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# ASSESSMENT OF COMMUNITY PERCEPTION ON WASTE MANAGEMENT PRACTICE IN ILORIN METROPOLIS, KWARA STATE, NIGERIA

Keywords: Community perception, public enlightenment, solid waste generation and waste management

**ABSTRACT:** Improper collection and disposal of municipal wastes has led to different levels of environmental challenges such as blockade of sewers, drain networks and the choking of water bodies. The study adopted descriptive survey research design. The population of the study comprised of 364,666. The researcher used simple random sampling random technique to select 200 respondents in the targeted communities. The questionnaire used to collect information from the respondents was tagged Community Perception on Waste Management Practice Instrument (CPWMPI). The instrument was validated by the experts in the Department of Adult and Primary Education, University of Ilorin to ensure face, content and construct validity. To ascertain the reliability of the instrument, the questionnaire was administered to fifty respondents twice. The data collected were analyzed with the Person Product Moment Correlation (PPMC) tool, a co-efficient value of 0.89 was obtained. Inferential statistics was used to analyzed the research question while the hypotheses were analyzed with t-test and Analysis of Variance (ANOVA). The result showed that there was a statistically significant difference in the perception of residents on waste management practices based on gender (t  $_{198}$ ) = 2.643, p<0.05), there was no statistically significant difference in the perception of residents on waste management practices based on gender (t  $_{198}$ ) = 2.643, p<0.05), there was

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tices based on marital status ( $t_{\{198\}} = 0.837$ , p>0.05), there was no significant difference in the perception of residents on waste management practices based on education (F  $_{[2, 197]} = 1.592$ , p>0.05), there was no statistically significant difference in the perception of residents on waste management practices based on religions ( $t_{\{198\}} = 1.427$ , p>0.05)It was recommended in the study that there should be public enlightenment among the residents and urban dwellers on proper solid waste practices, management and disposal.

#### INTRODUCTION

Solid Waste generation, collection, transport and disposal have been part of human life from antiquity, but they have over the past decades become difficult across nations of the world. Consequently, most urban city governments are faced with growing problems concerning effective solid waste management. The quality of waste management facilities is a good pointer of a city's governance. How waste is produced and discarded gives us a key insight into how people live. If a city is dirty, the local administration may be considered ineffective or its residents may be accused of littering (Scheinberg, Wilson, Wiersma, 2019). In Africa, rapid urban growth has exacted massive pressure on cities, towns and surrounding areas (Aliyu, Amadu, 2017; Saghir, Santoro, 2018). This has led to increased urban waste generation leading to health hazards, underground water pollution, and affected air and aesthetic qualities (Mazhindu, 2020). The inability to properly manage these wastes generated in developing countries such as Nigeria creates great concern (Amasuomo, Baird, 2021).

Nigeria, with a population exceeding 180 million (National Bereau of Statistics, 2018) is one of the largest producers of solid waste in Africa (Bakare, 2022). Despite a host of policies and regulations, solid waste management in the country remains a huge challenge to the authorities, stakeholders and the entire public. Solid waste generated in many cities in Nigeria is composed of organic materials, plastics/polythene, cans/ metals, bottles/glasses, clothes/shoes, and ceramics (Imoh, Udofia, 2015; Aliyu, 2020). Household waste have been found to also contain hazardous and toxic waste such as expired drugs, dried cells, broken class, syringes which constitute serious environmental and health hazards (Delgado,

Ojeda-Beintz, Marquez-Benavides, 2017). It has been recorded that, Nigeria generates over 32 million tons of solid waste yearly, and only a fraction is collected (Bakare, 2022). Most of these wastes are generated by households and in some cases, by local industries, artisans and traders who litter the immediate surroundings.

Improper collection and disposal of municipal wastes has led to different levels of environmental challenge such as blockade of sewers, drain networks and the choking of water bodies (George, 2019). Although, the country lacks a well-coordinated waste management system, Solid Waste Management (SWM) is under the purview of Ministry of Environment at the Federal and State levels and Environmental Health Department at Local Government level under established legislations and guidelines relating to waste management. Some of these legislations include: the Harmful Waste Act (Special Criminal Provisions of 1988), the National Environmental Standards and Regulations Enforcement Agency (NES-REA)Act 2007 (NESREA Act, repealed the Federal Environmental Protection Act of 1988), Environmental Impact Assessment act of 1992, National Environmental (Sanitation and Wastes Control) Regulations, 2009 and the National Environmental Protection Regulations (Pollution Abatement in Industries and Facilities Generating Waste.

Drawing from the directive of the Federal Government to the states for the establishment of waste authorities, all states in Nigeria have established waste authorities under the Ministry of Environment (National Environmental Standards and Regulations Enforcement Agency, 2007). Some of these Waste Authorities include; Abuja Environmental Protection Board, Anambra State Waste Management Authority (ASWAMA), Lagos State Waste Management Agency (LAWMA), Oyo State Solid Waste Management, Rivers State Environmental Sanitation Authority, Kano State Refuse Management and Sanitation Board, Kwara State Waste Management Authority to name a few. The emergence of waste Authorities in most states in Nigeria has brought about several strategies best suitable for solving the problems of waste management in the state. These strategies include; The traditional waste management strategies consisting of waste generation, collection, transportation and disposal, the Waste minimization strategy consisting of waste reduction, reuse, recycle and recovery, and technological strategy consisting of the application of Geographical Positioning Systems (GPS), Geographical Information System (GIS) and Remote sensing technologies.

Currently in Nigeria, household waste of different sources are mixed and co-disposed without any form of segregation and sorting (Longe and Williams, 2016). Household waste could contain hazardous and toxic waste such as expired drugs, dried cells, broken class, syringes and thus constitute serious environmental and health hazards. Wastes have adverse effects on the environment as well as public health, thus, necessitating the need to management and control wastes historically. Hilburn, (2015) reveals the long lived convoluted waste control and management history. The waste management systems originated from the ancient times, with the first attempt to manage wastes by Greeks taking place in A.D, 4th century. The challenges the Greeks faced encompasses high population growth, limited space, hygienic complexities among others making the waste management system alignment difficult. As Narayana, (2019) highlights, collection and transportation of wastes from the basic practices in waste management. With the rapid urban development and corresponding escalation in population size, the sanitation conditions worsened as garbage wastes formed the dangerous threat on human health as well as the environmental hygiene to the inhabitants of these places.

Humans generate a great deal of waste as a by-product of their existence. This is evidenced at dumping pits located in or around residential sites. Every task, from preparing a meal to manufacturing a computer and so forth, is accompanied with production of waste material which cannot be used for other things and needs to be disposed of effectively (Awunyo et al., 2013). That means if waste is not contained and handled appropriately and in sanitary manner, there are great chance of creating favorable conditions for causing public health problems such as diseases like cholera, diarrhea, typhoid including favorable breeding ground for flies, cockroaches, mosquitoes as well as potential environmental and air pollution (Pinnock, 2018).

However, some people discarded waste may have value to others, this is evidence fashionable income generating activities that in most dumping site and even in streets in urban and cities and make it to be recognized that waste materials are a valuable resource. Poor management of Solid waste can also affect ground water and marine ecosystems. Consequently, everyone has to be involved for effective and efficient Solid Waste Management systems (SWMs). Apart from the consequence that may be caused by poor waste management, still with proper arrangement waste can be a resource and used to provide employment opportunities that may contribute to poverty alleviation if the populations are informed, educated and included in the solid waste management decision making process (Squires, 2006).

The urban solid waste management problem has been linked to rapid urbanization in Africa. With increasing industrialization and urbanization, generation of waste now outstrips safe disposal rate, especially in most cities in Africa (Hofny-Collins, 2006). It is believed that the greater the society's population and material wealth, the greater the amount and variety of waste generated (Scharfe, 2010). Thus, as population grows, income rises, and consumption patterns change, the volume of disposable materials continues to rise. In high-income countries, the problems usually centre on the difficulties and high cost of disposing the large volume of waste generated by households and businesses. On the other hand, in low-income countries, the main problems are related to collection, with between one-third and one-half of all solid waste generated in third world cities remaining uncollected (Raj, 2010).

Perceptions are influenced by our knowledge, resources, beliefs, values and norms but can be created without experience and knowledge of the object or person (Mariwah, Kendie, Dei, 2019). Attitude has been found to be an important predictor in explaining intention or behaviour towards solid waste management and the relationship are significant (Ifegbesan, 2019; Kumar, 2012). Attitudes may be positively influenced through awareness building campaigns and education about the negative aspects of inadequate waste collection with regard to public health and environmental conditions. Such education should also inform people of their responsibility as waste generators and of their rights as citizens to adequate solid waste management services (Bernstein, 2014). Vicente and Reis (2008) has revealed that attitude towards waste recycling has positive influence on the participation of households. Goh, Tong and Ahmed (2019) also provided empirical evidence that attitudes were found to have moderating effect on intention to recycle waste in Malaysia. Thus, the design and implementation of municipal solid waste management system require an analysis of existing behaviour of key stakeholders, including their attitudes, perceptions, and values.

The environmental degradation and health impact of poor disposal of solid waste can be seen in the contamination of both surface and ground water through direct waste contacts, air pollution by burning of wastes, spreading of diseases by different vectors like birds, insects and rodents, or uncontrolled release of methane by anaerobic decomposition of waste. The health implications of improper solid waste disposal are enormous and cannot be ignored. Solid wastes that are not properly managed can cause water pollution which may breed diseases like cholera, typhoid and others. Indiscriminate disposal of solid waste is a threat to human health. Inadequate disposal of solid waste is a major factor in the spread of gastrointestinal and parasitic diseases primarily caused by vectors. At the moment, there is need to increase the level of awareness of the effects of poor solid waste disposal among residents in the town especially as it relates to open dumping of solid wastes and water pollution. This study assesses the community perception on waste management practices in Ilorin West, Kwara State.

The study anchored on the theory of planned behaviour, the theory was postulated by Ajzen (2012). This theory provides a framework for studying human actions concerning certain belief systems. Three theoretically independent prognosticators of human behaviour have been put forward, specifically; behavioural beliefs, normative beliefs and control beliefs (Ajzen, 2002). This theory has been successfully applied in many situations which are not limited to; waste management, travel mode, leisure choice, healthy eating, unprincipled behaviour, etc. This study focused on residents' behaviours in terms of attitude and perception of solid waste management practices. Ajzen (2002) describes behavioural beliefs as those beliefs in which the likely consequences of the behaviour and the evaluations of these consequences are put into perspective. Whereas, normative beliefs talk about the normative expectations of others and enthusiasm to adapt to these expectations. Control beliefs, which comprise subjective norms and perception of behaviour, look at the presence of factors that may enable or hinder the performance of the behaviour. This framework is appropriate to this study as someone's perceptions and attitude are motivated by his or her knowledge, values, norms and beliefs system which someone may obtain in the absence of knowledge and experience.

This theory has been successfully applied in many situations which are not limited to: waste management, travel mode, leisure choice, healthy eating, unprincipled behaviour, etc. This study focused on residents' behaviours in terms of attitude and perception of solid waste management practices. Ajzen (2002) describes behavioural beliefs as those beliefs in which the likely consequences of the behaviour and the evaluations of these consequences are put into perspective.

The main purpose of this study is to assess the community residents' perception on waste management practices in Ilorin West, Kwara State, Nigeria. Specifically, the study assessed:

- 1. the community residents' perception on waste management practices in Ilorin West, Kwara State, Nigeria,
- 2. the difference in the community residents' perception on waste management practices in Ilorin West, Kwara State, Nigeria based on gender,
- 3. the difference in the community residents' perception on waste management practices in Ilorin West, Kwara State, Nigeria based on marital status,
- 4. the difference in the community residents' perception on waste management practices in Ilorin West, Kwara State, Nigeria based on education.

#### RESEARCH QUESTION

The following research question was generated for the study

RQ1: What is the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria?

### **RESEARCH HYPOTHESES**

The following research hypotheses were formulated for the purpose of the study:

- Ho<sub>1</sub>: There is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on gender.
- Ho<sub>2</sub>: There is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on marital status.
- **Ho**<sub>3</sub>: There is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on education.
- Ho<sub>4</sub>: There is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on religions.

## METHODOLOGY

The study adopted descriptive survey research design. The population for this study comprised of people living in Ilorin West. Ilorin West Local Government Area of Kwara state is located in Oja-Oba and the local government area consists of the towns and villages of Adewole, Baboko, Ajikobi, Badari, Ogidi, Ojuekun, Oko-Erin, Warrah, Ngeri, Oloje, Ubandawaki, Egbejila and Oshin. The population for the study comprised of 364,666. The researcher used simple random sampling random sampling technique to select 200 respondents in the targeted community. The questionnaire used to collect information from the respondents was tagged Community Perception on Waste Management Practice Instrument (CPWMPI). The instrument was validated by the experts in the Department of Adult and Primary Education, University of Ilorin, the corrections were effected before the administration of the instrument, this helped to ensure face, content and construct validity of the instrument. To ascertain the reliability of the instrument, the researcher adopts the test-retest method of reliability. However, the questionnaire was administered to fifty respondents twice at an interval of two weeks. The data collected were analyzed with the Person Product Moment Correlation (PPMC) tool, a co-efficient value of 0.89 was obtained. Inferential statistics was used to analyzed the research question while the hypotheses were analyzed with t-test and Analysis of Variance (ANOVA).

#### RESULTS

**Question One:** What is the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria?

 Table 1. Descriptive statistics of perception of Ilorin West community

 residents on waste management practices in Kwara State, Nigeria

Ν	Perception on Waste Management Practices	Mean	S. D.	Remark
1.	Equipment for the disposal of waste is always available in Ilorin West residences for waste collection and management	2.42	1.55	Disaffir- med
2.	The public collection point of solid waste is far from residents home	3.01	1.67	Affirmed
3.	Disposal of solid waste in public collection bins is not frequ- ently used by residents of Ilorin West	2.86	1.62	Affirmed
4.	Increase in population size is a major problem of solid waste disposal in Ilorin West	3.33	1.74	Affirmed
5	The general waste disposal situation in Ilorin West Residence is satisfactory	2.31	1.69	Disaffir- med
6	There are health issues caused by improper waste disposal among residents in Ilorin West	3.38	1.81	Affirmed
7	Solid waste is dumped by the road side in Ilorin West LGA	2.73	1.77	Affirmed
8	Dumping of solid waste into drainages during rainfall is common in Ilorin West residence	3.41	1.59	Affirmed
9	Drainages are blocked due to improper disposal of solid waste among residents in Ilorin West	3.28	1.31	Affirmed
10	Residents do not participate actively in environmental sani- tation or residence clean-up	2.98	1.57	Affirmed
11	Open dumping is usually practice by residents of Ilorin West	3.08	1.29	Affirmed
12	Recycling method of solid waste like reuse of bottle is not practiced by resident in Ilorin West	3.67	1.37	Affirmed
	Grand Mean	3.03	Negative Percep- tion	

As shown in Table 1, the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria was negative. Thus, the public collection point of solid waste is far from residents home, disposal of solid waste in public collection bins is not frequently used by residents of Ilorin West, increase in population size is a major problem of solid waste disposal in Ilorin West, there are health issues caused by improper waste disposal among residents in Ilorin West, solid waste is dumped by the road side in Ilorin West LGA, dumping of solid waste into drainages during rainfall is common in Ilorin West residence, drainages are blocked due to improper disposal of solid waste among residents in Ilorin West, residents do not participate actively in environmental sanitation or residence clean-up, open dumping is usually practice by residents of Ilorin West, and recycling method of solid waste like reuse of bottle is not practiced by resident in Ilorin West. However, it was disaffirmed that equipment for the disposal of waste is always available in Ilorin West residences for waste collection and management and the general waste disposal situation in Ilorin West residence is satisfactory

#### **RESEARCH HYPOTHESES**

**Ho**<sub>1</sub>: here is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on gender.

**Table 2.** T-test statistics showing the difference in the perception of IlorinWest community residents on waste management practices in Kwara State,<br/>Nigeria based on gender

Gender	No	Mean	S. D.	Df	t-value	Sig	Remark
Male	71	19.833	3.743				
				198	2.643	0.042	Rejected
Female	129	17.294	3.324				

\*significance at p<0.05

Table 2 reveals that the t-value 2.643 is obtained with a p-value of 0.042 computed at 0.05 alpha level. Since the p-value of 0.042 is less than 0.05 level of significance, the null hypothesis one is not retained. Therefore, there was a statistically significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on gender (t {198} = 2.643, p<0.05). It was observed that male residents of Ilorin West Local Government Area hold negative perception of waste management practices than their female residents.

Ho<sub>2</sub>: There is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on marital status.

**Table 3.** T-test statistics showing the difference in the perception of IlorinWest community residents on waste management practices in Kwara State,<br/>Nigeria based on marital status

Marital Status	No	Mean	S. D.	Df	t-value	Sig	Remark
Single	67	19.271	2.549				NL 4
				198	0.837	0.164	Not Dejected
Married	133	18.634	2.473				Rejected

\*significance at p>0.05

Table 3 shows that the t-value 0.837 is obtained with a p-value of 0.164 computed at 0.05 alpha level. Since the p-value of 0.164 is greater than 0.05 level of significance, the null hypothesis two is retained. Therefore, there was no statistically significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on marital status ( $t_{198}$  = 0.837, p>0.05).

Ho<sub>3</sub>: There is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on education

**Table 4.** ANOVA summary of the difference in the perception of Ilorin Westcommunity residents on waste management practices in Kwara State, Nigeriabased on education

Variables	Sum of Squares	Df	Mean Square	F	Sig.	Remark
Between Groups	272.538	2	136.269			NL
Within Groups	16856.371	197	85.565	1.592	0.119	NOU
Total	17129.909	199				Rejected

\*Insignificance at p>0.05

As shown in table 4, the F-value of 1.592 with a p-value of 0.119 computed at 0.05 alpha level. Since the p-value of 0.119 obtained is greater than 0.05 level of significance, the null hypothesis four is retained. This thus implies that there was no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on education (F  $_{\{2, 197\}} = 1.592$ , p>0.05).

Ho<sub>4</sub>: There is no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on religions

Table 5. T-test statistics showing the difference in the perception of IlorinWest community residents on waste management practices in Kwara State,<br/>Nigeria based on religions

Religion	No	Mean	S. D.	Df	t-value	Sig	Remark
Christianity	72	20.441	2.389				NL 4
				198	1.427	0.131	NOT
Islam	128	19.518	2.742				Rejected

\*significance at p>0.05

Table 5 shows that the t-value 1.427 is obtained with a p-value of 0.131 computed at 0.05 alpha level. Since the p-value of 0.131 is greater than 0.05 level of significance, the null hypothesis four is retained. Therefore, there was no statistically significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on religions ( $t_{198}$  = 1.427, p>0.05).

### **DISCUSSION OF FINDINGS**

Findings from this study revealed that the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria was negative. Thus, the public collection point of solid waste is far from residents home, disposal of solid waste in public collection bins is not frequently used by residents of Ilorin West, increase in population size is a major problem of solid waste disposal in Ilorin West, there are health issues caused by improper waste disposal among residents in Ilorin West, solid waste is dumped by the road side in Ilorin West LGA, dumping of solid waste into drainages during rainfall is common in Ilorin West residence, drainages are blocked due to improper disposal of solid waste among residents in Ilorin West, residents do not participate actively in environmental sanitation or residence clean-up, open dumping is usually practice by residents of Ilorin West, and recycling method of solid waste like reuse of bottle is not practiced by resident in Ilorin West. However, it was disaffirmed that equipment for the disposal of waste is always available in Ilorin West residences for waste collection and management and the general waste disposal situation in Ilorin West residence is satisfactory. Waste management practices includes the whole process and procedures of keeping the environmental clean from waste (both domestic and industrial), keeping the surrounding air, and land free from all that could harm them and make them unfit for human usage and thus cause harm to human persons and other living organisms in the ecosphere and biosphere. This result substantiates Yongsi (2008) who submitted that environmental sanitation practices is a functional responsibility of both men and women to ensure a clean environ within villages, towns and cities in Nigeria.

Also, it was inferred that community participation was affirmed to influence environmental sanitation practices among residents of Ilorin West Local Government, Kwara State. Therefore, poor community participation is a common factor affecting environmental sanitation practices among residents of Ilorin West Local Government whom perceived community participation as a factor affecting environmental sanitation, many community members observe environmental sanitation practices, identification of community needs by projects influence environmental sanitation, and community participation can be considered favourable in terms of environmental sanitation by residents of Ilorin West Local Government. This result supports Sarker, Sarker, Islam & Sharmin, (2012) whose study revealed that despite the rather complex nature of community participation in the management of water resources, it is possible to identify the preconditions that create the enabling environment in which community management can occur. Important preconditions for Community Participation include: – There must be community demand for improved hygiene system while Raj (2010) asserted that community participation does not necessarily imply self-help home building by undernourished and over-worked people without credit; with inadequate tools and poor materials. The central issue is that of control and power to decide.

In the same vein, many residents of Ilorin West L.G.A. of Kwara State were found disposing their waste in open dumps. Although open dumpsites disposal method is a commonly adopted method of disposal in Kwara State and many of Nigerian cities which involves people disposing their waste on open grounds most often indiscriminately, they are generally unsanitary, unsightly and smelly, attracting rats, insects, snakes and flies. This finding corroborates Nwanta and Ezenduka (2010) whose study found that despite people's adequate knowledge of waste management practices, their residences were unclean and still surrounded with waste management practices while Rachel, Komine, Yauhara & Murakami (2009) submitted that in some Nigerian cities, the status of waste dumpsites, the continual advent of illegal dumpsites has been as a result of a failed waste management system despite having knowledge of waste management practices

The category of people that have negative attitude towards solid waste management practices could be perceived as people who littered the environment like nobody's business, without regard or respect to the environment. People do not consider the necessity to appraise or talk to neighbour about changing their negative attitude towards solid waste management practices. if an individual is seen littering any form of solid waste anywhere, it is necessary and compelling to inform the person to do the right thing by carrying out proper disposal of the waste but not by displaying any form of annoyance or correction to such situation. This result substantiates the findings of Nwanta and Ezenduka (2010) which revealed that residents with negative attitude act undisciplined in such a way that they kept on throwing their waste in the wrong place which leads to air or water pollution and can cause serious health issue. For instance, in Ilorin West Local Government Area of Kwara State, wastes are being dump indiscriminately by the road side, paper, plastic and polythene bag in open space including intentional dumping of solid waste in any available open drainage, giving the "I do not care" attitude while they await the downpour of rain to sweep it off.

In addition, findings of this study revealed that there was a statistically significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on gender. It was observed that male residents of Ilorin West Local Government Area hold negative perception of waste management practices than their female residents. Similarly, there was no statistically significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on marital status. in the same vein, there was no significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on education. Furthermore, findings indicated that there was no statistically significant difference in the perception of Ilorin West community residents on waste management practices in Kwara State, Nigeria based on religions. This is in line with Momodu, Dimuna, & Dimuna (2011) whose study revealed that there was no discrepancy in the community residents on waste management practices irrespective of marital status and religious practice.

#### CONCLUSION

Based on the findings obtained from this study, it could be concluded that perception of Ilorin West community residents on waste management practices was negative as public collection point of solid waste is far from residents home, disposal of solid waste in public collection bins is not frequently used, increase in population size is a major problem of solid waste disposal coupled with improper waste disposal among residents, solid waste is dumped by the road side, dumping of solid waste into drainages during rainfall is also a common practice in Ilorin West residence leading to block drainages in the community. It could also be concluded that no discrepancy in the in the perception of Ilorin West community residents on waste management practices regardless of marital status, education and religions.

### RECOMMENDATIONS

With respect to the findings of this study, the following recommendations are proffered:

- Government and those in charge of environmental sanitation services should endeavour to always make adequate bins available at every strategic areas and places for residents' proper waste management practices with a warning to penalize anyone found littering the place by improper waste management practices. This could help in cultivating positive attitude in residents towards proper waste management practices.
- 2. There should be public enlightenment among the residents and urban dwellers on proper solid waste practices, management and disposal. This could foster residents' knowledge of waste management practices in the society.
- 3. The new paradigm in waste management which entails preventing waste generation and exploiting waste as a resource should be encouraged coupled with compliance with waste management regulations in order to make residents dispose positive attitude towards proper waste management practices.
- 4. There should be proper planning and control to prevent the negative impact of waste on the environment. As a result, waste should be reprocessed before disposal of any remaining residues.
- 5. Waste management practices Mass media, television, radio, all can play an important role in enhancing residents' knowledge and

enable them cultivate positive attitude towards proper solid waste practices in the society.

- 6. Hygienic method of waste management practices is very important in addressing physical, biological, chemical and socio-cultural factors in the environment that may adversely impact on the health status of residents of Ilorin West Local Government Area as well as its environs.
- 7. There is need for public participation, non-governmental participation, private sector participation and stakeholders' participation in waste management practices. Both health and environmental benefits could be achieved if people play an important role in waste management practices so as to reduce its harmful effects or prevent from many harmful diseases.

#### **BIBLIOGRAPHY:**

- Ajzen, I. (2002). Perceived behavioural control, self-efficient, locus of control, and the theory of planned behaviour. *Journal of Applied Social Psychology*, *32*, pp. 665–683.
- Aliyu, A. A., & Amadu, L. (2020). Urbanization, cities, and health: The challenges to Nigeria – A review. Annals of African Medicine, 16(4), pp. 149–158.
- Amasuomo, E., & Baird, J. (2021). Solid Waste Management Trends in Nigeria. Journal of Management and Sustainability, 6(4), pp. 35–44.
- Awunyo-Vitor, D., Ishak, S., & Seidu, J. G. (2013). Urban Households' Willingness to Pay for Improved Solid Waste Disposal Services in Kumasi Metropolis, Ghana. Urban Studies Research.
- Bakare, W. (2022). Solid Waste Management in Nigeria. Retrieved from: https://www. bioenergyconsult.com/solid-waste-nigeria.
- Bernstein, J. (2014). Social assessment and public participation in municipal solid waste management toolkit. The World Bank
- Delgado, O. B., Ojeda-Bínitez, S., Márquez-Benavides, L. (2017). Comparative analysis of hazardous household waste in two Mexican regions. *International Journal of Waste Management*, 27(6), pp. 92–112.
- George, F. (2019). "Problem of Solid Waste Management in Nima, Accra". M. Sc Dissertation submitted to the Department of Geography. Legon: University of Ghana.

- Goh, M. L., Tong, D. Y. K., & Ahmed, E. M. (2019). Extended theory of planned behaviour: Model for measuring households' recycling behaviour in Malaysia. *Advanced Materials Research*, 62(3), pp. 1691–1695.
- Hilburn, A. M. (2015). Participatory risk mapping of garbage-related issues in a rural Mexican municipality. *Geographical Review*, 105(1), pp. 41–60.
- Imoh, E. U., Udofia, E. P. (2015). Domestic Solid Waste Management in a Rapidly Growing Nigerian City of Uyo. *Journal of Human Ecology*, 36(3), pp. 232–248.
- Kumar, R. (2012). *Municipal demand for solid-waste disposal services: The impact of user fees*. Ph.D. Dissertation, University of Maryland.
- Longe E. O., Williams, A. (2016). A preliminary study of medical waste management in Lagos metropolis, Nigeria. *Iranian J. Env. Health Sci. Eng.*, 3(2), pp. 133–139.
- Mariwah, S., Kendie, S. B., & Dei, A. L. (2019). Residents' perception of the solid waste problem in the Shama-Ahanta-East Metropolitan Area, Ghana, Oguaa. *Journal of Social Sciences*, 5(1), pp. 21–43.
- Marszałek-Kawa, J., Plecka, D., & Hołub, A. (eds.). (2018). *Social Security. Selected Aspects.* Toruń: Wydawnictwo Adam Marszałek.
- Mazhindu, E., Gumbo, T., & Gondo, T. (2020). Waste Management Threats to Human Health and Urban Aquatic Habitats – A Case Study of Addis Ababa, Ethiopia. Waste Management – An Integrated Vision. DOI: 10.5772/48077. Retrieved from: https:// www.intechopen.com/books/waste-management-an-integratedvision/waste-management-threats-to-human-health-and-urban-aquatic.
- Momodu, N. S., Dimuna, K. O., & Dimuna, J. E. (2011). Mitigating the impact of solid wastes in urban centres in Nigeria. *Journal of Human Ecology*, 34, pp. 125–133.
- National Bureau of Statistics. (2018). Demographic Statistics Bulletin. Abuja, FCT: National Bureau of Statistics.
- Narayana, T. (2019). Municipal solid waste management in India: From waste disposal to recovery of resources? Waste Management Journal, 29(3), pp. 1163–1176.
- National Environmental Standards and Regulations Enforcement Agency. (2007). National
- Environmental Standards and Regulations Enforcement Agency (Establishment) Act. Retrieved from: http://extwprlegs1.fao.org/docs/pdf/nig120569.pdf.
- Nwanta, J. A., & Ezenduka, E. (2010). Analysis of Nsukka Metropolitan Abattoir Solid Waste in West Eastern Nigeria: Public Health Implications. *Archives of Environmental and Occupational Health*, 65(1), pp. 21–26.
- Pinnock, M. (2018). Solid Waste: Its implications for Health. In: E. Thomas-Hope (ed.). *Solid Waste Management: critical issues for Developing Countries*. Canoe Press.
- Rachel, O. A., Komine, H., Yauhara, K., & Murakami, S. (2009). Municipal solid waste management in developed and developing countries: Japan and Nigeria as case studies. Solid Waste Audit Report, Federal Capital Territory, Abuja.

- Raj, S. C. (2010). An overview of solid waste management in Pacific Island Countries. *Biennial Conference and Exhibition*, pp. 5–7.
- Saghir, J., & Santoro, J. (2018). Urbanization in Sub-Saharan Africa: Meeting Challenges by Bridging Stakeholders. Retrieved from https://csisprod.s3.amazonaws.com/ s3fspublic/publication/180411\_Saghir\_UrbanizationAfrica\_Web.pdf?o02HMOfqh9 9KtXG6ObTacIKKmRvk0 Owd.

Sankoh, F. P., Yan, X., & Tran, Q. (2019). Environmental and health impact of solid waste

- disposal in developing cities: a case study of Granville brook dumpsite, Freetown, Sierra Leone. *Journal of Environmental Protection*, 45(4), pp. 20–32.
- Sarker, B., Sarker, S., Islam, M., & Sharmin, S. (2012). Public awareness about disposal of solid waste and its impact: A study in Tangail Pourashava, Tangail. *Journal of Envi*ronmental Science and Natural Resources, 5, pp. 239–244.
- Scheinberg, A., Wilson, D. C., & Rodic-Wiersma, L. (2019). Solid waste management in the world's cities. *Journal of Solid Waste Management*, 34(2), pp. 21–34.
- Scharfe, D. (2010). Integrated waste management plan. DOI: 10.3329/jesnr.v5i2.14821.
- Squires, C. O. (2006). Public Participation in Solid Waste Management in Small Island Developing States. MSc Research Paper, UWI, Cave Hill, pp. 1–50.
- Vicente, P., & Reis, E. (2008). Factors influencing households' participation in recycling. Waste Management and Research, 26, pp. 140–146.
- Yongsi, H. B. N. (2008). Environmental Sanitation and Health Risks in Tropical Urban Settings: Case study of Household Refuse and Diarrhea in Yaoundé -Cameroon. *International Journal of Human and Social Sciences*, 3(3), pp. 220–228.