



# **Influence of Socio-Economic Factors of Residents of Informal Settlements on their Choice of Waste Disposal Method: Evidence from Lagos, Nigeria**

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**Abstract:** This paper investigated residents in a representative informal settlement located in Lagos, Nigeria. It sought to determine whether residents' socio-economic characteristics influence their choice of waste disposal method. Based on literature reviewed twenty socio-economic variables were selected and subjected to standard multiple regression using SPSS version 20. Results revealed that the model comprising of the socio-economic characteristics investigated explained only 14% of the variance in choice of household waste disposal methods. The findings thus suggest that the socio-economic characteristics of residents in the study area, collectively and individually, contributed very little in their choice of waste disposal method. Only six of the variables, namely number of households sharing same building with respondents (.001); number of children below eighteen years (.004); employment structure (.004); income (.014); number of wives of household heads (.016); and house type (.037), made statistically significant unique contributions to explaining the choice of waste disposal method by residents in the study area. The number of households sharing same building with respondents contributed the strongest with standardized beta coefficient of -.149 followed by number of children below eighteen years (-.125), employment structure (-.109) and income (-.107). The fact that the socio-economic factors accounted for 14 percent of the variance in choice of waste disposal method implies that some other factors account for residents' choice of waste disposal methods. Nevertheless, variables like number of households sharing same building with respondents, number of children below eighteen years, employment structure and income need to be carefully considered in evolving strategies for household waste disposal in informal settlements like Ayobo, Lagos.

**Keywords:** Choice of waste disposal method, Informal Settlement, Nigeria, Socio-economic factors, Waste disposal method

## **1.0 Introduction**

The way urban areas generate and manage their wastes has been identified as a major challenge for not only the relevant authorities in

these cities but also other stakeholders. In 2008 for instance, the waste generated in Lagos was put at 9,000 metric tonnes per annum which has risen to a

current rate of 10,000 tonnes per annum (Ogunbiyi, 2015). Apart from the additional expenditure stress on inadequate financial resources, effective waste management also requires substantial outlay of equipment and human resources. Success is further enhanced when households complement the efforts of statutory authorities by adhering to stipulated regulations. Inadequate waste management especially in informal settlements poses serious threats to the environment in the form of environmental degradation and pollution which affect the health, quality of life and overall productivity of residents. It is in realisation of this that the Lagos State government in Nigeria has promulgated a law which among other things stipulates the waste disposal method to be used by all residents in the State. Unfortunately, some residents continue to dispose household wastes in ways that are unacceptable. This paper investigates the impact of socio-economic characteristics in the choice of waste disposal methods by residents of informal settlements in the State with a view to refining and articulating effective and sustainable waste disposal policies. Although several studies have been carried out on waste management in developing countries, their focus have been on the formal urban

setting with only very few targeting informal settlements. Such studies have investigated waste management related issues like generation, composition, management strategies and the social, economic, technical and health implications of waste management. Very little focus has been given to identifying the socio-economic factors that determine choice of waste disposal methods by households in informal settlements. This paper is therefore novel as it intends to fill this gap in literature and in the process provide policy makers empirical data on which to formulate waste management strategies, especially as it pertains to household waste disposal in informal settlements.

## **2.0 Review of Literature**

### ***2.1 The concept of waste and waste management***

Although waste and its management has been a major concern and the focus of several studies and intellectual discuss, there is not yet a consensus on a universal definition of waste. Wastes are the byproduct of human activities (Bamigboye, 2003). According to the Oxford Advanced Learner's Dictionary, waste refers to something that is no longer useful and therefore is to be disposed of or thrown away. Oyeniyi (2011) opine that waste is any material that has been used and is no longer wanted. Also

waste has been referred to as useless remains or anything that is considered useless or of no value to its owner (Bamigboye, 2003). Adenrele (2014) views it simply as 'what we refuse to use'. From the foregoing, it can be seen that waste is conceived as anything that is worthless, without value, not needed, a nuisance that needs to be discarded or thrown away. It can also be inferred that waste is person specific, implying that what may be considered as waste by one person may indeed be seen as useful by another (Williams, 1998). Consequently, Matsuto (2002) opined that definition of waste which includes Municipal Solid Waste (MSW) should be left to each nation. Wastes can be classified according to source to include municipal wastes; industrial wastes; agricultural wastes; construction and demolition wastes; and commercial and institutional wastes (Opeyemi, 2012). Conversely, it could be classified according to its state as gaseous, liquid and solid wastes (UN Habitat, 2010). A major constituent of municipal wastes is household waste generated from domestic activities. The focus of this paper is solid component of household waste. According to Babayemi & Dauda (2009) solid wastes are essentially "non-liquid and non-gaseous products of human activities, regarded as being useless". The literature

shows that solid household wastes constitute of garbage, rubbish and large waste from homes (Gobo and Ubong, 2001). Isirimah (2000) provides a more elaborate classification which includes food wastes, paper, cardboard, plastics, textiles, leather, yard wastes, wood, glass, tins, cans, aluminum, rags, beddings, sweepings from buildings and old furniture.

Over the years, however, the concept of waste and its management is changing. While waste is increasingly seen as a resource in the wrong place (Abdullahi, Jiriko and Akunna, 2011), waste management is viewed in terms of resource recovery. Consequently, waste management has been operationalised in the literature to include the collection, transportation, recovery, and disposal of waste, including the supervision of such operations and after-care of disposal sites (Jerie & Tavera, 2014). The current concept of waste management thus emphasizes recovery while encouraging reduction, reuse and recycling of wastes. It also ensures that due diligence is applied to the collective process of sorting, storage, collection, transportation, processing, resource recovery, recycling and disposal of wastes (Abila & Kantola, 2013). This is in contrast to the traditional definition of waste management

as the organized and systematic channeling of waste through pathways to ensure that they are disposed of with attention to acceptable public health and environmental safeguards (Kofoworola, 2007; Yaaba, 2012). As observed by Ojewale (2014) the disposal of solid waste is the ultimate stage in solid waste management system, thus this paper is concerned with the socio-economic factors that determine how households choose to dispose of their household wastes.

As noted by Ojewale (2014), households in different contexts have adopted different methods in disposing wastes arising from their domestic activities. In some cases, combinations of methods have been relied upon. In a developed country like Switzerland the standard waste disposal methods used include recycling (which may involve reuse of used products, recovery of raw materials from waste and transformation of waste to materials of lower quality than the initially used material), incineration, chemical-physical and biological treatment and landfill. These are similar to waste disposal methods used in the UK and other parts of the world which the UK Department of Environment, Food and Rural Affairs identified to include landfill incineration anaerobic digestion pyrolysis gasification composting. In developing

countries like Nigeria, waste disposal methods are less sophisticated and have been articulated by Ojewale (2014) to include collection by public refuse collection vans, private waste managers and cart pushers, use of designated and incidental open spaces, dumping of waste into drains during and after rainfall, on river banks, roadsides, burning, burying and use of uncompleted buildings, vacant lands. Although waste management is an issue of concern to all urban residents, its associated problems of environmental degradation, threats to life, safety and wellbeing, are more obvious and severe in slum areas and informal settlements.

Reasons for the choice of these methods, though not major issues for several of the literatures, have been tangentially addressed. Adenrele's (2014) study which investigated refuse disposal behaviours among rural and slum residents in Lagos, Nigeria, identified poor planning and the huge population of the city as factors that may have influenced choice of waste disposal methods among the residents. Adewole (2009) found inefficiency of the public waste management operators and the poor attitude of residents as factors influencing the way residents dispose of their wastes. In addition, Abila &

Kantola (2013) attributed determinants of choice of waste disposal methods to include inadequate information on waste management benefits, lack of residents' involvement in formulation of waste management strategies and poor implementation of government policies. The study further identified poverty, poor governance, urbanization, population growth, poor standards of living; low level of environmental awareness and inadequate management of environmental knowledge. Elaborating further, the study noted that income status could limit households' choice thereby promoting methods that are considered unacceptable. According to Longe, Longe, & Ukpebor (2009) the perception by residents that waste management ought to be a social service also affects the manner they dispose of wastes. According to Ojewale (2014) choice of waste disposal methods have also been influenced by factors such as characteristics of waste to be disposed, cost consideration, availability of disposal site, cost of labour, and technical implication of methods of disposal. Literature also suggests that the socio-economic characteristics of households could affect their choice of waste disposal methods (Kayode & Omole, 2011; Onwuemele, 2015).

According to Ifegbesan (2010) females have consistently been found to be more environmentally conscious than men. This view is supported by others like Raudsepp (2001) although van Liere & Dunlap's (1981) earlier study did not find gender a significant predictor of environmental concerns and attitudes as other socio-demographic variables. In the same vein, Chanda (1999) found that while environmental concerns among residents studied differed due to educational and income levels, age and gender did not appear to have any significant influence.

### **3.0 Materials and Methods**

#### ***3.1 The Study Area***

The study which forms the basis for this paper was carried out in Ayobo, Lagos, Nigeria between November, 2011 and March, 2012. Lagos was chosen because it is one of the cities currently experiencing the challenges of high rate of urbanisation in the world. With an annual growth of 6-8% and an estimated population of about 18 million inhabitants, Lagos is one of the fastest growing cities in the world (Olubori, 2011). Lagos is presently burdened by the challenges of over 200 informal settlements. Ayobo is the largest of these informal settlements and considered representative of informal settlements in Lagos. A

peripheral settlement on the border between Lagos and Ogun States, Ayobo is currently undergoing the processes of consolidation and expansion. Waste management is a major challenge in Lagos with consequences felt more significantly in the informal areas. The waste generation per capita is put at 0.5kg/person/day (Olubori, 2011). This is comparable to the 0.5kg/person/day reported for India (Annepu, 2012). Over the years, the monthly State recurrent expenditure budgetary allocation has risen from 2.5% in 2005 to 12% in 2011(Olubori, 2011). In order to ameliorate this challenge, the Lagos State government has experimented with several strategies aimed at improving waste management process in Lagos as a whole. These efforts have been well documented by studies like Akiyode & Sojinu (2006). Of interest to this paper, however, is the current strategy which relies on the participation of private entrepreneurs in waste collection from the points of generation (in our particular place, the households) and transportation to the dump sites. It is mandatory for residents to patronize these private sector participants (PSP) operators only as other methods of waste disposal have been outlawed. Currently there are about three hundred (300) PSP operators in Lagos State. The services of the

PSP operators are paid for by households based on a fixed rate determined by location and type of dwelling (Longe, Longe & Ukpebor, 2009). It does appear that the PSP strategy was adopted without the input of residents. Consequently, residents are constrained to patronize the operators where they do not have alternatives. Those who can circumvent the regulation continue to use other methods

### **3.2 Study Approach**

The survey research method was adopted in collecting data. The main instrument for quantitative data collection was a structured questionnaire designed to collect relevant information from respondents. These included residents' personal characteristics, housing tenure, processes of accessing housing and housing quality. Twenty variables presented in Table I which capture residents' socio-economic characteristics were identified from literature and investigated. Selection of respondents was done in stages. Using available maps which were updated based on reconnaissance visits, occupied houses in the area were numbered and every 8<sup>th</sup> house was selected. Respondents consisting mainly of household heads were thereafter randomly selected from the houses. Out of a total of 1,200 questionnaires administered to respondents, 1,055 were retrieved

for analysis, representing 87.9% response rate.

Trained field assistants were used in administering the questionnaires. Where necessary, field assistants helped to interpret the questions to local dialects for respondents or fill the questionnaires. Schedules for field work were flexible and targeted periods when residents were more likely to be at home. Questionnaires were analysed using SPSS version 20 software package. Data were subjected to standard multiple regression so as to determine extent of their

contribution to choice of waste disposal method by respondents. Data were screened to ensure they did not violate the assumptions of normality, linearity, multicollinearity and homoscedasticity. To determine the percentage contribution of the model generated by SPSS, the  $R^2$  value was multiplied by 100. However to determine the percentage unique contribution of each variable, their Part Correlation Coefficients were squared and subsequently multiplied by 100.

**Table I: List of variables investigated**

<b>S/no</b>	<b>Variable</b>	<b>Group</b>
1	sex of respondents	<b>Respondent's characteristics</b>
2	age of respondents	
3	attained level of education of respondents	
4	employment structure of respondents	
5	monthly income of respondents	
6	other income earners in the household apart from respondent	
7	number of household members when household moved to the house	
8	number of people currently in the household	
9	number of wives of male respondents	
10	number of children in the household under 18 years	
11	marital status of respondents	
12	ethnic group of respondents	
13	religion of respondents	
14	current tenure status of respondent	
15	type of house occupied by household	<b>Dwelling characteristics</b>
16	number of bedrooms occupied by respondent's household	
17	number of other households sharing the same building with respondent	<b>Respondent's</b>
18	residence prior to current residence	

19	length of stay in Ayobo	<b>residential history</b>
20	length of household stay in house	

#### **4.0 Results**

The questionnaire was pre-tested and reviewed based on the feedback obtained from pilot survey. The essence of the pre-testing was to ensure that the results of the study are validated and reliable.

##### **4.1 Residents' Characteristics**

Results presented in Table II reveal that respondents were more of males (53.7%) and fell within the active working ages of 25 – 60 years (86.7%). Although only 4.6% of them reported having no formal education, majority of the others attained low to intermediate educational levels. While 19.9% had primary education, 33.7% and 25.9% had attained secondary and Ordinary National Diploma (OND) education. About 51.8% of respondents were self-employed though 22.4% reported being retired and 6.0% claimed to be unemployed. Data shows that about 32.4% of respondents earned less than the minimum wage of N17,000:00 or had no income. Majority of the

respondents (54.7%) were low or medium income earners with incomes ranging between N17,000:00 and N100,000:00. Both initial and current household sizes were low consisting of one to four persons. Data reveals that large households of over eight persons decreased from 14.0% when respondents first moved to their houses to 6.2% as at the time of survey. With regards to dwelling attributes, Table III shows that majority of respondents lived in the rooming house type (40.0%) although significant proportions lived in self-contained flats (34.3%) and single family houses (24.1%). Majority of respondents were renters (62.6%) while 66.8% had either one or two bedrooms in multi-family houses. Results also show that respondents indicated they disposed of their household wastes by patronising the government mandated waste management operators, PSP operators (71.0%). The rest dispose of wastes in ways that are prohibited by government.

**Table II: Respondents' Socio-economic characteristics**

<b>Respondents' Characteristics</b>	<b>Percentage (%)</b>
<i>Gender</i>	
Male	53.7
Female	46.3
<i>Age (Years)</i>	
>25	9.3

25 - 40	32.6
41 - 50	40.6
51 - 60	13.5
61 -70	2.7
<70	1.2
<i>Marital status</i>	
Single	14.7
Married	79.9
Once married	5.5
<i>Highest educational attainment</i>	
No formal education	4.6
Primary	19.6
Secondary	33.7
Ordinary National Diploma (OND)	25.9
First degree (HND, BSc., B.A.)	12.5
Post-graduate	3.7
<i>Employment status</i>	
Retired	22.4
Self-Employed	51.8
Wage Earner	15.2
Unemployed	6.0
Others	4.7
<i>Monthly income ( naira)*</i>	
No income	.9
<N17,000:00	31.5
N17,000:00 - N40,000:00	36.2
N41,000:00 - N100,000:00	18.5
N101,000:00 - N250,000:00	7.0
>N251,000:00	5.9
<i>Current household size (persons)</i>	
1-2	26.0
3-4	30.7
5-6	21.0
7-8	8.3
<8	14.0
<i>Initial household size (persons)</i>	
1-2	34.4
3-4	31.8
5-6	17.9
7-8	9.8
<8	6.2
<i>Number of children in the household under 18 years</i>	
none	21.2
1-2	38.7
3-4	23.4
5-6	10.7
7-8	2.7
9-10	2.3

<10	1.1
<i>Number of wives of male household heads</i>	
1	75.7
2	16.3
<2	8.0

\*1USD = N209:00 as at 23/08/15

Source: Author's fieldwork

**Table III: Dwelling Attributes**

<b>Attributes</b>	<b>Per cent (%)</b>
<i>Type of house occupied</i>	
Self-contained flat	34.3
Single family house	24.1
Rooming house	40.0
others	1.6
<i>Number of bedrooms occupied</i>	
one	32.8
two	34.0
three	14.1
four	3.9
five	4.0
six or more	11.3
<i>Current tenure status of respondents</i>	
renter	62.6
owner-occupier	29.7
family house	6.1
Others including rent free	1.7
<i>Method of household waste disposal</i>	
PSP	71.0
Burning	23.8
Burying	2.0
tossed into field, river or vacant plot	1.9
Others	1.3
<i>Number of households sharing building with respondents</i>	
none	15.5
one	8.4
two	23.7
three - four	18.7
five - six	8.8
seven - nine	12.8
ten or more	12.1

Source: Author's fieldwork

**4.2 Socio-economic  
Determinants of Residents'  
Choice of Waste Disposal  
Methods**

Based on the literature, twenty socio-economic variables presented in Table 1 were identified which could affect the

choice of waste disposal method by respondents in the study area. These were entered as independent variables in a regression analysis carried out to determine the variance in choice of waste disposal method explained by these variables collectively and individually. Choice of waste disposal method was the dependent variable. Preliminary analyses were conducted to ensure that the data did not violate the assumptions of normality, linearity, multicollinearity and homoscedasticity. The independent variables showed some relationship with the dependent variable. Correlation values between the independent variables ranged from .024 to -.223 revealing a rather weak relationship. Collinearity diagnostics also revealed that tolerance values ranged from .375 to .894 which is above .01, thus indicating absence of multicollinearity. Also, the variance inflation factor (VIF) values were all found to be below 10, ranging from 1.12 to 2.67. This also suggests that the assumption of multicollinearity was not violated. Furthermore, inspection of the normal probability plot (P-P) of the regression standard residual showed points with minimal deviation from the straight diagonal line from bottom left to top right. Similarly, the scatterplot

revealed only a few outlying residuals. In addition, the standard residual values shown in the case wise diagnostics ranged from 3.057 to 5.496 which fall outside the unacceptable range of 3.0 to -3.0. This indicates that the sample studied is normally distributed.

Further examination of results revealed an  $R^2$  value of .140 indicating that the model of this regression analysis explains only 14% of the variance in choice of method of waste disposal by residents in the study area. The model reached statistical significance (sig. = .000) which means that  $p < .005$ . The coefficient table was also examined to determine the variables in the model that contributed to the prediction of residents' choice of waste disposal method. The variable, "number of other households sharing the same building with respondent" exhibited the highest standardized beta coefficient of -.149 indicating that it made the strongest contribution to explaining the residents' choice of waste disposal method, when the variance explained by all other variables in the model is controlled for as shown in Table 4 (column 2). The beta coefficient values for the other variables ranged from .008 (initial household size) to .125 (number of children in the household under 18 years), indicating the varying

levels of their unique contributions. However as can be seen from Table 4 (column 3), only six of the variables made statistically significant unique contributions. These include number of households sharing same building with respondents (.001); number of children below eighteen years (.004); employment structure (.004); income (.014); number of wives of household heads (.016); and house type (.037). It can be inferred from the foregoing that the contribution of the other fourteen variables investigated were not statistically significant since they had values above .05.

Furthermore, the part correlation coefficients were examined to determine the individual unique contributions to the total variance in the dependent variable by the

independent variables showed that values ranged from -.006 (initial household size) to -.112 (number of other households sharing the same building with respondent) as shown in Table 4 (column 4) . In order to establish the percentage of the total variance in the choice of waste disposal method by residents in the study area and how much of the value of R<sup>2</sup> would drop if it was not included in the model, the part correlation coefficient values were first of all squared and subsequently multiplied by 100. The unique contributions of the independent variables ranged from .004% for initial household size to 1.254% for number of other households sharing the same building with respondent as presented in Table 4 (column 5).

**Table 4: Results of regression analysis on socio-economic factors influencing choice of waste disposal method**

s/no	Independent variable	Standardized Beta Coefficients	Sig.	Part correlation coefficients	unique contribution of variables
1	No. of other households sharing same house with respondent	-.149	.001	-.112	1.254
2	number of children in the household under 18 years	-.125	.004	-.101	1.020
3	employment structure of respondents	-.109	.004	-.099	.980
4	monthly income of respondents	.107	.014	.085	.723
5	number of wives of male respondents	.092	.016	.083	.689
6	type of house occupied by household	.078	.037	.072	.518
7	residence prior to current residence	-.068	.062	-.064	.410
8	length of stay in Ayobo	-.067	.233	-.041	.168
9	religion of respondents	.062	.094	.058	.336
10	No. of bedrooms occupied by respondent's	-.058	.203	-.044	.194
11	length of household stay in house	.056	.321	.034	.116
12	attained level of education of respondents	.052	.212	.043	.185
13	sex of respondents	.051	.162	.048	.230

14	ethnic group of respondents	-.046	.206	-.044	.194
15	marital status of respondents	.043	.277	.037	.137
16	age of respondents	.036	.382	.030	.09
17	current tenure status of respondent	-.016	.682	-.014	.020
18	number of people currently in the household	-.014	.805	-.009	.008
19	other income earners in the household	-.009	.828	-.007	.005
20	household size when it moved to the house	-.008	.871	-.006	.004

## 5.0 Discussion

The first focus of this paper as earlier stated was to determine the socio-economic characteristics of residents that influence the choice of domestic waste disposal methods by households in the informal settlement of Ayobo, Lagos. From the analysis carried out it can be seen that residents' socio-economic characteristics contributed only 14% of the total variance in the choice of method of waste disposal by households in the study area, Ayobo. The individual contributions of the socio-economic variables studied ranged from .004 to 1.254, contributing only 7.28% when summed up. This indicates that there exists a lot of shared variance among the independent variables. It is thus worthy to note that either individually or collectively the socio-economic variables contributed only marginally to decisions of households as to which waste disposal method to adopt. The main implication of the findings here is that there exist other factors which are not socio-economic in nature that determine the choice of waste disposal

methods by households in the study area.

The second focus of the paper was to determine the unique contributions of each of the socio-economic characteristics/variables studied. Results revealed that only six of the twenty variables made significant unique contributions to the model of choice of waste disposal method by households. These are number of households sharing same building with respondents; number of children below eighteen years; employment structure of respondents; income of respondents; number of wives of male household heads; and the type of house occupied by respondents. These findings suggest that these are the main socio-economic areas of concerns to residents in the study area while deciding on the method of waste disposal to adopt. These variables can be grouped into two categories: variables that determine quantity of waste generated (number of households sharing same building with respondents, number of children below eighteen years and number of wives of male household

heads) and variables that determine households' capacity to pay for waste disposal (employment structure of respondents, income of respondents and type of house occupied by respondents).

Findings on the socio-economic characteristics of residents (Table 2) revealed that only 21.2% of households did not have children below eighteen years of age while about a quarter of the married male headed households were polygamous. Also only 15.5% of respondents did not share their buildings with other households (Table 3). While the household size and its composition to a large extent determine the volume of waste generated by a household, the number of households in a building determines the volume of waste generated per building. This becomes important where disposal of household waste is managed collectively as was the case in many of the multi-family houses in the study area. When such issues are not properly resolved, it can lead to conflicts between households. For households in single occupation there is more latitude of choice as they do not need to consider the opinions and interests of other households. Household income to a large extent is a function of the employment status of heads of households, especially where there are no other income earners or additional income earners in

the household do not contribute to household expenditure. Household income will also likely determine the type of dwellings residents occupy as well as how much the households are willing to pay for waste disposal services. This is bearing in mind that the waste disposal methods used by households have varying cost implications. Thus, poor households that are unable to meet basic household needs will expectedly be unwilling to commit scarce resources to waste disposal if they have less expensive options.

A closer look at the data suggests that residents with higher household sizes tended to dispose waste using other means other than PSP. In fact, most of the residents (83.3%) with 4 persons and above in the household burnt, tossed or buried their waste. This was probably a function of the volume of waste generated by the households coupled with the irregularity of collection by PSP operators. It is also interesting to note that most of those residents of the informal settlements who earned less than 40,000 Naira monthly patronized PSP operators. The same was the case with residents that earned above 100,000 Naira monthly. Most of the residents that earned between 40,000 and 100,000 Naira disposed their wastes by burying, burning and tossing. A further look at the data show that many

of the residents that earned less than 40,000 lived in rented apartments, where it is mandatory to contribute to engage PSP operators for waste disposal. Most of the residents that earned between 40,000 and 100,000 Naira were however owners of their buildings, which were mostly at the early incremental stages of construction. This category of residents designate a portion of their still-developing sites as waste dumps or pits and treat those spaces as appropriate by burning or covering up, respectively. It would therefore appear that the choice of waste disposal method is a function of the affordability, volume of waste generated, the residency rules and the availability of alternatives, which is a function of the type of house occupied.

The findings reported here are supported by Kayode & Omole (2011) and Onwumele (2015) who investigated some Nigerian cities (notably Ibadan and Benin City). These studies found that socio-economic characteristics of residents like age of respondents, household size, income of respondents, types of dwelling places and property status affected choice of waste disposal by households. However, unlike this current paper the previous studies did not determine the actual value of contribution of the socio-cultural variables either

collectively or individually. Thus this is one of the contributions of the current paper towards provision of empirical data to enhance formulation of appropriate waste disposal strategies in cities especially informal settlements.

In addition, the fact that the socio-economic variables investigated accounted for only 14% of the variance in the data probably suggests that there are other factors outside the scope of this study, which would account for the remaining variance in the data. For instance, respondents suggested that the accessibility of waste disposal methods partly influenced their choices. These could be a subject of further studies.

## **6.0 Conclusion**

The ever increasing global concern on environmental health demands that wastes be properly managed and disposed of in the most environmental friendly and acceptable way. Choice of waste disposal methods plays a significant role in this regard. This paper has examined residents of an informal settlement Ayobo, Lagos in order to determine the underlying socio-economic factors influencing their choice of methods of disposing household wastes. The results indicate that socio-economic characteristics of residents (either collectively or individually) in the study area

have had marginal influence in households' choice of waste disposal methods. Nonetheless, the six determinant factors identified in this paper are germane and need to be taken into consideration in evolving sustainable strategies for household waste disposal in the informal settlements of Lagos. The fact that the results suggest that the choice of waste disposal method is a function of the affordability, volume of waste generated, the residency rules and the availability of alternatives, may have implications for policy. Residents may need to be educated on the health risks and environmental hazards that result from burning and burying the wastes. Authorities responsible for waste management may also consider options that make these residents, who are concerned about the cost of disposing waste,

make money from their wastes, such as the waste to wealth initiative. The implication of this is that there is need to explore recycling of wastes in earnest. The fact that socio-economic characteristics of residents only marginally account for variances in choice of waste disposal also suggest the need for further studies to determine the other factors that determine residents' choice of methods they adopt in disposing their domestic wastes. Although this paper has relied on data from Ayobo, Lagos, Nigeria, the conclusions drawn from it have the propensity for wider application. This is because despite the undeniably context specifics of informal settlements, they broadly exhibit similar characteristics which can form the basis for adaptation of the findings of this paper.

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