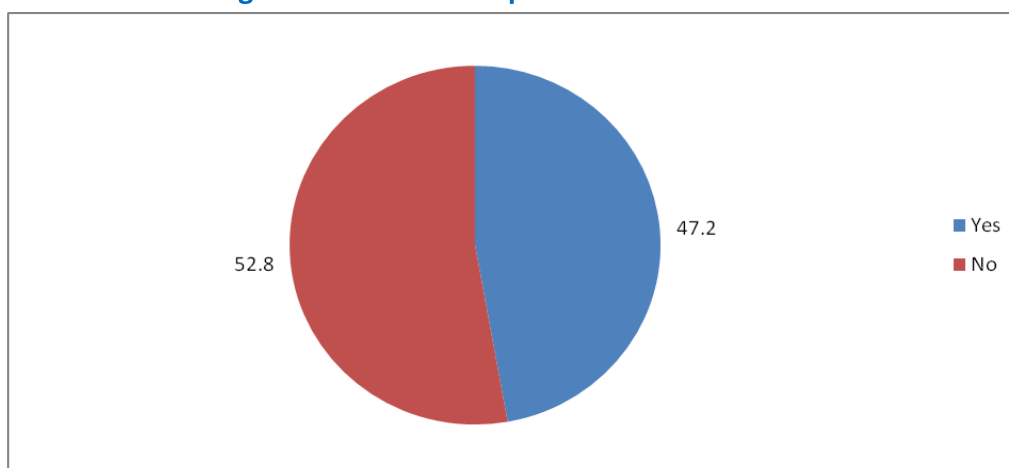


Figure 2.6.1 shows that 47.2% of respondents have savings accrued from charcoal business; this means that more than half 52.8% do not have savings at all, which underlines the hand-to-mouth nature of charcoal business in the country.

**Figure 2.6.2: Amount of Savings**

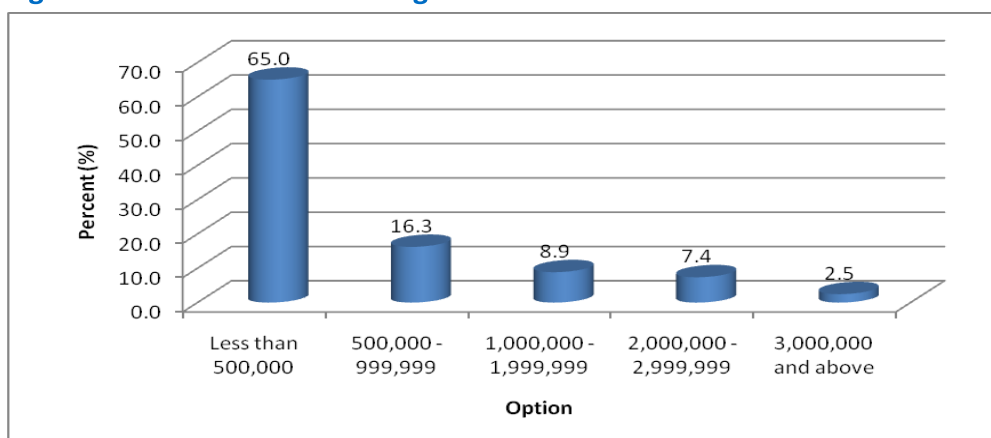
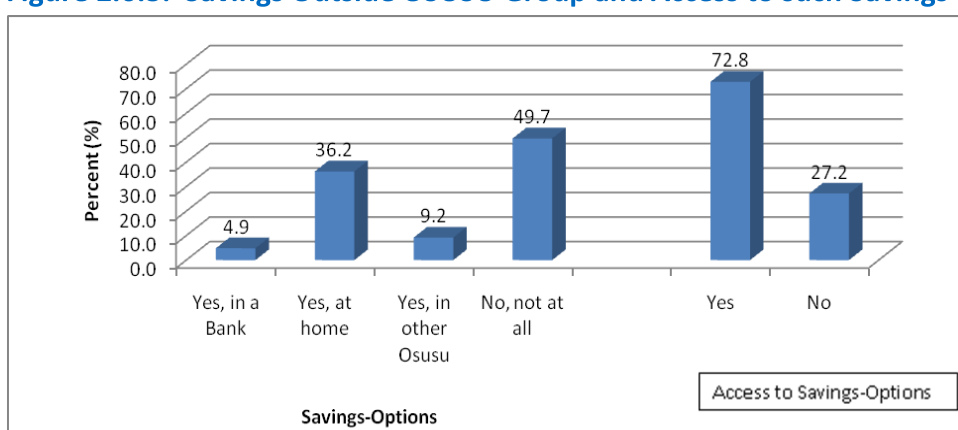


Figure 2.6.2 shows that 65% of those respondents who have savings saved less than Le 500,000; while only 2.5% have saved Le 3,000,000.

**Figure 2.6.3: Savings Outside OSUSU Group and Access to such Savings**



The data in Figure 2.6.3 shows that only 4.9% of charcoal businesses who agreed to have saved, have savings in a bank; while 36.2% have savings at home. 49.7% have no savings at all. In addition, of those charcoal businesses that have savings, 27.2% of them do not have access to such savings at any point in time. This is limited access to savings underscores the traditional nature of savings which undermines the key role of savings in business development and expansion.

## 2.7 Financial Assistance

The Charcoal Survey asked respondents whether or not they have received any financial assistance from the government or other development partners and the results are shown in Figures 2.7.1 and 2.7.2

**Figure 2.7.1: Received Financial Assistance**

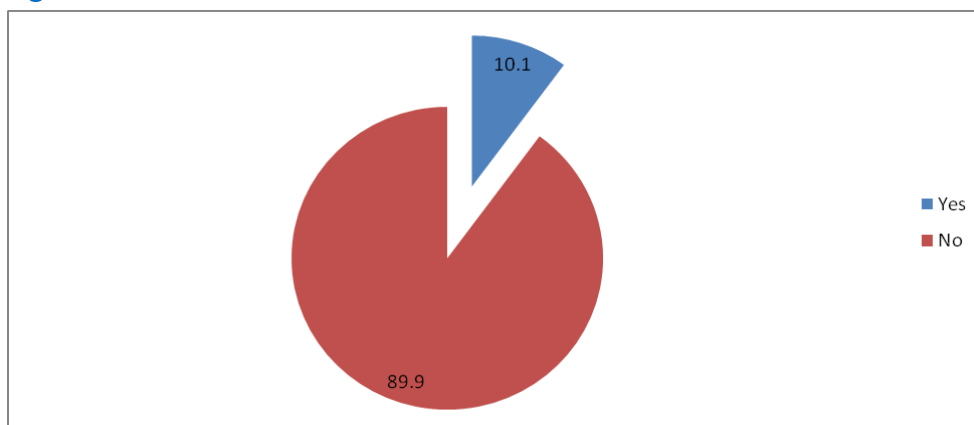


Figure 2.7.1 shows that only 10.1% of charcoal businesses have received financial assistance in the form of Loans and other support to carry out their business.

**Figure 2.7.2: Expected Role of the Government**

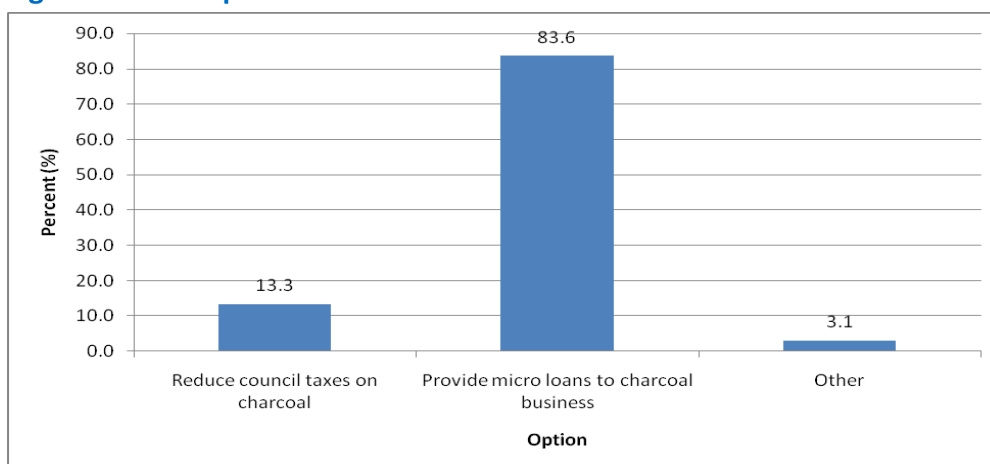


Figure 2.7.2 shows that 83.6% of the charcoal business interviewed expect government to provide micro-finance loans to aid them in their business; while only 13.3% expect government to reduce council taxes on charcoal. This may be due to the fact that either the tax is small or that some charcoal businesses actually do not pay taxes due to the informal nature of such businesses.

### 3.0 RECOMMENDATION

Charcoal production is still done at the household, informal level; as a result there is no regulatory framework in place to regulate charcoal production, distribution and sales in the country, which is affecting the environmental aspect of our economy. There is therefore need to establish a legal regulatory framework spelling out the coordination mechanism among various stakeholders in the charcoal industry.

There is also need to support charcoal businesses as part of the small-and-medium scale enterprise development in the country since such business have been found to be an important source of income to many households.

## 4.0 APPENDIX 1: THE QUESTIONNAIRE



### CHARCOAL CONSUMPTION ASSESSMENT SURVEY, 2013

#### IDENTIFICATION

- 1 REGION.....2 DISTRICT.....3. CITY.....
4. STREET ADDRESS.....
5. RESPONDENT NAME .....

#### INTRODUCTION:

**GREETINGS**, my name is ..... I am working for the Statistics Sierra Leone; we are conducting a Survey on Charcoal consumption in the regional cities of Freetown, Bo, Kenema and Makeni. You are one of the people that have been selected for this survey. The main purpose of this survey is to collect information on charcoal consumption, including the number of persons involved, price per bag, access to finance and other socio-economic information. This information is useful for energy planning in the country only; therefore, any information you give will be treated with utmost confidence and your name will not be mentioned in any way. We hope that you will participate in this survey. Your views are important.

Signature of interviewer: .....

## Section A: BACKGROUND INFORMATION

NO.	Question and Filters	Coding Categories	Skip To
<b>Q1</b>	Name of Respondent	-----	
<b>Q2</b>	Sex	Male 1 Female 2	
<b>Q3</b>	Age (in completed years)	--- ---	
<b>Q4</b>	Religion	Christian 1 Muslim 2	
<b>Q5</b>	Ethnicity	Mende 1 Limba 2 Temne 3 Krio 4 Loko 5 Kono 6 Fullah 7 Other (specify) 8	
<b>Q6</b>	Marital Status	Married 1 Single 2 Separated 3 Divorced 4 Widowed 5	
<b>Q7</b>	Nationality	Sierra Leonean 1 Guinean 2 Other (Specify) 3	
<b>Q8</b>	What is your level of education	Never being to school 1 Primary 2 Secondary 3 Vocational Training Institution 4 University 5 Other (specify) 6	
<b>Q9</b>	Is this the main source of your income?	Yes 1 No 2	



## SECTION B: CHARCOAL BUSINESS INFORMATION

No.	Questions and Filters	Coding Categories	Skip To
<b>Q10</b>	Are you a the owner of this charcoal business	Yes 1 No 2	→Q13
<b>Q11</b>	If no, who is the owner?	Parent/Guardian Neighbour Other	
<b>Q12</b>	Are you paid for selling this charcoal/fuel wood	Yes 1 No 2	
<b>Q13</b>	When did this business start	Year-----	
<b>Q14</b>	How many people working for this business	Number (male)----- Number (female).....	
<b>Q15</b>	Are your family members involved in this business	Number (Children<18)----- Number (Adult 18+).....	
<b>Q16</b>	How many children and adults involved in this business?		
<b>Q17</b>	How long have you been doing this business?	Less than one year 1 1-2 year 2 3-4 years 3 5+year 4	
<b>Q18</b>	What is you main sources of supplied for charcoal?	Lorry from rural areas 1 From Neighbour in the city 2 I buy from rural areas for myself 3 I produce charcoal myself 4 Other 5	
<b>Q19</b>	Would you like to change business when given the opportunity	Yes 1 No 2	

## SECTION C: REVENUE AND COST OF BUSINESS

No.	Questions and Filters	Coding Categories	Skip To
<b>Q20</b>	What is the price per bag (weight-----) of charcoal in Leones	Less than 10,000 1 10000-15000 2 16000-20000 3 21000+ 4	
<b>Q20</b>	Actual price	Price-----	
<b>Q21</b>	How many bags do you sell per day	Less than 2 1 2-5 2 6-10 3 11+ 4	
<b>Q21b</b>	Actual Quantity	Quantity-----	
<b>Q22</b>	What is the average amount of sales per day	Less than 200000 1 200000-599999 2 600000-999999 3 1000000-1599999 4 2000000 and above 5	
<b>Q22b</b>	Actual sales	Amount .....	
<b>Q23</b>	Do you realize any profit	Yes, small 1 Yes, good 2 No, not at all 3	
<b>Q24</b>	What is the cost per bag (weights.....)	Less than 5,000 1 5000-10000 2 11000-15000 3 16000+ 4	
<b>Q25</b>	What is the total cost per week	Amount (Le).....	
<b>Q26</b>	Have you contracted any loan for this business from any financial institution?	Yes 1 No 2	→Q30

## SECTION C: (Cont'd)

No.	Questions and Filters	Coding Categories	Skip To
Q27	Which institution?	Formal Banks 1 Microfinance institution 2 Money lender 3 Relative/friends 4 Other 5	
Q28	What was the amount of the Loan?	Less than 500000 1 500000-999999 2 1000000-199999 3 2000000-2999999 4 3000000 and above 5	
Q29	Have you repaid the loan now?	Yes, all of it 1 Yes, most of it 2 Yes, little of it 3 No, not at all 4	
Q30	What was the main reason that made you not to access loans from your any financial institution	The need for collateral 1 Don't think will be given anyway 2 Interest rate is too high 3 Business is too small 4 Other 5	
Q31	Do you currently have savings with the OSUS Group?	Yes 1 No 2	→Q33
Q32	What is the minimum member savings in this group per week?	Less than 500000 1 500000-999999 2 1000000-199999 3 2000000-2999999 4 3000000 and above 5	
Q33	Do you currently have savings outside the OSUSU group?	Yes, in a Bank 1 Yes, at home 2 Yes, in other Osusu 3 Yes, with my relative/friends 4 No, not at all 5	→Q35

### SECTION C: (Cont'd)

No.	Questions and Filters	Coding Categories	Skip To
<b>Q34</b>	Do you have access to this savings at any point in time	Yes 1 No 2	
<b>Q35</b>	Have you ever received financial assistance/support from any of the Microfinance Institutions or government?	Yes 1 No 2	
<b>Q36</b>	What do you want the government to do for you?	Reduce council taxes on charcoal 1 Provide micro loans to charcoal business 2 Other 3	