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WASTE MANAGEMENT PRACTICES AND ENVIRONMENTAL SUSTAINABILITY IN OWERRI WEST, IMO STATE.

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ABSTRACT: Among third-world countries, including Nigeria and Owerri West in particular, the management of waste has posed a substantial challenge to environmental sustainability. This study examined waste management practices among households in Owerri West and their impact on environmental sustainability. Most of these practices are neither hygienic nor environmentally sustainable. The research aims to examine the types of household solid waste management practices with a view to identifying the most appropriate method for Owerri West Local Government Area, in order to ensure a sustainable environment. The descriptive survey research design was used in the study. The data used for the study were collected through observations, questionnaire administration, and oral interviews. A total of two hundred respondents were randomly selected from the 10 wards in the area. The data gathered were analysed using both descriptive statistics and inferential statistics to examine the relationship. The research revealed that the primary method of waste storage among households is the use of private bins (mean = 3.46). Open dumping is the most prevalent disposal method (mean = 3.50), while the most sustainable measure for waste management in the area is making the necessary machinery for waste management available and accessible. The study equally showed a significant relationship between waste management and a sustainable environment. The research recommends educating households on strategies for reducing solid waste generated in the area, while the government should provide households with waste collection bins and prompt waste evacuation.

Keywords: Waste Management, Practices, Households, Environmental Sustainability

INTRODUCTION

Waste management is one of the most significant environmental challenges affecting various regions of developing nations, including Owerri West Local Government in Imo State, Nigeria. The poor sanitary condition of the environment is exacerbated by human activities, such as waste generation, population growth, and the attendant increase in agricultural, industrial, and commercial activities. Wastes are substances, materials or objects discarded as worthless or unwanted, defective or of no further value for human economic productive activities or processes (Okechukwu, 2014). Jundal

(2019) defined waste as substances, materials, or objects that are disposed of in accordance with the provisions of a national law.

Wastes can exist in three different states: gaseous, liquid, and solid. People are more sensitive to solid waste than to other types of waste. This is because solid wastes have the potential to accumulate and physically harm the environment. In the past, the advanced effects of human activities were spread over a large area of land and sea. With the significant increase in pollution in recent times, the growth of cities, and rapid industrialisation, waste generation has increased substantially.

Solid waste, the main focus of this study, refers to unwanted materials that cannot be discharged directly into streams or released into the air immediately. They are non-liquid, non-gaseous residues of manufacturing, construction, cooking, recreation, agriculture and other activities that use and then discard materials. They include glasses, bottles, discarded papers, cartons, plastic, abandoned automobiles, automobile parts, discarded cooking utensils, wrappers, dead animals, and more.

Effective solid waste management is achievable only when socio-economic factors are integrated into solid waste management studies. This approach, according to Hudson and Jenkins (2010), would enable the prediction of a household's expenditure pattern and the amount of waste generated by each item consumed. It would also forecast the qualities of wastes generated by households. The first noteworthy attempt to study this problem using this approach was made by Boyd and Hopkin (2013). With limited success, it can be argued that this approach may make it possible to transform the data generated into an input for national solid waste generation projections, since households are the primary consumers of resources and generators of waste. Projection of this nature would assist environmental planners in tackling the problem of solid waste more effectively and rationally. In addition, waste management agencies may use the results of such studies as an instrument for improving or initiating innovations in waste management practices.

Improper waste management leads to pollution and subsequently degradation of the environment. It also adds substances that affect the environment, which in their nature and quantity constitute a menace to the health and well-being of the individuals, the society and the environment as a whole. The Environmental Act of the United Kingdom defines solid waste as any substance or object which the holder discards or intends to discard (Freeman, 2008).

The available infrastructure for absorbing solid wastes generated by households in Owerri West, Imo State, in particular and Nigeria in general is grossly inadequate. Consequently, uncontrolled proliferation of solid waste dumps is a common feature in most Nigerian cities. These solid wastes come in various sizes and compositions. For example, they could be small, medium, or large, depending on the number of households they serve, and they can consist of different types of waste, such as plastics, food leftovers, and papers. In most cases, these dumps are located in the backyards of dwelling units, on roadsides, in gutters, streams, and abandoned buildings, among other places. Most of the solid waste dumped in these sites is often invaded by scavenging animals, including humans, which scatter the waste, making it a breeding ground for disease vectors such as rats and flies. Besides direct contamination of water bodies by these wastes, leachates from decomposing and purifying solid wastes percolate into the soil and nearby water sources, which could cause diseases to humans when consumed. This is particularly the case with uncollected solid waste, which often

finds its way back to the neighbourhoods or into open river channels, becoming blocked and creating favourable breeding grounds for mosquitoes. In some cases, this also blocks drainage ways, thereby causing floods.

To effectively manage solid wastes and ensure an acceptable level of environmental quality required for sustainable growth and development in the area, developing or applying proper methods of household solid waste management practices becomes inevitable. Such methods require accurate information on the types of solid waste generated by households, the socioeconomic profiles of the households, and the waste management practices and mechanisms used by the households. Hence, this paper examines waste management practices in Owerri West in order to ensure a sustainable environment.

Statement of the Research Problem

Household waste generation typically increases with population growth, resulting from increased household activities. Owerri West is one of the local governments in Imo State experiencing unprecedented urbanisation with its attendant population growth. This has created the problem of household solid waste management in the area. The cost of maintaining the environmental quality also increases as the government now has much more waste to dispose of. Despite the setting up of Imo State Waste Management Agency (ISWAMA), the poor condition of solid waste management has remained unchanged, as the area is largely characterised by indiscriminate dumping of wastes, such as food waste, paper, polythene, scrap, etc, in virtually every nook and cranny of the area. This condition has created problems such as the accumulation of waste on the roads, which cause road and drainage blockages, air pollution due to open-air burning, and filth, all of which have adversely affected the general aesthetic nature of the environment, among other issues. There are also some health-related problems associated with improper waste management, such as cholera, typhoid, malaria, and diarrhoea. This has made it imperative to investigate current waste management practices among households in Owerri West and their contribution to environmental sustainability.

Research Questions

The research questions to guide this study include:

1. What do households in the study area generate the major types of solid waste?
2. What are the current waste management practices among households in Owerri West?
3. What appropriate measures can be engaged to ensure sustainable waste management in the area?
4. Is there any significant relationship between waste management practices and environmental sustainability?

LITERATURE REVIEW

Evolution of Waste Management

In more recent years, waste management practices have undergone significant changes due to increasing population, urbanisation, and industrialisation. With advancements in technology and changes in consumer behaviour, the amount and composition of waste have evolved. Johnson (2021) reveals that with the rise of consumer societies and the widespread use of plastics and non-biodegradable materials, the amount of waste generated has surged dramatically. Landfills and incineration are still common methods for managing waste, but modern waste management has evolved to include recycling programs, waste-to-energy facilities, and composting initiatives. These strategies aim to reduce environmental impact and promote a more sustainable approach to waste management practices.

Recycling efforts have become increasingly widespread, encouraging the reuse of materials such as paper, glass, plastic, and metals to conserve resources and reduce the burden on landfills. Waste-to-energy facilities have also gained popularity, providing a way to convert non-recyclable waste into energy through controlled incineration with energy recovery. This process not only minimises the volume of waste but also produces electricity or heat for various applications.

Furthermore, Johnson (2021), highlighted the importance of public awareness and education in waste reduction. Many communities now have initiatives to promote responsible waste disposal and encourage people to adopt eco-friendly habits, such as using reusable products, reducing the use of single-use items, and participating in community clean-up campaigns. Despite these advancements, challenges remain, including the management of electronic waste (e-waste) and the issue of plastic pollution in oceans and waterways. Hence, there is a need for continued research and policy development to address these waste management issues effectively.

Okafor (2021), on Efficient Management of Solid Wastes in Abakaliki Metropolis, Ebonyi State, Nigeria, emphasised the crucial role of proper waste management in ensuring environmental sustainability. The study examines the composition, storage, and disposal of waste, as well as the associated environmental implications. The research findings revealed the heterogeneous nature of waste composition in urban areas, where both designated and non-designated waste dump sites, often located on major streets and open spaces, are frequently left unattended for extended periods. This negligence leads to the accumulation of waste heaps, obstructing road access, causing air pollution when burnt, and detracting from the city's aesthetics.

Based on the observations and interviews, the study strongly recommends that the Ebonyi State Environmental Protection Agency (ENSEPA) adopt a more proactive approach and that the government explore the implementation of "waste-to-energy" solutions to address waste management challenges.

Osai and Adimoha (2022) emphasised the pressing challenges associated with mounting populations and the consequent surge in waste generation, with a notable focus on environmental sustainability, in their study on effective solid waste management in Aba, Abia State. The paper

highlights the suboptimal management practices related to solid waste, which can pose a range of hazards, significantly compromising environmental integrity. Particularly relevant to the study's context, the waste generated in the study area has a substantial potential for recycling. This resource can be harnessed through judicious solid waste management strategies. Misguided disposal practices, such as the improper deposition of solid waste in open sites and landfills, pose multifaceted challenges to public health and the environment. In an era deeply sensitive to climate concerns, the mismanagement of food waste, for instance, can lead to the production of methane gas—a greenhouse gas with a warming impact 21 times more potent than carbon dioxide, which is often wasted.

Objectives of Solid Waste Management

Solid waste management serves critical objectives in ensuring a sustainable environment, thereby safeguarding public health. According to Falama (2012), the following are the key objectives:

1. **Minimisation:** The foremost objective is to curtail waste generation at its source. This is achieved through strategies like waste reduction, reuse, and recycling. By doing so, valuable resources are conserved, environmental impacts are reduced, and sustainable consumption patterns are promoted.
2. **Treatment and Disposal:** It is imperative to handle waste that cannot be minimised or recycled in a safe and responsible manner. This involves the implementation of appropriate treatment methods and ensuring proper disposal to prevent pollution of soil, water, and air. This also contributes to protecting public health.
3. **Resource Recovery:** This objective emphasises the retrieval of valuable resources from waste through techniques such as recycling, composting, and other recovery methods. This practice diminishes reliance on newly extracted materials, conserves resources and supports the concept of a circular economy.
4. **Environmental Protection and Public Health:** The overarching aim is to safeguard the environment and public health. This entails minimising the environmental impacts associated with waste management. It encompasses activities such as pollution prevention, emission control, and addressing potential risks to human health and the environment.

Waste Hierarchy/Methods of Solid Waste Management

The waste hierarchy is a concept that guides waste management practices and prioritises actions based on their environmental impact (Davis, 2020). The waste hierarchy follows a descending order of preference, with the most environmentally favourable options at the top and less preferable options at the bottom. The waste hierarchy is as follows:

Reduce: The first and most important step is to reduce waste generation at its source. This involves minimising the amount of waste produced through practices such as product design, packaging reduction, and adopting sustainable consumption patterns. By reducing waste generation, fewer resources are consumed, resulting in less waste that needs to be disposed of or managed.

Reuse: The next step is to promote the reuse of products or materials whenever possible. This involves extending the lifespan of items by repairing, refurbishing, or re-purposing them. By reusing items, the need for new production is reduced, resulting in energy and resource savings.

Recycle: Recycling is the process of converting waste materials into new products or materials. It involves collecting, sorting, processing, and manufacturing recycled materials into new products. Recycling helps conserve resources, reduces energy consumption, decreases landfill waste, and mitigates environmental impacts associated with the extraction and production of virgin materials.

Recover: If waste cannot be reduced, reused, or recycled, the next step is to recover energy from it. Waste-to-energy processes, such as incineration, can be used to generate heat or electricity from non-recyclable waste. Energy recovery reduces reliance on fossil fuels, helps offset energy demands, and contributes to sustainable energy production.

Dispose: Disposal is the final step in the waste hierarchy and should be considered only when all other options have been exhausted. It involves the safe and environmentally sound disposal of waste that cannot be effectively managed through reduction, reuse, recycling, or energy recovery. Landfills and other specialised disposal facilities are used to manage the remaining waste, ensuring minimal impact on the environment and human health. To ensure sustainable waste management practices, it is necessary to prioritise waste reduction, recycling, and safe waste disposal (Johnson, 2019).

Other solid waste management/ disposal practices, although they may not be practised in the area, include;

Incineration: This method involves the controlled combustion of waste at high temperatures to reduce volume and may also generate energy in the form of heat or electricity.

Waste-to-Energy: Similar to incineration, this process involves controlled combustion at high temperatures, generating heat or electricity. Advanced technologies minimise emissions and recover energy, but careful management is essential for air pollution control and residue handling.

Landfilling: Landfills are engineered sites where waste is deposited and covered with soil to minimise environmental impacts. Modern landfills incorporate liners and leachate collection systems to prevent groundwater contamination. This method is suitable for non-recyclable and non-hazardous waste.

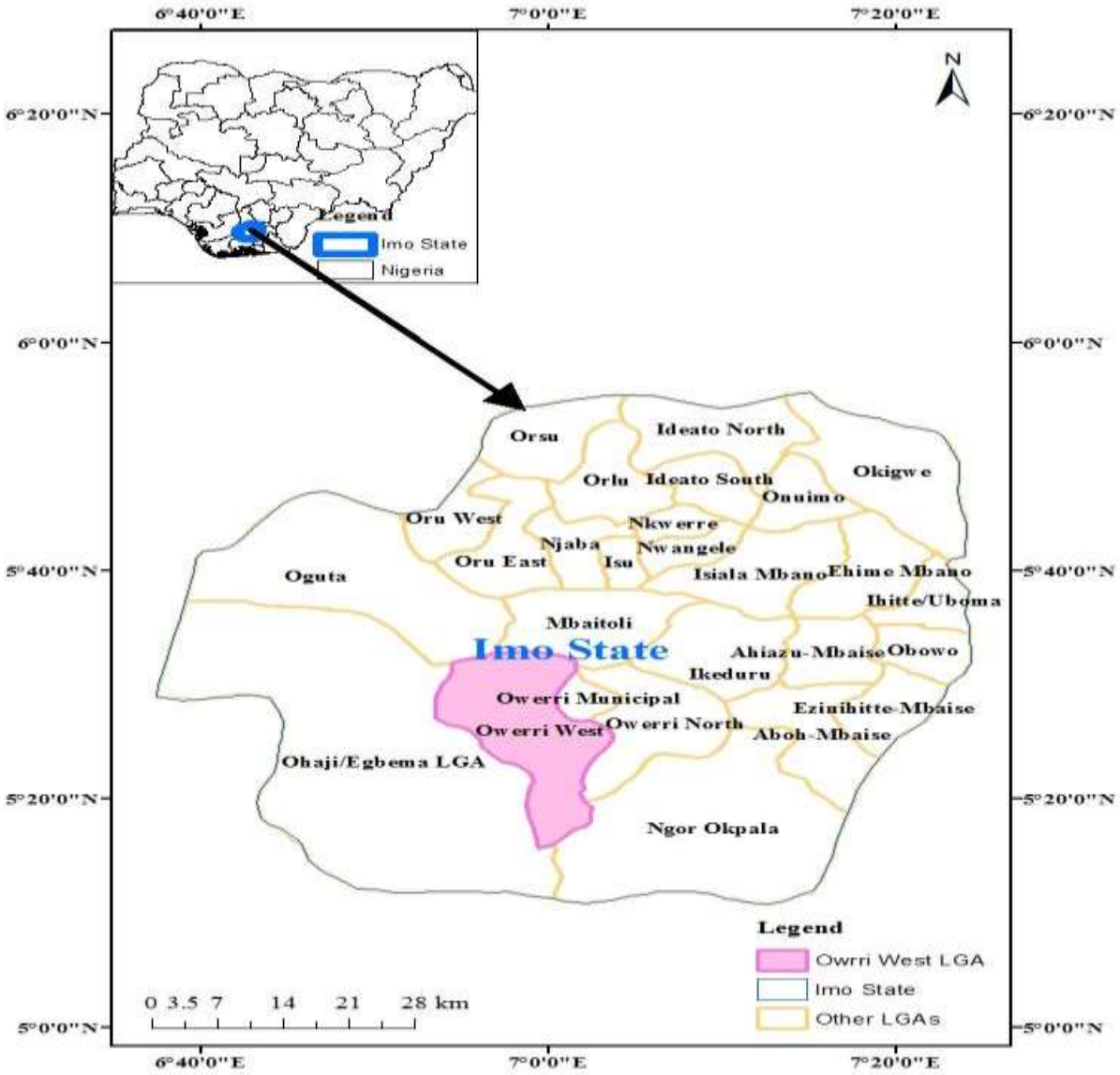
Hazardous Waste Management: Specialised handling and treatment are required for hazardous waste due to its potential risks. Methods include secure storage, chemical stabilisation, thermal treatment, or biological treatment, followed by disposal in dedicated hazardous waste facilities.

Waste Segregation and Collection: Proper waste segregation and efficient collection systems are crucial for effective waste management. Separating waste into different categories enables easier recycling and appropriate treatment or disposal of different waste streams.

Public Awareness and Education: Promoting public awareness and education about proper waste management practices, recycling, and the importance of waste reduction is vital. This fosters a culture of responsible waste management and encourages behavioural change.

METHODOLOGY

The Study Area: The study was carried out in Owerri West LGA of Imo State. The local government is situated within latitudes 5°16'30" N and 5°31'30" N, and longitudes 6°51'00" E and 7°5'00" E (Figure 1). It has an area of approximately 295 km² and a projected population of about 199,265 in 2025, based on the 2006 census figure (NPC, 2006). It is bounded in the north by Owerri Municipal Council, in the east by Owerri North L. G. A, west by Mbaitoli L. G. A and south by Ngor-Okpala LGA.



The study adopts the descriptive sample survey. The population of the study comprised the entire households in all ten wards of Owerri West Local Government Area of Imo State. The purposive sampling technique was used in selecting the respondents.

The instrument for data collection was a structured questionnaire, which was trial tested in another local government in the state to ensure its content and face validity. The split-half method yielded a 0.82 reliability coefficient. Twenty residents from each ward, both male and female, with a minimum age of 18, were selected purposively, and a questionnaire was issued to them. This was based on their knowledge of the research topic, enabling them to gather in-depth data from the population. The questionnaire was divided into two sections. Section A presents the demographic characteristics of the respondents, while Section B focuses on waste management practices and environmental sustainability in the area. Variables in the Likert scale were chosen based on the research questions and analysed using a 4-point Likert scale, with Strongly Agree = 4, Agree = 3, Disagree = 2, and Strongly Disagree = 1. The mean was calculated thus: 4+3+2+1 = 10/4 = 2.50. In the decision rule, any variable with a mean score of 2.50 and above was considered a major factor, whereas variables with a mean score of less than 2.50 were not considered. The analysis of data was based on descriptive statistics, which involved the use of the Statistical Package for the Social Sciences (SPSS). The chi-square test was used to assess the relationship, as there are two grouped variables (agreed and disagreed).

RESULTS AND DISCUSSION

Table 1: Socio-Demographic Information of Respondents

Variable	Category	Frequency	Percentage
	Male	80	40
	Female	120	60
	Total	**200**	**100**
Age Structure	18-30	110	55
	31-45	50	25
	46-60	25	12.5
	>60	15	7.5
	Total	**200**	**100**
Education Level	Primary	25	12.5
	Secondary	104	52
	Tertiary	50	25
	Others	21	10.5
	Total	**200**	**100**
Occupation	Civil Servant	42	21
	Farming	79	39.5
	Business	31	15.5
	Student	48	24
	Total	**200**	**100**

Source: *Researcher's Fieldwork, 2025.*

Table 1 above shows that more (60%) of the respondents are female, while 40% are male. This implies that females participate more in waste management than males in the area. Obaja (2016) shared the same opinion that females play a greater role in waste management in society than males.

Table 1 further shows the age structure of the respondents. The age group that participated in the survey in higher numbers is between 18-30 (55%), followed by those in the 31-45 age range, while the least represented are those above 60. This indicates that individuals aged 18-45 are the active segment of the population; hence, they play a significant role in every aspect of society.

Additionally, the education level, as presented in Table 1, indicates that the majority (52%) of respondents hold secondary education, followed by tertiary (25%) and primary education (12.5%). This implies that most respondents are educated enough to recognise what may be harmful to their health and the environment.

Finally, as shown in Table 1 above, the majority of respondents are farmers (39.5%), followed by students (24%). Other major occupations in the area include business and civil service. The result implies that most people will be able to afford the services rendered by the authorities in waste management if needed.

Table 2: Major Types of Solid Waste Generated in the Study Area

S/N	Types of Solid Waste	SA	A	D	SD	M	S/D	Remark
1	Food leftover	92 (46%)	86 (43%)	21 (10.5%)	1 (0.5%)	3.3	0.67	Accept
2	Clothing/Papers water sachet	58 (28%)	98 (49%)	36 (18%)	8(4%)	3.02	0.78	Accept
3	Bottles/ glasses	110 (55%)	70 (35%)	13 (6.5%)	7 (3.5%)	3.4	0.73	Accept
4	Aluminium/plastic cans	43 (21.5%)	40 (20%)	50 (25%)	67 (33.5%)	1.68	1.17	Reject
5	Wood/others	27 (13.5%)	6 (3%)	90 (55%)	77 (38.5%)	3.17	0.77	Accept

Source: *Researcher's Fieldwork, 2025.*

Table 2 shows the major types of solid waste generated as perceived by the households in the study area. Aluminium and plastic cans are not seen as a major waste generated in the area because such wastes are salvaged by the households who sell them to make money or picked up by human scavengers popularly called *akpakara* people in the study area, if such wastes eventually find their way to the waste disposal sites. This corroborates the study conducted by Oyebade (2020), whose finding revealed similar outcome.

Table 3: Current Waste Collection/ Storage Practices Adopted in the Study Area

S/N	Collection/storage	SA	A	D	SD	S/D	M	Remark
1	Packaged in poly bags	63 (31.5%)	52 (26%)	41 (20.5%)	44 (22%)	1.12	2.64	Accept
2	Floor/roadside	109 (54.5%)	68 (34%)	15 (7.5%)	8 (4%)	0.79	3.36	Accept
3	Communal bin	92 (46%)	76 (38%)	22 (11%)	10 (5%)	0.84	3.25	Accept
4	Curbside bin	37 (18.5%)	36 (18%)	68 (34%)	59 (29.5%)	1.06	2.23	Reject
5	Private bin	120 (60%)	56 (28%)	20 (10%)	4 (2%)	0.75	3.46	Accept

Source: *Researcher's Fieldwork, 2025*

Regarding waste collection / storage, Table 3 indicates that the private bin is the most commonly used method, with a mean of 3.46 out of the outlined collection/ storage methods. This was followed by floor/roadside collection with a mean of 3.36, while curbside was rejected as a method of waste collection/ storage in the area. The study results imply that there is a need to provide and subsidise the sale of such bins to enhance waste collection and storage.

Table 4: Waste Disposal Practices Adopted in the Study Area

S/N	Waste Disposal Practices	SA	A	D	SD	S/D	M	Remark
1	Landfill	28 (14%)	37 (18.5%)	61 (31%)	73 (36.5%)	0.94	2.44	Reject
2	Composting/open burning	107 (53.5%)	77 (38.5%)	10 (5%)	6 (3%)	0.72	3.39	Accept
3	Open dumping	118 (59%)	71 (36.5%)	5 (2.5%)	4 (2%)	0.63	3.50	Accept
4	Incineration	4 (2%)	25 (12.5%)	92 (46%)	79 (39.5%)	0.73	3.20	Accept
5	Paid-disposal	2 (2%)	20 (10%)	90 (45%)	86 (43%)	0.72	3.29	Accept

Source: Researcher's Fieldwork, 2025

The major waste disposal practices in the area are shown in Table 4 above. Data gathered from the respondents revealed that all the waste disposal practices shown on the table are major means of waste disposal in the study area, except landfill, with a mean of 2.44, which is below the mean average score. The most used method of waste disposal in the area is open dumping, with a mean of 3.50. This result implies that the waste disposal method in the area is ineffective, as waste is found littered at every nook and cranny of the area, with adverse consequences for environmental sustainability. The result aligns with the findings of Osai and Adimoha (2022), who, in a similar study, revealed that open dumping is the most prevalent method of waste disposal. Ogundu (2019) highlighted some waste disposal practices that are incompatible with environmental sustainability, including open dumping, incineration, and landfilling, among others. Hence, the current waste management practices in Owerri West are not environmentally sustainable.

Table 5: Measures to Ensure Sustainable Waste Management in the Area

S/N	Measures	SA	A	D	SD	S/D	M
1	Energising environmental inspection officers	51 (25.5%)	40 (20%)	106 (53%)	3 (1.5%)	0.72	3.0
2	Making the machinery needed for waste management available /accessible	95 (47.5%)	79 (39.5%)	22 (11%)	4 (2%)	0.75	3.29
3	Local councils taking full responsibility for the collection and disposal of waste within individual localities	86 (43%)	72 (36%)	33 (16.5%)	9 (4.5%)	0.84	3.16
4	Frequent evacuation of wastes by the authorities	75 (37.5%)	74 (37%)	43 (21.5%)	8 (4%)	0.86	3.05
5	Public enlightenment/orientation	79 (39.5%)	85 (42.5%)	31 (15.5%)	5 (2.5%)	0.76	3.14

***Source**: Researcher's Fieldwork, 2025.*

The information gathered from the respondents in Table 5 shows the perceived measures to ensure sustainable waste management in the area. These were equally rated on the 4-point Likert scale. The most viable measure for ensuring sustainable waste management in the study area is making machineries needed for waste management available /accessible (mean 3.29), followed by local council taking full responsibility for collection and disposal of wastes within individual locality (mean 3.16). When probed further on this, the respondents were of the opinion that the local councils are the nearest government close to them and can easily see these heaps of waste in their vicinity. Most researchers agreed that with the resrponsibility of waste collection and disposal handed over to the local councils, there will be tremendous improvement in solid waste management. (Jundal, 2019; Johnson, 2020; Okafor, 2021)

Table 6: Any significant impact of improper waste management practices on sustainable environment?

S/N	Impact	SA	A	D	SD	S/D	M
1	Ill health	110 (55%)	82 (41%)	5 (2.5%)	3 (1.5%)		
2	Flooding	63 (31.5%)	55 (27.5%)	48 (24%)	34 (17%)	1.02	2.35
3	Water pollution	74 (37%)	91 (45.5%)	24 (12%)	11 (5.5%)	1.31	2.12
4	Air pollution	107 (53.5%)	64 (32%)	19 (9.5%)	10 (5%)	0.85	3.31
5	High temperature	34 (17%)	49 (24.5%)	54 (27%)	63 (31.5%)	1.08	2.25

***Source:** Researcher's Fieldwork, 2025.*

Table 7: Chi-square test on the impact of waste management practices and environmental sustainability

Variables	$\chi^{2\ cal}$	$\chi^{2\ tab}$	Level of sig.	df	Remark
Agreed	23.87				
Disagreed	7.90				
Total	31.77	21.03	0.05	12	Significant

From the Table above, the calculated χ^2 value of 31.77 is greater than the tabulated χ^2 value of 21.03 at a 5% level of significance with 12 degrees of freedom. Hence, there is a significant impact of waste management practices and environmental sustainability, as indicated by the respondents.

Conclusion and Recommendation

Environmental Sustainability calls for efficient and effective management of wastes. This involves informed and efficient practices in the generation, collection, and disposal of waste among households. Ode and Ifeagba (2021) reported that households often generate large quantities of solid waste, including food leftovers, clothing, and plastics, among others. The study reveals that most waste management practices in the area are unsustainable. Waste collection and storage practices, such as gathering waste on the floor or by the side of the compound or roadside, breed pathogens that are detrimental to human health and the environment. This can equally cause loss of aesthetic appeal.

The waste disposal practices in the area, such as open burning, can release smoke and hazardous substances. Leachate from open dumping can contaminate surface water, soil and groundwater. From observations and interviews, it was noticed that there are no specific dumpsites in most parts of the study area, including waste collection bins. The majority of respondents in the interview indicated that waste evacuation occurs only occasionally, thereby compounding the issue. This can result in air, soil, and water pollution, which directly or indirectly affects the health of plants and animals, including humans and their environment. The study has exposed the poor waste management practices in the area and their implications for humans and the environment; hence, there is an urgent need to take proactive action to avert the dangers associated with them.

In order to achieve environmental sustainability through proper waste management practices in the area, the following recommendations were made;

1. Enlightening the households on the strategies for the reduction of solid waste generated in the area. Iwuala (2020) stressed the importance of waste reduction, which he said, coupled with recovery, reuse, and recycling, could prevent pollution, reduce or eliminate treatment and disposal costs, thereby reducing environmental impacts
2. While open burning and open dumping are common practices of waste disposal in the area, efforts should be made to shift towards eco-friendly methods like composting for organic waste. Implementing educational campaigns to raise awareness about these alternatives and encourage adoption among households

3. Emphasis on waste segregation at the source to facilitate effective recycling cannot be overemphasised. Materials like plastics and polyethene bags can be sorted out and used by households as a source of energy, while others can be recycled or used for composting. There is also a need for communities to collaborate with waste management authorities to optimise collection routes, ensuring consistent and timely waste removal services for all areas of the communities.
4. Organising regular workshops and training sessions for the households on proper waste management practices would foster a sense of responsibility and knowledge; hence, communities can actively contribute to reducing waste generation and promoting sustainable habits.
5. There is a need for the reinstatement and reactivation of environmental and health officers in Imo State and Nigeria in general.

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