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DOMESTIC OKUTA ELE AKURE	DOMESTIC WASTE DISPOSAL PATTERN IN OKUTA ELERINLA RESIDENTIAL ESTATE AKURE	KEY WORDS:

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Waste management has always been a major problem to solve in urban centres due to its inevitability. However, the issue of domestic waste generation and disposal has taken the front burner owing to an increase in the sophistication of consumer goods packages, thus leaving out unwanted waste products. The study aimed at evaluating the disposal pattern within a purely residential environment with a special focus on domestic waste while still looking at the various means adopted for waste disposal and the determining factor influencing the selection of waste disposal means. The study adopted visual imaging and questionnaires as a primary source of gathering information on the study area. The study revealed that waste disposal costs play a vital role in deciding which means to be adopted, followed by accessibility to waste disposal means. Therefore, it is recommended that these two significant factors be strongly considered in the siting of any residential development to encourage proper disposal of waste for a healthy environment.

# INTRODUCTION

ABSTRACT

Waste disposal and management is a major challenge in urban centres due to the high level of consumption, availability of varieties and sophisticated packaging of consumer products. Babalola (2016) posited that waste generation, collection, and management challenges are global issues facing urban centres. The indiscriminate dumping of waste has hazardous effects on the built environment. In Nigeria, wastes generated are deposited at locations of convenience without considering accessibility to waste removal by local authorities. This has caused adverse visual impact and environmental pollution as residents turn undeveloped plots to refuse dumps. However, the provision of waste bins with appropriate evacuation time intervals could serve as an effective means of waste management. Gutberlet (2017) states that waste generation is one of the main issues peculiar with urban centres due to urban growth, leading to increased consumption, thus making waste generation, collection and management a critical developmental and environmental issue.

Adeyemi (2001) listed the techniques of solid waste management to include open dumpsites, landfilling, open burning, reuse/recycling and conversion. However, Awomeso (2010) suggested composting since the largest percentage of wastes in developing countries is mainly organic instead of the open dumpsite commonly in use.

Babawale (2016) asserted that the assessment of the spatial distribution of waste collection points and their accessibility in Akure is highly concentrated around the central business district area, with 80% of collection points having an efficient waste service.

#### Study area



Plate 1: Showing the study area

# Source:

www.google.com/maps/place/Okuta+Elerinla+Estate+G.R.A,

#### +Akure

Since the rebirth of democracy in Nigeria in 1999, Akure has witnessed a tremendous increase in population due to ruralurban migration arising from the influx of many political office holders and their families and job seekers. Okuta Elerinla Estate is located within Akure's central business district area, the administrative headquarter of Ondo State, and the capital city of Akure Local Government area. It's a Government Reserved Area (GRA) for residential purposes, meant for the middle-class income earners. It comprises about 30 blocks, typifying a neighborhood design layout concept.

#### Questionnaire design

The study was descriptive, using both qualitative and quantitative approaches. The quantitative approach employed questionnaires through a systematic crosssectional and purposive sampling technique. The household selections were based categorically on obvious waste disposal means, either by the presence of waste bins, closeness to nearby bushes and streams, or indiscriminate refuse dumpsites. The questionnaires were divided into five sections for data gathering purposes and are subdivided as follows: 1. The demographic characteristics of the area. 2. The socio-cultural perception of the waste disposal in the area. 3. The domestic waste disposal practice. 4. Involvement of private waste collectors in waste management. 5. Reasons for selection of waste disposal means

Okuta Elerinla Estate population was estimated to have about 3,000 residents, being a Government residential area with about 30 blocks on the layout, an average of 16 plots per block and an average family size of six (6) occupants. Based on the assumption that 60% of the occupants will dispose of their waste properly, a total sample size of 120 questionnaires was administered. 95 questionnaires were retrieved, which gives a 79.2% response rate and a nonresponse rate of 20.8%.

### **Data Analysis**

Descriptive statistics, such as means, medians, and minimum and maximum values, were calculated for continuous variables, and percentages were also calculated for categorical variables.

## RESULTS

A total number of 95 out of the 120 questionnaires administered were returned. This shows a favourable response which could be relied on as it exceeds the assumed percentage involved in proper waste disposal within the Estate.

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Table 1: Socio-demographic characteristics of respo ndent

Variables	Categories	Frequency	Percentage
		(N=95)	(%)
Gender	Male	39	41.1
	Female	56	58.9
Educational Level	Tertiary	65	68.4
	Secondary	25	26.3
	Primary	5	5.3
Marital Status	Single	23	24.2
	Married	72	75.8
Age	21-30	10	10.5
	31-40	10	10.5
	41-50	35	36.9
	51-60	25	26.3
	61 and Above	15	15.8

Source: Author's Fieldwork, 2019.

The Sex of the respondents shows that female residents, with 58.9%, have more responses than their male counterparts with 41.1%; probably they are more involved in waste disposal than their male counterparts. The literacy level of the respondent is very high, with the tertiary level being at 68.4%, while the modal age bracket of (41-50) had a percentage of 36.9%, as stated in Table 1. The study also shows that majority of the dwellers are married with 75.8% representation, thus revealing an actual household waste generation and disposal rate.

### **Table 2: Household Characteristics of Respondents**

Variables	Categories	Frequency	Percentage
		(N=95)	(%)
Monthly	Less than ₩50,000	14	14.7
Income level	₩50,000 - ₩99,999	23	24.2
	₩100,000 -	18	19.0
	₩150,000 -	30	31.6
	₩199,999		
	₩200,000 and	10	10.5
	Above		
Ownership of	Landlord	70	73.7
Building	Tenants	25	26.3
Residential Unit	Bungalow	65	68.4
	Duplex	30	31.6
Number of	1 - 4	14	14.7
People living in	5 – 9	74	77.9
your Household	10-14	7	7.4
Food	I cook at home	85	89.5
Preparation	I don't cook at	10	10.5
	home		
Cooking	Daily	85	89.5
Schedule	Every other day	3	3.1
	Three times a	6	6.3
	week		
	Weekly	1	1.1

#### Source: Author's Fieldwork, 2019.

Table 2 shows that most of the respondents' monthly income level is in-between \$50,000 and \$199,999, which lies combined at 74.8%, while direct ownership of buildings is very high at 73.7%. Bungalow buildings being the commonest within the study area, stand at 68.4%, while Duplexes are at 31.6%. The average household size was 7 people as the modal bracket number of people living within a household is between five –Nine with 77.9%. The minimum household size is 2 people, while the maximum is 13 out of the 95 respondents, 85 people responded that they cook in the house, which shows that the study area is highly residential; thus, food preparation, a significant source of domestic waste generation, stands at 89.5%.

Table 3: Domestic waste generation by households \*Frequencies and percentages are calculated from open and multiple responses

Variables	Frequency	Percentage (%)
Food Debris/leftovers	93	97.9
Plastics	68	71.6
Bottles and Metallic waste	55	57.9
Clothing Materials	45	47.4

#### Source: Author's Fieldwork, 2019.

Table 3 shows that Food debris and leftovers constitute the largest portion of wastes generated within the study area with a 97.9% frequency, which is higher than the 85% of people who cook within the house, as shown in Table 2. Meanwhile, the percentage of plastic wastes generation seems higher than expected, standing at 71.6%, followed by bottles and metallic waste at 57.9%, and clothing materials at 47.4%. When combined, the frequency of occurrence for the various categories of wastes generation is more than the total number of respondents due to multiple selections from the available options provided in the questionnaire.

## Table 4:Waste disposal Methods by households \*Frequencies and percentages are calculated from open and multiple responses

Variables	Frequency	Percentage (%)
Compost means	10	10.5
Disposal in nearby bush and	25	26.3
stream		
Disposal on unused open site	5	5.3
Private waste collectors	65	68.4
Burning/Incineration	7	7.4

#### Source: Author's Field work

Table 4 shows that the total frequency of waste disposal means suggests that some households engage in multiple means of waste disposal, probably due to convenience. Incineration and open burning took the least at 7.4% in the means of waste disposal, which is likely going to improve the health condition within the environment with a reduction in air pollution due to open burning. In comparison, waste collection by private waste collectors has a high percentage of 68.4%. Meanwhile, deposition of waste in nearby bush and streams is at 26.3%, which is still hazardous to the environment, while compost disposal means stands at 10.5%.

Table 5: Reasons for selection of waste disposal method \*Frequencies and percentages are calculated from open and multiple responses

Variables	Frequency	Percentage (%)
Closeness to nearby bushes and streams	15	15.8
Access to private waste collectors	55	57.9
Cost of waste disposal	68	71.6
Nature of wastes generated	65	68.4
Comment Routh and a The Island ale		

Source:Author's Fieldwork

As shown in Table 5, the study shows that the cost of waste disposal, which is 71.6%, is the key factor in determining the means to be adopted for waste disposal by the respondents, followed by the nature of waste generated, which stood at 68.4%. However, accessibility to private waste collectors, which is 57.9%, also determines the decision to select the waste disposal method.

#### DISCUSSION

The study indicates that domestic waste generation in residential areas is inevitable; whether residents are involved in cooking or not, consumption will still occur. As such, waste generation necessitating waste disposal cannot be avoided. It

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is also evident that some of the waste is dumped in nearby bushes and streams despite the accessibility of private waste collectors to the study area, simply because some residents don't see the need to incur costs on waste disposal. Meanwhile, food debris occupies a significant position among the various forms of household waste generated within the neighborhood. Incineration and open burning of domestic wastes are insignificant, probably due to the high literacy level among the residents in the study area.

Although 78.9% of the respondents seem to adopt the appropriate means of waste disposal through compost and private waste collectors, the remaining 21.1% that have adopted the inappropriate disposal standards still portends a significant risk to the environment, most especially in a residential environment where people live.

### **CONCLUSION AND RECOMMENDATION**

The waste disposal pattern within Okuta Elerinla Estate is largely dependent on the convenience of residents and the cost of disposal of waste. Thus cost reduction should be adopted to encourage proper disposal of domestic waste. Moreover, access roads to residents' quarters will promote patronage of private waste collectors, which will enable the government to be able to track waste management within the state.

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