IJSGS FUGUSAU VOL. 8 (2) JULY, 2022 WEBSITE: https://fugus-ijsgs.com.ng

IJSGS

ISSN: 2488-9229
FEDERAL UNIVERSITY
GUSAU-NIGERIA

INTERNATIONAL JOURNAL OF SCIENCE FOR GLOBAL SUSTAINABILITY

Analysis Of Socio-Economic Benefits of Solid Wastes Scavenging In Rigasa, Kaduna Metropolis Nigeria

[1]NUHU A., [2]DANBABA A. A., [3]Jamila G. A

[1]Ministry of Education, Kaduna State, Nigeria

[2]Department of Geography, Bayero University Kano, Nigeria

[3]Department of Science, Geography Unit, School of Continuing Education Bayero University Kano, Nigeria

Corresponding Author's Email & Phone No.: abdullahbinnuhu@gmail.com, 08065456428

Received on: April, 2022 **Revised and Accepted on:** June, 2022 **Published on:** July 2022

ABSTRACT

The main aim of this study is to analyze the socio-economic benefits of solid wastes scavenging in Rigasa, Kaduna Metropolis Nigeria. Five locations were sampled for the study. Interview, focus group discussions and field observation were the methods used in collecting the data. Data from both primary and secondary sources were obtained. The study used 40 solid wastes scavengers from the five different locations. Thus, 8 wastes scavengers were drawn from each of the five locations. Purposive and simple random sampling were the techniques employed in the collection of samples of the solid wastes scavengers. Descriptive statistics, percentages, table ad charts were used in analyzing the data. The result of the study revealed that those whose ages are below 15years and those from 16 – 25 years are the dominants in solid wastes scavenging (37.5%). It is also revealed that scrap metals are the main materials scavenged (75%). The study further revealed that the wastes scavengers were able to own motor cycles (62.5%). Similarly, it is also discovered that many of the wastes scavengers were able to build or purchase their houses (75%). The study therefore, recommends that sensitization and awareness should be given to wastes scavengers pertaining their health condition, authorities concerned should assist the scavengers with some materials like hand globes and rain boots, and scavengers should be encouraged financially as wastes scavenging is one of the ways of livelihood improvement and environmental management.

Keywords: Solid waste; socio-economic; benefit; scavenging and Kaduna Metropolis.

1.0 INTRODUCTION

The high concentration of population in the urban centers in the developed and developing world leads to the increase in wastes generation and also create a large pool of unemployed and underemployed residents with few alternative means of earning a living (Ebenezer, 2014). The concentration of industries and people in the cities meant that wastes accumulated are needed to be collected, evacuated and transported outside and far away from the cities (Martin, 2010). High generation of solid wastes has been identified as one of the factors contributing to the world's environmental problems and the scarcity of natural resources (Tahir, 2019), (Titus, 2014). Africa's rapid population growth, increasing economic activities and ever expanding urbanization have resulted in unprecedented augmentation of waste materials. It has been projected that by 2050, the volume of the wastes will triple form 174 million tonnes per annum as of 2016 to approximately 516 million tonnes per annum across the African continent. (Tahir, 2019) in (Agbola and Jinadu, 2006). Waste scavenging is an emerging challenge faced by many municipalities and local authorities. Recently, there has been extra ordinary increase in the amount of wastes generated daily in most urban centers in Nigeria of which Kaduna Metropolis is included. The phenomenon is very common in several cities of the developing and developed countries. (Alade, 2018). Waste is defined as any material which is no longer valuable to the owner and has to be discarded (Magaji and Dakyes, 2011). Not all wastes at dump sites are useless as some of the wastes can be recycled into valuable products. (Omotoso, 2017) and (Masood and Barlow, 2013). The term wastes scavengers is inter changeably used as waste pickers, waste reclaimers, garbage pickers, refuse pickers, trash pickers, rubbish pickers, recyclers, waste salvagers among others (Scheneck and Blaauw, 2011, O'Hare, 2019, Kimbugwe and Ibitayo, 2014).

Researchers have conducted several researches on socio-economic benefits of solid waste scavenging both locally and internationally. For instance, Tahir (2019) in Malaysia discovered that some group of people in Malaysia depend on

waste scavenging for their survival. Filipus *et al*. (2021) in their studies in Keetmanshoop in Namibia discovered that waste scavenging contributed significantly to the livelihoods of the wastes scavengers in Keetmanshoop. In the study conducted by Mogborokur and Oghenero (2018) in Warri Nigeria, waste scavenging provided employment and in come to the wastes scavengers in Warri.

The aim of this study is to analyses socio-economic benefits of solid wastes scavenging in Rigasa, Kaduna Metropolis Nigeria. The study has the following objectives; to examine demographic and socio-economic characteristics of the scavengers, to examine the type of materials scavenged, to examine the ownership of the means of mobility by the scavengers and to examine the house acquisition by the scavengers.

2.0 THE STUDY AREA

The study area is found in Igabi Local Government of Kaduna state. The study area constitutes five farming communities; Hayin Mallam Bello, Nariya, Hayin Dan Mani, Keteren Gurguzu and Keteren Island. Kaduna state is located within latitude 10° 25" 27' N to latitude 10° 35" 29' N and longitude 7° 22" 27' E to longitude 7° 30" 27' E. Igabi Local Government is bonded in the North by Zaria Local Government in the East by Soba Local Government, in the South-East by Chikun Local Government and in the South by Kaduna South Local Government. Its climate is tropical wet and dry. The wet season is between April and October and the dry season is between October and April. The rainfall is variable with its highest peak in August and sometimes September. The rainfall decreases from the South to North wards. The rainfall is heavier in the South. It has about 1500mm of precipitation annually. The humidity follows the pattern of rainfall in the wet season with 60% and in the dry season with 20-30% with the highest temperature between April and May while the lowest is between November and February. The elevation of Kaduna range between 500m-700m above the sea level. It is among the Hausa plain. In terms of vegetation, Kaduna has Sudan savanna vegetation characterized by numerous grasses. Some grasses are tall while others are short. It has some deciduous trees which are scattered. The vegetation is also characterized by some trees which wither in the dry season in adaptation to water shortage (Liman,2004). The soil of Kaduna is tropical ferruginous soil or nitrosols which are usually reddish in colour due to the presence of iron. The soils are also heavily leached due to rainfall. They are also sticky when wet and hard when dry. The soils support the growth of cocoyam, cassava, maize, rice, Guinea corn, Groundnut, Soya Beans, millet among others (Liman,2004). Kaduna circumscribes different ethnic groups like Hausa, Yoruba, Igbo, Fulani, Kadara, Gwavi, Jaba, Bajju, Kaje among other. Kaduna state has a population of 6,066,562 million as betokened by the National population commission (NPC Census,2006).

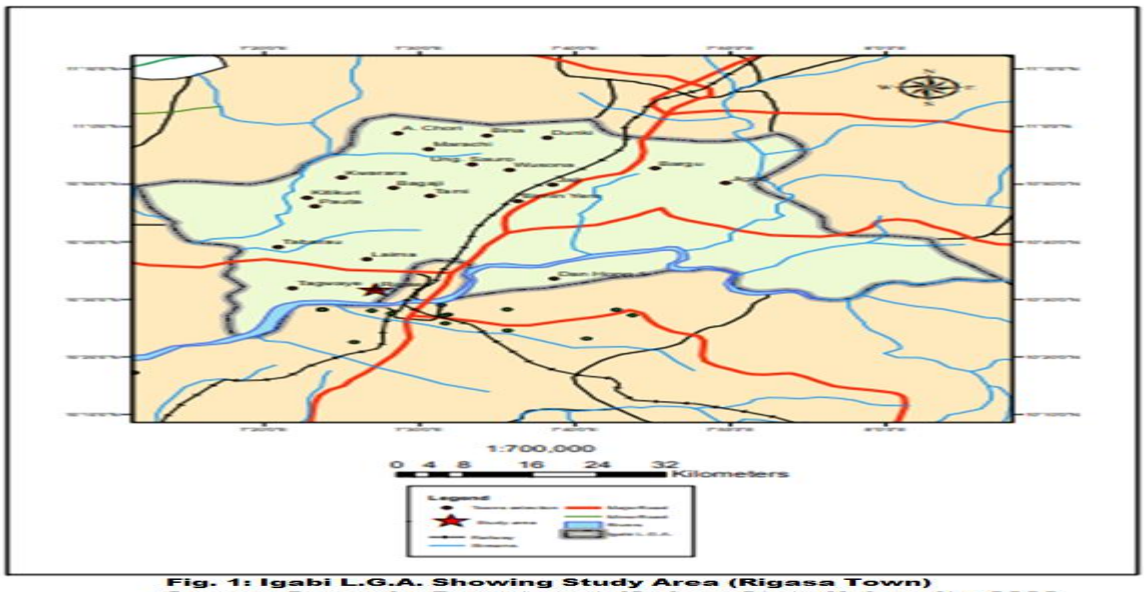

Fig. 1: Igabi L.G.A. Showing Study Area (Rigasa Town)
Source: Geograhy Department, Kaduna State University, 2022

3.0 MATERIALS AND METHODS

Reconnaissance surveys were made primarily for familiarization to the study areas prior to the detail field survey. It was through such visits relevant information such as extent of physical development and availability or otherwise of link roads in these areas were gathered prior to the detailed field survey. The study used both primary and secondary sources of data. As a secondary source of data map of Kaduna metropolis was used to extract areas relevant to this study. In the primary sources of data, the study applied field observation, interview and focus group discussions methods.

The study selected 8 scavengers from each of the five locations making 40 scavengers. Purposive sampling and simple random sampling were the methods used in selecting the sample of the scavengers. The techniques applied in obtaining the data included field observation, interview and focus group discussions. Two visits were made for each of the five locations. One for interview and the other one for focus group discussion. The study used the questions that correspond with the objectives of the study. In the focus group discussion session, the moderator sought the assistance of the assistant moderator in obtaining the data. The study employed descriptive statistics, frequencies, percentages, tables and bar charts for the data analysis.

4.0 RESULTS AND DISCUSSION

The result is presented using tables and charts. Demographic and socio-economic characteristics of the scavengers: the demographic and socio-economic characteristics of the scavengers are distinctively different in the five locations of the scavengers.

Table 1: Demographic and Socio-economic Characteristics of the Scavengers

Variables	Daura Road No. of Scavengers (8)		Yan Kifi No. of Scavengers (8)		Yan Balangu No. of Scavengers (8)		Makabarta No. of Scavengers (8)		Yan Kutare No. of Scavengers (8)	
	Scav.	(%)	Scav.	(%)	Scav.	(%)	Scav.	(%)	Scav.	(%)
Below 15 years	3	37.5	0	0	1	12.5	2	25	1	12.5
16 – 25 years	2	25	2	25	1	12.5	2	25	3	37.5
26 – 35 years	0	0	0	0	1	12.5	0	0	1	12.5
Above 35 years	2	25	0	0	0	0	0	0	0	0
Primary School	0	0	2	25	4	50	2	25	3	37.5
Secondary School	1	12.5	1	12.5	0	0	0	0	0	0
Weekly Income less than 5000	0	0	1	12.5	1	12.5	0	0	0	0
Weekly income 6000 – 10000	0	0	2	25	0	0	0	0	0	0
Weekly income above 10,000	0	0	0	0	0	0	2	25	0	0
Total	8	100	8	100	8	100	8	100	8	100

Source: Field Work 2022

Table 1 represents demographic and socio-economic characteristics of the scavengers. The table clearly shows that scavengers whose ages is below 15years and from 16 years to 25 years are the dominants scavengers in the five different 1ocations (37.5%). This could be attributed to the advantage of their youthful state.

On their level of education, it shows that most of the scavengers have attended primary school. This constitutes (50%) of those that are being opportuned to obtain primary education. On the weekly income, it is recorded that in all the five different locations the scavengers that earn 6,000 – 10,000 and those who earn above 10,000 appeared to be the majority of the scavengers. This could be attributed to the different materials scavenged by the scavengers in the different locations.

However, Filipus *et al*., (2021) in Keetmanshoop in Namibia conducted a similar study on Waste Scavenging a Problem or an Opportunity for Integrated Waste Management. The study discovered that scavenging in Keetmanshoop is mainly dominated by males (77.8%) of which the majority are below the ages of 18, and in terms of marital status the majority are single (95.6%). In

Warri metropolis, Delta State Nigeria, it is revealed that majority of the west scavengers have the age limit of 16-30 years (78%) that are mainly participating in solid waste scavenging. (Magborokur and Oghenero, 2018).

Types of materials scavenged by the scavengers; the materials scavenged by the scavengers differ among the scavengers in the five different locations.

Table 2: Types of Materials Scavenged by the Scavengers

Materials	Daura Road No. of Scavengers (8)		Yan Kifi No. of Scavengers (8)		Yan Balangu No. of Scavengers (8)		Makabarta No. of Scavengers (8)		Yan Kutare No. of Scavengers (8)	
	Scav.	(%)	Scav.	(%)	Scav.	(%)	Scav.	(%)	Scav.	(%)
Scrap metals	6	75	1	12.5	1	12.5	3	37.5	0	0
Rubber	2	25	5	62.5	2	25	3	37.5	2	25
Plastic	0	0	2	25	2	25	1	12.5	4	50
Glass	0	0	0	0	3	37.5	1	12.5	2	25
Total	8	100	8	100	8	100	8	100	8	100

Source: Filed Work 2022

Table 2 is a representation of the types of materials scavenged by the scavengers in the five different locations of the study area. The table pointed out that scrap metals are the main materials scavenged by the scavengers in Daura road which constituted (75%). This could be attributed to closeness of the source of the materials to some workshop rooms or buildings. However, in Yankifi the scavengers mainly concentrated on scavenging rubber materials which forms (62.5%). This could be attributed to the presence of many street shops engaging in the sells of soft drinks. On the other hand, in Yan Balangu 37.5% is the percentage of scavengers that engaged in scavenging glasses. Thus, glasses are the main materials scavenged. For Makabarta, scrap metals and rubber are the major material scavenged forming 37.5% for each, while in Yan Kutare plastics appeared to record 50% as the highest percentage for the material scavenged. However, in Warri Nigeria, a study revealed that scavengers scavenged materials like scrap metals, glass bottles, plastics, clothing and papers, but plastics and glasses are the major materials scavenged (37%) (Mogborokur and Oghenero, 2018). Thus, the present study share some similarities in waste materials scavenged in Warri, Delta State Nigeria.

The ownership of the means of mobility by the scavengers: The Scavengers acquisition of the means of mobility varies in the five different locations of the study area.

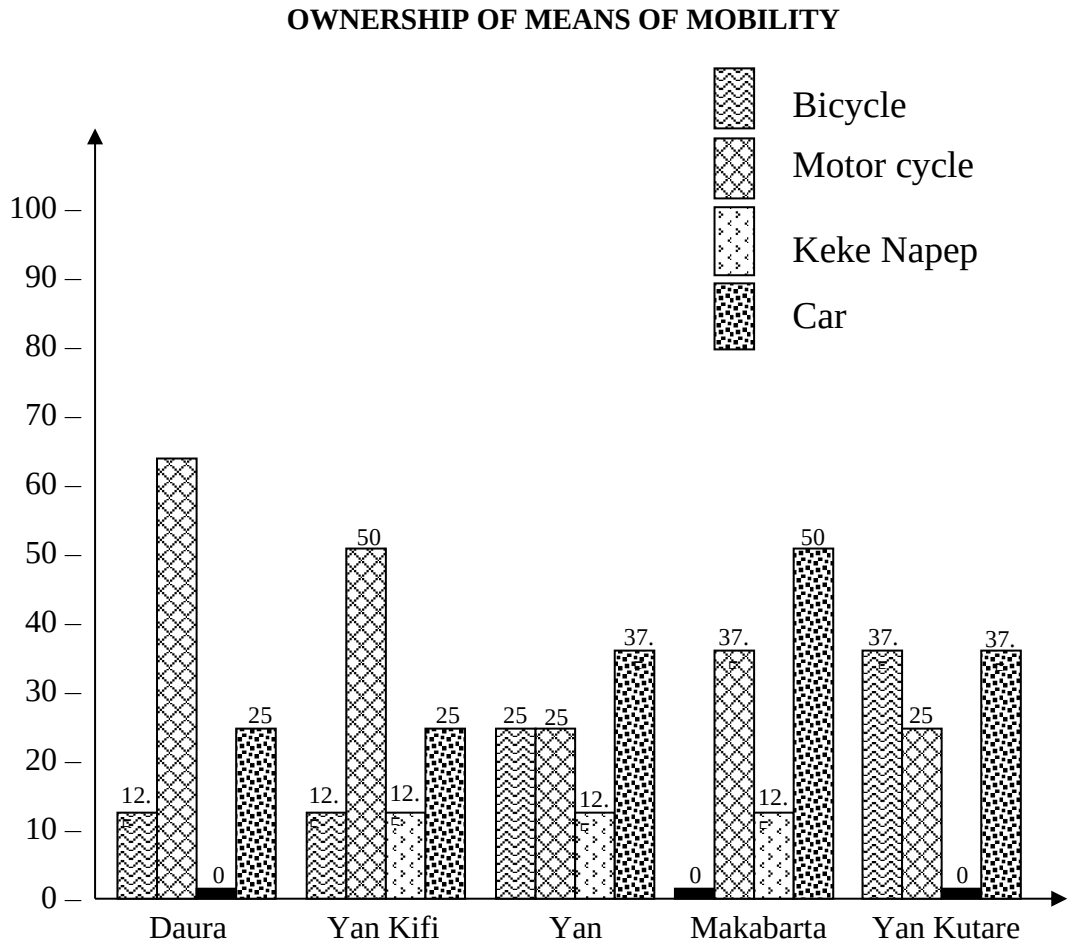

Figure 2: Ownership of means of mobility.
Source: Field Work, 2022

Figure 2 indicates ownership of means of mobility by the scavengers in the five different locations. It shows that the of number scavengers in Daura road that have access to own motor cycle are more than those that have access to the other means of mobility. Thus, they constituted 62.5% as the highest percentage. However, in Yan Kifi the accessibility to own motor cycle by the scavengers recorded 50%. It is also the highest means of mobility owned by the scavengers. On the other hand, in Yan Balangu ownership of car appeared to dominate the other means of mobility by the scavengers forming 37.5%. For the scavengers in Makabarta ownership of car recorded 50%. It shows that the scavengers have the means of purchasing car as their means of mobility. The scavengers in Yan Kutare like their counterparts in Makabarta and Yan Balangu got 37.5% as the highest percentage for the ownership of car. Thus, ownership of the means of mobility in the five different locations varies from one location to the other. A similar study was carried by Gangaya and Mshelia (2018) in Mubi Nigeria where the findings of the research showed that materials acquired by the scavengers socio-economically (63.6%) included phones, lands, houses, bicycles, clothes, shoes, books and food items among others. Thus, the present research is in line with the research conducted in Mubi, Nigeria, because in the present research the scavengers acquired bicycle, motorcycle, keke napep and car.

House acquisition by the scavengers; the acquisition of house by the scavengers differs in the five different locations.

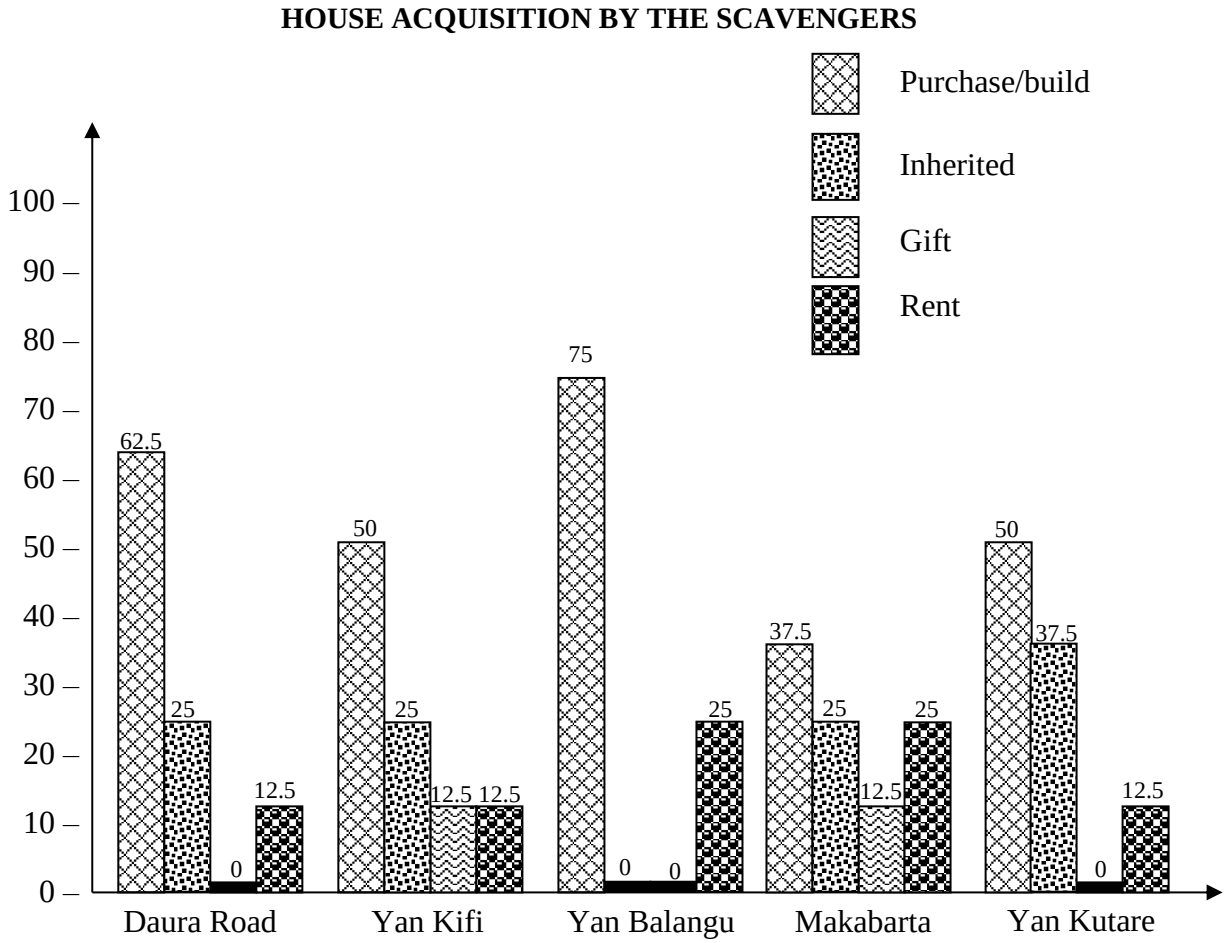

Figure 3: House Acquisition by the Scavengers
Source: Field Work, 2022

Figure 3 pinpoints house acquisition by the scavengers in the five different locations of the study area. It is recorded that in all the five locations, the means of acquiring houses by the scavengers is through purchase or building. Thus, the scavengers purchased or built their houses for their own family use. This constituted 75% as the highest percentage in the house acquisition by the scavengers. Therefore, waste scavenging plays a vital role to the scavengers in having the opportunity to own their houses. In the study conducted by Gangaya (2018) in Mubi Nigeria, it is revealed that socio economically the scavengers benefited from scavenging through increase in their income and standard of living, while in the present study the scavengers benefited from scavenging through increase in their income as well as acquiring houses for their families (75%).

5.0 CONCLUSION

Solid waste scavenging plays a fundamental role in social, economic and environment management of our urban centers. From the preceding findings, it is revealed that those whose ages are below 15 years and those from 16 – 25 years are the dominants in solid waste scavenging (37.5%). It also observed that scrap metals are the main materials scavenged (75%). However, the study also revealed that most of the scavengers were able to own motor cycle (62.5%). The study further discovered that many of scavengers were able own their houses through purchase or building (75%). In the light of the conclusion reached, it is recommended that sensitization and awareness should be given to the waste scavengers on how to take care of their health conditions, the authorities concerned should

assist the scavengers with some materials like hand globes and rain boots and the scavengers should be encouraged financially by the authorities concerned because waste scavenging is one of ways of improving people's livelihood and environmental management.

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