Prestige Journal of Education, Vol. 6, No. 1, June 2023
A publication of the Association for the Promotion of Innovation in Education (APIE)
ISSN: 2645-324X (Print)
ISSN: 2645-3223 (Online)

Demographic Variables and Attitude of Urban Dwellers: An Insight into Solid Waste Disposal in Calabar, Nigeria

[1]**Arikpo Bassey Ubi**

[1]**Etim Nkanu Efut, Ph.D**
efutetim@yahoo.com

[1]**Vincent Ita Oyamo**
[1]*Department of Environmental Education*
Faculty of Arts and Social Science Education
University of Calabar, Calabar

Abstract
This study investigated demographic variables and attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State, Nigeria. It was guided by two hypotheses tested at 0.05 level of significance. The descriptive survey research design was adopted for this study. Stratified random sampling technique was used to select four local government areas from the seven local government areas that make up Calabar Education Zone. Accidental sampling techniques was used to administer the questionnaire, which was the main instrument used for data collection. A sample of 600 respondents was selected for the study. 561 copies of the questionnaire were retrieved and used for data analysis. The reliability of the instrument was established through the Cronbach Alpha reliability coefficient which ranged from 0.71-0.86. Independent t-test and one-way analysis of variance (ANOVA) was used to test the hypotheses. The results revealed that the demographic variables (gender and age) significantly influence attitude of urban dwellers towards solid waste disposal in Calabar Education Zone. Based on the findings, it was recommended that the Cross River State Ministry of Environment should carry out sensitization/awareness campaigns to promote the use of waste bins for solid waste disposal in Calabar Education Zone.
Keywords: attitude, urban, dweller, solid, waste

Introduction

There is an increasing global demand for the production of food, goods and services to satisfy human needs. Agricultural, industrial, construction and domestic activities involved in the production of goods and services generate huge amount of solid waste. Solid waste is the unwanted material or substance that is discarded after use. In other words, solid waste is a non-liquid material arising from domestic, trade, commercial, agricultural and industrial activities that is no longer needed. Solid waste is the variety of garbage arising from animals and human activities that are discarded and useless. Examples of solid wastes include: food particles, leaves, newspapers, broken bottles, construction debris, solid chemicals from a factory, candy wrappers, disposables, old cars or radioactive materials which are no longer needed by the owner or manufacturer. As the population keeps increasing, there is the tendency for solid waste generation to increase. Increased solid waste generation coupled with indiscriminate

disposal is associated with increased consumption pattern, individual lifestyle, urbanization and socio-economic activities. These human activities can either ruin or improve the environment (Efut et al., 2018).

Solid waste can be generated from the municipal, industrial, agricultural, construction and demolition, healthcare, radioactive (nuclear) and other human activities. Industrial wastes are wastes produced by industrial activities during a manufacturing process such as sand paper, paper products, industrial by-products, metals and radioactive wastes. Municipal solid waste consists of household waste, construction and demolition debris and sanitation residue. Once solid waste is not properly managed or disposed of, it poses health challenges and constitutes a problem to the environment (Ubi & Bassey, 2021).

The environment serves human beings as a resource bank for raw materials, habitat, and as a sink for waste absorption (Maddox et al., 2011). Audu (2013) asserts that the indiscriminate dumping of solid waste in the environment in such large quantities has become a problem that nature can no longer handle. The implication is that the amount disposed at a given time outweighs nature's ability to absorb waste. Achor et al. (2014) assert that the magnitude of waste dumped in the environment is a direct result of the inefficient mode of using materials and energy resources.

Attitude is an individual's evaluation of developing a positive (favourable) or negative (unfavourable) disposition to perform a given behaviour. Negative attitudes are yielded when an individual develops a negative belief while positive attitudes are yielded when a positive belief is developed (Efut & Arikpo, 2019). It is premised that positive attitudes towards the environment are depicted by sustainable management prone behaviours towards solid waste disposal while negative attitudes towards the environment are synonymous with reckless disposal of solid waste (Ajzen, 1985). Ideally, a negative attitude is one of the leading causes of indiscriminate waste disposal in the cities at different places and time. People, howbeit, dispose waste indiscriminately not minding the environmental and health effects of their action. This has in no small measure contributed to the deplorable state of the environment. This negative attitude has persisted owing to the fact that most households in the urban areas of Calabar Education Zone do not have waste bin; they rather dispose waste at any available open space, gutter or road. The inability of the government to enforce already existing environmental sanitation laws, individual's lack of knowledge and skills of waste recycling, coupled with far distance from household to waste receptacle points, all contribute to the challenges of waste disposal.

Healthy living depends on many factors including the following: the quality of food eaten, the quality of water taken, the quality of air breathed, and the cleanliness of the surroundings. Therefore, a carefree attitude to waste disposal is a threat to healthy living. As a result of the illegal dumping of toxic and hazardous waste in Koko village in the then Bendel State in 1987, the government of Nigeria through the Ministry of Environment promulgated environmental laws and decrees that brought a positive change of attitude in the way solid waste is disposed. Most of these laws are weak and neglected. Therefore, the spectacle of indiscriminate waste disposal is still prevalent. Individual's attitude, most times, is at variance with government

ISSN: 2645-324X (Print)
ISSN: 2645-3223 (Online)

policies and decrees. It is against this backdrop that the need for a change of attitude from "con-disposal of solid waste behaviour to pro-disposal of solid waste behaviour" is eminent.

The demographic characteristics of urban dwellers such as gender and age are presumed to have an effect on attitude towards solid waste disposal. Gender implies the character of being male or female, man or woman, boy or girl (Mamady, 2016). Understanding gender difference is very important in understanding perception, attitude and responses of people towards a phenomenon. All over the world, men and women, boys and girls play a different role in the society. Psychological differences of the sexes are so obvious that they affect the way in which both sexes respond to environmental stimuli (Yakob et al., 2010; John et al., 2016). These differences are shaped by ideological, historical, economic and cultural dimensions (Moses, 2014; Efut et al., 2018). Implied in this statement is the fact that the very definition of "waste" as a discarded material may be influenced by gender. What constitutes waste to women may be a football kit for men; what is considered waste to men may be jewellery to women.

The number of years an individual has lived from the time of birth is what is referred to as the person's age. As a concept, age has been linked through research to individuals' attitude towards waste disposal with varying results (Ifegbesan, 2010; Banga, 2011; Ali & Siong, 2013; Akil et al., 2015). The ever-increasing waste generation in the area of the study has become unbearable, making it difficult for local environmental sanitation authorities and solid waste service providers to manage. It is common to see water channels, roads and gutters blocked or littered with all kinds of solid waste that blocks drainages thereby leading to flooding, eyesore, pollution and gushing offensive odour. Waste materials, either biodegradable or non-biodegradable pose serious threats to human health and the environment. A heap of waste constitutes a breeding ground for disease vectors and rodents. Indiscriminate waste disposal endangers public health, and hinders efforts to maintain a beautiful, clean and a healthy environment.

Statement of the problem

The beauty of an environment lies in its good sanitary condition. This is so because, when an environment is clean, the lives of the individuals are hardly threatened by diseases and ailments. The population of Calabar Education Zone of Cross River State is rapidly increasing, and the more food is consumed by these urban dwellers, the more waste is generated. Solid waste ranging from domestic, industrial, agricultural and public outfits such as broken ceramics, construction debris, chemicals from factories, metal scraps or radioactive materials, paints, plastics materials among others are disposed indiscriminately into the environment. Heaps of solid waste are eyesore to many; they attract flies, rodents and other disease-vector organisms most of which cause health hazards such as malaria, diarrhoea, fever, typhoid, dysentery, and intestinal worm infestations to humans. The stench from these heaps is offensive to perceive.

However, despite Cross River State Government's efforts through the Ministry of Environment in ensuring a clean environment through education, awareness campaigns, ensuring regular street-sweeping, provision of trucks for the evacuation of waste, and the replacements of refuse receptacles, urban dwellers still dispose their solid waste indiscriminately. Urban dwellers

seem not to show concern about the cleanliness of the environment; they prefer dumping refuse at places of their convenience rather than the refuse collection points without considering the health and environmental implications of their actions. Solid waste disposal problems in the area of the study are perceived to be strongly linked to weak institutional capacity in the enforcement and implementation of already existing environmental laws. The non-compliance of urban dwellers to sustainable disposal of solid waste have created information and knowledge gap. There is, therefore, the need to investigate demographics such as gender and age; whether they influence attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State.

Purpose of the study

The general purpose of this study is to investigate demographic variables and attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State. Specifically, the study seeks to:

1. Examine whether gender influences attitude of urban dwellers towards solid waste disposal in Calabar Education zone of Cross River State.
2. Determine whether age influences the attitude of urban dwellers towards solid waste disposal in Calabar Education zone of Cross River State.

Research questions

The following research questions were formulated to guide this study:

1. How does gender influence the attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State?
2. Does age influence the attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State?

Hypotheses

The following hypotheses were formulated and tested:

Ho1: Gender does not significantly influence the attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State.

Ho2: Age does not significantly influence the attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State.

Methodology

The research design adopted for this study is the descriptive survey. Studies that make use of descriptive survey are to obtain a picture of the present condition of a particular phenomenon. Idaka and Anagbogu (2012) assert that descriptive survey is concerned with findings, describing and interpretation of what is; the design does not only aim at discovering new phenomena but conditions that exist, practices that prevail, belief, points of view, attitude that are held, processes that are ongoing, effects that are being felt, and trends that are developing. The adoption of the descriptive survey is because it is an efficient way of obtaining data from a large population through a sample size which represents the entire population. It is suitable for finding out opinions, attitudes, and relationships among variables.

ISSN: 2645-324X (Print)
ISSN: 2645-3223 (Online)

A sample size of six hundred (600) respondents were used for the study. The breakdown is presented in table 1.

Table 1: Sampling distribution by communities

LGA	Community	Sample
Akamkpa	Awi	100
Akpabuyo	Ikot Nakanda	100
Calabar Municipality	Akim	200
Calabar South	Anantigha	200
	Total	600

This research was carried out in Calabar Education zone, Cross River State, Nigeria. The area of the study comprises seven Local Government Areas (LGAs) namely: Akpabuyo, Akamkpa, Biase, Bakkasi, Calabar Municipality, Calabar South and Odukpani. Geographically, it is found between latitudes $4^{0}27^{1}$ and $5^{0}32^{1}$N and longitude $7^{0}50^{1}$ and $9^{0}30^{1}$ E of the equator, with a landmass of 7,300 square kilometres (Balogun, 2009). It is bounded to the north by Yakurr LGA, to the South by Atlantic Ocean, to the east by Abi LGA and to the west by Akwa Ibom State. The languages spoken by the people are Efik, Ejagham and Ekoi, though Biase people speak Ubaghara and Ukwa languages. The similarities in the culture of this people are traced to their common secret societies like Mgbe and Ekpe. The secret societies are veritable instruments for the enforcement of traditional authority and laws. The people are predominantly farmers, traders, fishermen and civil servants. They are noted for the celebration of the new yam festival during the month of August every year.

Educationally, the area hosts a number of private and public higher institutions for the training of human resources. There are the University of Calabar, Calabar; the Cross River University of Technology, Calabar; Arthur Jarvis University, Akpabuyo, Calabar; the National Open University of Nigeria, Calabar; the School of Health Technology, Calabar; and the Cross River College of Education, Akamkpa. Tourism is one of the main economic potentials in the area. The Calabar Carnival is an annual event in the month of December which attracts both local and international attention. There are other festivals that bring people from all walks of life to the state. The Christmas festival, the Calabar Boat Regatta, and the Calabar Cultural Carnival (usually hosted a day prior to the carnival day when all the cultural dances are displayed) are among the festivals that attract people to Calabar. The area is also naturally endowed with a lot of ecotourism sites. They include the Agbokim Water Falls, Afi Mountain Wild Life Sanctuary, the Cross River National Park, Obudu Mountain Resort, the Ikom Monoliths, The Calabar Slave Trade Museum, and the Tinapa Business Resort. These make the area of the study a suitable destination for a mix of business and leisure. The Calabar Education Zone is an area with huge traditional, educational, commercial and tourism institutions coupled with other socio-economic activities which attract both local and international attention. These make solid waste generation and unsanitary disposal inevitable. This informed the choice of the area for the study.

Table 2: Population distribution by Local Government Area

S/N	LGA	Population	Males	Females
1	Akamkpa	178,922	90,713	88,209
2	Akpabuyo	396,824	198,015	198,809
3	Bakassi	52,031	31,375	20,656
4	Biase	217,835	108,481	109,354
5	Calabar Municipality	213,289	110,910	102,379
6	Calabar South	195,615	98,785	96,830
7	Odukpani	242,472	120,994	121,478
	Total		759,273	737,715

Source: National Population Commission (2021)

The study population is made up of all the residents of Calabar Education Zone, Cross River State. The population comprised farmers, students, civil servants, traders, artisans, politicians and health workers who reside in the study area. The 2021 projected population for the area consist of one million, four hundred and ninety-six thousand, nine hundred and eighty-eight (1,496,988) residents. The population distribution is shown in table 2.

The stratified random sampling and the accidental sampling techniques were used for this study. The stratified random sampling was used to select 4 LGAs from the 7 LGAs that make up the Calabar Education Zone. In selecting the LGAs for the study, the researchers wrote the names of the seven 7 LGAs that make up the population of the study in pieces of paper, folded each paper into a paper ball and put into a container. The paper balls were then mixed properly. The researchers picked each paper ball blindly, one at a time and without replacement. The name of the local government area so picked was used for the study. In selecting the communities for the study, the researchers wrote all the names of the communities that make up the selected 4 LGAs in pieces of paper, folded each paper into a paper ball, poured into a container and mixed properly. The researchers then drew blindly, one at a time and without replacing to select one community from each of the local government areas. The communities picked were used for the study. The accidental sampling technique was used in administering the questionnaire in the communities selected for the study. By this method, the residents from 18 years and above who were available and were willing to participate in the study were selected and used for the study.

The instrument for data collection was a 23-item structured questionnaire designed by the researchers titled Demographic Variables and Attitude of Urban Dwellers towards Solid Waste Disposal Questionnaire. The questionnaire consists of two sections: A and B. Section A with 3 items was meant to elicit demographic information of respondents while section B was grouped into a cluster with 20 items. The cluster was to elicit information on attitude towards solid waste disposal. The instrument was structured on a four-point rating scale with response options: Strongly Agree which attracted 4 points, Agree which attracted 3 points, Disagree which attracted 2 points and Strongly Disagree which attracted 1 point for all the positively worded items. For items that were negatively worded, the researchers reversed the scoring.

ISSN: 2645-324X (Print)
ISSN: 2645-3223 (Online)

To ensure validity of the instrument, a copy of the questionnaire was given to three experts each for critiquing and editing. In addition to the instrument, the purposes of the study, research questions and hypotheses were made available to the experts. These experts were requested to examine the instrument on the basis of clarity of language, simplicity of vocabulary, suitability of item format and relevance of items of the study. The corrections and suggestions made by the three experts guided the researchers in the final copy of the questionnaire. The reliability of the questionnaire was estimated after a trial test with 50 respondents. The Cronbach's Coefficient Alpha was used to test the internal consistency of the instrument which was .83. Based on this, the questionnaire was adjudged adequate to be used for this study.

Out of 600 copies of the instrument administered, 561 copies were correctly filled by the respondents, retrieved and used for data analysis. The data collected from the respondents through the questionnaire were collated and analysed using independent t-test and one-way analysis of variance.

Presentation of results

Ho1: Gender does not significantly influence the attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State.

Table 3: Independent t-tests analysis of the influence of gender on attitude of urban dwellers towards solid waste disposal (N=561)

Variable	**N**	$\bar{x}$	**SD**	**t-value**
Male	106	53.08	2.33	
				3.75*
Female	455	52.62	2.71	
Total	561			

* Significant at .05 level, critical t= 1.96, df = 559

The independent variable in hypothesis one is gender while the dependent variable is attitude toward solid waste disposal. The result in table 3 indicates that the calculated t-value of 3.75 is higher than the critical t-value of 1.96 at .05 level of significance with 559 degrees of freedom. From the result in table 3, hypothesis one is rejected. This implies that, there is a significant influence of gender on attitude of urban dwellers toward solid waste disposal.

Ho2: Age does not significantly influence the attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State.

Table 4: Summary of one-way analysis of variance (ANOVA) on the influence of age on attitude of urban dwellers towards solid waste disposal (N=561)

Age	**N**	$\bar{x}$	**SD**	
18-25	69	53.28	2.54	
26-35	189	52.80	2.56	
36-45	182	52.77	2.56	
46 and above	121	52.11	2.86	
Total	561	52.70	2.64	
Source of Variation	**SS**	**df**	**MS**	**f-value**
Between group	68.395	3	22.798	
Within group	38.409	557	6.896	3.306
Total	39.093	561		

*significant at .05, level, critical f=3.00, df=4,557

The independent variable in hypothesis two is age while the dependent variable is attitude to solid waste disposal. The result of analysis as presented in table 4 reveals that the calculated f-value of 3.306 is greater than the critical f-value of 3.00 at .05 level of significance with 4,557 degrees of freedom. The result of this analysis is significant since the calculated value is greater than the critical value. The null hypothesis is rejected, which means that there is a significant influence of age of the residents on attitude towards solid waste disposal in Calabar Education Zone of Cross River State. Since age has a significant influence on attitude of urban dwellers towards solid waste disposal, a post hoc analysis was employed using Fishers' Least Significant Difference (LSD) multiple comparison analysis to find out the source of the difference. The result of the analysis is presented in table 5.

Table 5: Fishers' Least Significant Difference (LSD) multiple comparison analysis of the influence of age on attitude of urban dwellers towards solid waste disposal

		Mean Difference		
(I) age	**(J) age**	**(I-J)**	**Std. Error**	**Sig.**
1.00	2.00	1.5173	.48794	.756
	3.00	3.7759	.47199	.424
	4.00	-1.0587	.46447	.820
2.00	1.00	-1.5173	.48794	.756
	3.00	2.2586	.30609	.461
	4.00	-2.5760	.29436	.382
3.00	1.00	-.37759	.47199	.424
	2.00	-.22586	.30609	.461
	4.00	-.48346	.26710	.071
4.00	1.00	.10587	.46447	.820

ISSN: 2645-324X (Print)
ISSN: 2645-3223 (Online)

2.00	.25760	.29436	.382
3.00	.48346	.26710	.071

* The mean difference is significant at the .05 level

The result from Table 5 revealed that the respondents between the age of (25-36) years differed significantly from those within the age of 45 years and above with a mean difference of 1.5173 and -1.0587 respectively on the influence of age on attitude of urban dwellers towards solid waste disposal. Also, the respondents who perceived age to influence attitude towards solid waste disposal had a significant higher mean difference of 3.7759 within the age bracket of 36-45 years. Table 5 also revealed that there exists a significant mean difference of respondents between the age of 18-25 years and 26-35 years with a mean difference of 1.5173) and 2.2586 respectively.

Discussion of the findings

The analysis of hypothesis one revealed that there is a significant influence of gender on attitude of urban dwellers towards solid waste disposal. This result is in agreement with the findings of John et al. (2016) and Yakob et al. (2010) who assert that across many cultures in the world today, women handle waste disposal in their homes without being paid, while men do so when they are to be paid. The finding seems to align with the nature of women. Women are known to be more involved in caring for the environment, maintaining the sanitation of the home, ensuring the aesthetics of the home and generally keeping the household habitable and clean. Therefore, when it concerns waste disposal, the female folks are more likely to be involved in solid waste accumulation and the need to keep the home clean by looking for ways to readily disposing solid waste.

The analysis of hypothesis two showed that there is a significant influence of age of the respondents on solid waste disposal in Calabar Education Zone of Cross River State. This result agrees with the findings of Ifegbesan (2010). Although Ifegbesan's (2010) study linked age to practice, one could infer it as age against attitude. That is, as people advanced in age, there is the tendency for their experiences over indiscriminate solid waste disposal to count in terms of adjusting their attitude towards proper disposal of solid waste. The finding could also be explained by Ajzen's (1985) theory of planned behaviour. The theory explains the relationship between attitude and behaviour within human action. This theory elucidates that human beings act in a particular way because they have evaluated the positive outcome of their behaviour. Hence, as people advanced in age, they are more prone to think rationally about the consequences of indiscriminate solid waste disposal and proactively act to avert such consequences.

Conclusion

The purpose of this study was to investigate demographic variables and attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State. Specifically, it examined whether gender and age influence attitude of urban dwellers towards solid waste disposal in Calabar Education Zone of Cross River State. Literature review was carried out according to the variables of the study. The descriptive survey design was adopted

for the study. A sample of 600 respondents was used for the study. The questionnaire was the instrument used for data collection. The method of data analysis was based on the statement of the hypotheses directing this study. Each of the hypotheses was tested at .05 level of significance. The result of the analysis revealed that gender and age significantly influence attitude towards solid waste disposal in Calabar Education Zone of Cross River State, Nigeria. It can therefore be concluded that gender and age engender pro-environmental attitudes of urban dwellers that translate in environmental behaviours in terms of solid waste disposal in Calabar Education Zone.

Recommendations

1. The Cross River State Ministry of Environment should carry out sensitization/awareness campaigns that would promote usage of waste bins for solid waste disposal in Calabar Education Zone.
2. Parents/guardians should inculcate in their children/wards positive attitude of disposing solid waste properly.

References

Achor, P. N., Ehikwe, A. A., & Nwafor, A. U. (2014). Curbing/mitigating indiscriminate waste dumping through effective stakeholder relations. *International Journal Scientific Research,* 3, 107-117.

Ajzen, I. (1985). From intentions to actions: a theory of planned behaviour. In J. Kuhi & J. Beckmann (Eds.), *Action-control: From Cognition to Behaviour* (11-39). Heidelberg: Springer.

Akil, A. M., Foziah, J. & Holt, C. S. (2015). The effects of socio-economic influences on households recycling behaviour in Iskandar, Malaysia. *Journal of Social and Behavioural Sciences,* 202, 124-134.

Ali, N. E., & Siong, H. C. (2013). The influence of demographic variables on solid waste minimization: A case study of Shah Alam City, Malaysia. *Journal of Environment and Earth Science, 3* (8) 166-173.

Audu, A. J. (2013). Knowledge, attitudes and practices associated with waste management in Jos South Metropolis, Plateau State. *Mediterranean Journal of Social Sciences, 4* (5) 119-127.

Balogun, F. A. (2009). *Measures taken to control population growth in Nigeria.* Abuja: National Population Commission.

Banga, M. (2011). Household knowledge, attitudes and practices in solid waste segregation and recycling: the case of urban Kampala. *Zambia Social Science Journal, 2*(1), 27-39.

Efut, E. N. & Arikpo, J. B. (2019). Religio-cultural and environmental awareness strategies: An insight into people's attitude towards sustainable management of natural resources in Ikot Ekpene, Nigeria. *Journal of Environmental and Tourism Education, 2* (2) 73-83.

Efut, E. N., Oyamo, V. I., & Egbe, E. D. (2018). Perception as a framework for human interactions with the environment: A case study of Biase Local Government Area of Cross River State, Nigeria. *Journal of Environmental and Tourism Education, 1*(1) 84-92.

ISSN: 2645-324X (Print)
ISSN: 2645-3223 (Online)

Idaka, I. I. & Anagbogu, G. (2012). Research design. In A. J. Isangedighi, (Ed.), *Essentials of Research and Statistics in Education and Social Sciences* (64-77). Calabar: Eti-Nwa Associates.

Ifegbesan, A. (2010). Exploring secondary school students' understanding and practices of waste management in Ogun State, Nigeria. *International Journal of Environmental & Science Education, 5*(2), 201-215.

John, G. M., Moturi, W. N., & Mokua, M. A. (2016). Assessment of the factors and challenges related to solid waste management in Bor Town, South Sudan. *Journal of Natural Sciences Research, 6*(22), 1-6.

Maddox, P., Doran, C., Williams, I. D., & Kus, M. (2011). The role of intergenerational influence in waste education programmes: the THAW project: *Waste Manage*, 31, 2590-2600.

Mamady, K. (2016). Factors influencing attitude, safety behaviour, and knowledge regarding household waste management in Guinea: A cross-sectional study. *Hindawi Journal of Environmental and Public Health, 1*(8), 1-9.

Moses, T. C. (2014). Planning model for refuse management. *Journal of Science and Technology, 3*(2), 71 – 76.

Ubi, A. B. & Bassey, O. S. (2021). Economic-based demographic variables and attitude of urban dwellers towards solid waste disposal in Calabar Education Zone, Cross River State. *Journal of Environmental and Tourism Education, 4* (2) 33-42.

Yakob, S. E., Esa, G. A., & Yunus, D. U. (2010). Exploring secondary school students' belief and attitude about waste management in northern peninsular Malaysia. *International Journal of Environmental Education, 42*(7), 76 – 86.