



Waste management practices in Ibadan South West Local Government area, Oyo State, Nigeria

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Abstract

This study assessed waste management practices among residents of Ibadan South West Local Government Area, Oyo State, Nigeria, using a cross-sectional descriptive research design. A total of 134 questionnaires were distributed through a simple random sampling technique, with 100 being correctly completed and returned. Data collection employed validated self-developed questionnaires, and analysis was conducted using SPSS 25 at a 0.05 significance level. The study revealed that a significant portion of respondents were aged 41 and above (44%) and predominantly female (64%). Many had secondary education (32%) and were either unemployed (40%) or self-employed (38%), with 43% earning below ₦50,000 monthly. These socio-economic factors are consistent with existing literature on their impact on household behaviors and service access. Findings regarding waste management practices indicate an organized system with effective regulations. Ninety-one percent of respondents noted restrictions on waste bin contents, and 100% acknowledged the presence of recycling drop-off points, pickup days, and community education. However, significant challenges were identified, including inadequate infrastructure (81%), insufficient public awareness (65%), and economic costs. Problems such as overflowing waste bins, illegal dumping, noticeable odors, and environmental degradation were prevalent. The study underscores the need for improvements in waste management strategies, including enhancing infrastructure, increasing public education, enforcing regulations, and investing in modern technologies. Recommendations include better infrastructure development, robust public awareness campaigns, stricter regulatory enforcement, increased financial investment, promotion of source segregation, and addressing economic barriers. These measures are essential to addressing the challenges identified and improving waste management practices to safeguard public health and environmental sustainability.

Key words: Waste; Ibadan; South west Local Government; Assessment



1. Introduction

Globally, one major source of environmental health risks is human excrement. Inadequate waste management procedures cause contaminated edible goods, which raises the population's risk of infection and sickness (Rajashekar, 2019). Global trash production is estimated to reach 1.3 billion tonnes, with Nigeria producing 0.035% of the total (Kabera, 2019). Household garbage accounts for 85.8% of waste created in Nigeria. An average Nigerian produces 0.49 kg of solid garbage each day, whether they live in an urban or rural region. Nearly 10% of all urban waste is produced by homes and commercial buildings. Of this, around two thirds are carelessly disposed of in the streets and drains, posing major risks to public health (FAO, 2009).

Waste can be disposed of in a number of ways, such as land filling, which entails burying the waste in quarries that have been abandoned or used, mining voids, or burrow pits and covering it with layers of soil; incineration, which involves burning solid organic waste at a temperature of approximately 10,000 degrees Celsius to turn it into residue or gaseous products; dumping that takes place in an open area, either on land or in the water; Hog feeding is the practice of feeding leftover waste materials to animals such as pigs; mechanical destruction is the employment of machinery to destroy waste materials; and composting is the aerobic, biological process of decomposing biodegradable organic matter (Olusa, 2020). Recycling waste is the process of taking waste materials and turning them into raw products. This saves energy, money, natural resources, disposal expenses, hazardous emissions to the air and water, and creates jobs.

The largest indigenous community in Africa, Ibadan, produces a lot of rubbish every year that exceeds the capacity of public decision-makers. This led to the commercialization of waste management, with the collection and disposal of waste inside the city becoming under the purview of a public-private partnership. In Ibadan City, ineffective garbage management endures despite the participation of private waste companies. Refuse containers overflow, break down, and fill up. Residents of Ibadan and the city's biosphere are at risk because of this (Olusa, 2020).

According to the duo of World Health Organization and UNICEF assessment published in August 2004, poor sanitation might put 2.4 billion people in rapidly developing African and Asian cities at danger of preventable illness and death by the year 2015 (WHO, 2024). This further shown that poor sanitation, defined as a failing or non-existent sewage system and absence of toilets, promotes the development of illnesses including diarrhoea and cholera, the latter of which claims the life of a child every 21 seconds. In addition, the open dumpsite strategy used by the majority of Nigerian cities Ibadan in particular is antiquated, ineffective, and hazardous to human health and the environment (WHO, 2024).

Globally, socioeconomic development, urbanization, an uncontrollable massive population rate, and higher living standards in cities increase the amount and variety of waste generated. If it accumulates, it degrades the urban environment, affects natural resources, and causes health problems (Olusa, 2020). Dumping sites are becoming an increasing source of concern for communities in Nigeria, particularly in Ibadan South West Local Government Area, and they are a significant source of pollution in the air, water, and land (WHO, 2024). Solid waste management is becoming an environmental and public health concern in many countries, including Nigeria where appropriate systems for managing waste, from its source to its final disposal (landfill) or processing, are still poor and unsustainable. It does not meet the best practices of waste management (Kabera, 2019).

The aim of the study is to assess waste management practice among residents of Ibadan South West Local Government Area, Oyo State, Nigeria. The specific objectives were to

analyze the mode and frequency of solid waste collection, transportation and disposal;

determine the problems/challenges associated with solid waste in the study area;
 evaluate the magnitude of solid waste management problems/challenges in the study area; and
 design strategies for effective management of solid waste in the area.

2. Methodology

2.1. Research Design

A cross-sectional descriptive survey design was used in this investigation, which took a quantitative approach and was made useful in obtaining firsthand information.

2.2. Study Setting

The study was conducted in Ibadan South West Local Government Area, Ibadan, Oyo State, Nigeria.

2.3. Target Population

All residents in the study area as at the time the study was conducted were subjects of this study. A target population of 201 were selected randomly for the study.

2.4. Sample Size Determination

The sample size is that part in number of a population in a research because time and cost might serve as a limiting factor to the researcher. It is therefore, important that the calculated sample size adequately represents the study population (Kothari, 2004).

The researchers used Taro Yamane's formula (1974) to determine the sample size from the population.

Taro Yamane's formula is given as;

$$n = N / (1 + N(e)^2) \text{ where}$$

$$n = \text{sample size} = ?$$

$$N = \text{population under study} = 201$$

$$e = \text{margin error (0.05)}$$

$$\text{Using } n = N / (1 + N(e)^2)$$

$$n = 201 / (1 + 201(0.05)^2) = 201 / 1.5025 = 134$$

This implies a sample size of approximately 134 respondents.

2.5. Sampling Technique

A simple random sampling technique was adopted to select 134 respondents for the study. One respondent per residents was selected on a daily basis for a period of 3 weeks from Mondays to Saturdays between 8 am and 5 pm. To guarantee that no residents was chosen twice, the house no was indicated on each questionnaire register and a list of participant names was matched.

2.5.1. Inclusion Criteria

- One respondent per resident who are willing to participate in this study.

2.5.2. Exclusion Criteria

- All respondents who were sick or not willing to participate in the study were excluded.

2.6. Instrument for Data Collection

Self-developed questionnaire was used to collect data and was made as simple as possible for the respondents to understand. It had five sections. Respondents who could read or write completed the questionnaire themselves, and those who couldn't read or write were assisted and the questionnaire was interpreted to Yoruba language for the respondents who could not read English language.

The questionnaire was structured to four sections such as:

- Section A: socio-demographic data made up of age, religion and ethnicity;
- Section B: respondent's mode and frequency of solid waste collection, transportation and disposal;
- Section C: problems/challenges associated with solid waste in the study area;
- Section D: magnitude of solid waste management problems/challenges in the study area; and

Section E: respondent's strategies for effective management of solid waste in the area.

2.7. Validity of Instrument

Various measures were taken in order to ensure the validity of the instrument and clarify their appropriateness. The instrument was carefully designed using simple words that were based on pertinent variables from the literatures reviewed. The design of the instruments was also based on relevant theoretical framework.

2.8. Reliability of Instrument

To examine the validity, reliability, and correctness of the questionnaire, 14 questionnaires were used to do a pretest in Ibadan South East Local Government Area. This was to ensure that the instrument was appropriate and thus can answer the entire research questions. Analysis was done using inferential statistics. A cronbach alpha result of more than 0.7 was considered as reliable.

2.9. Method of Data Collection

During quantitative data collection the researchers will introduce themselves to the respondents who were selected to participate in the study. The consent form was read to each respondent after which the respondent either accepted or declined to participate in the study. All the respondents were allowed at least 20 minutes to fill the questionnaires after which they were collected for coding, cleaning and data entry. A total of number of 134 questionnaires were distributed and also retrieved.

2.10. Method of Data Analysis

Data collected was organized, coded and entered into SPSS version 25. Descriptive analysis of data was done using simple frequency tables, simple percentages, mean and standard deviation. Inferential statistics of regression was used to test the hypothesis.

3. Data Analysis and Interpretation

The data gathered were presented according to the order in which they were arranged in the research questions and simple percentage were used to analyze the demographic information of the respondents while SPSS was used to analyze the raw data obtained from the questionnaire distributed among the respondents. 134 questionnaires were distributed while 100 were retrieved back, and correctly filled making 75% return rate. Therefore, analysis was based on 100 questionnaires.

3.1. Analysis of Demographic Data of Respondents

Table 1: Respondents' Social-demographic characteristics

Socio-demographic Data	Frequency	Percentage (%)
Age		
20 – 25	4	4
26 – 30	6	6
31-35	10	10
36-40	36	36
41and above	44	44
Total	100	100
Religion		
Christianity	52	52
Islam	40	40
African Traditional	8	8
Total	100	100
Gender		
Male	36	36
Female	64	64
Total	100	100
Level of education		
Primary	21	21
Secondary	32	32
Tertiary	18	18
Skilled Training	29	29
None	-	-
Total	100	100
Employment Status		
Employed	22	22
Unemployed	40	40
Self-employed	38	38
Total	100	100
Family monthly income		
< ₦50,000	43	43
₦50,001- 100,000	31	31
₦ 100,001- 200,000	20	20
Above ₦200,000	6	6
Total	100	100
Marital Status		
Single	6	6
Married	60	60
Divorced	14	14
Separated	11	11
Widowed	9	9
Total	100	100

Table 1 summarizes the socio-demographic characteristics of 100 respondents. The largest group, 44% were 41 years or older, while 36% were aged 36-40. Those aged 20-25 formed the smallest group at 4%. 52% were Christians, 40% Muslims, and 8% practiced African Traditional Religion. The sample was predominantly female (64%), with males at 36%. 32% had secondary education, 29% had skilled training, 21% primary, and 18% tertiary. 40% were unemployed, 38% self-employed, and 22% employed. 43% earned less than ₦50,000 monthly salary, and only 6% earned above ₦200,000. 60% were married, 14% divorced, 11% separated, and 6% single.

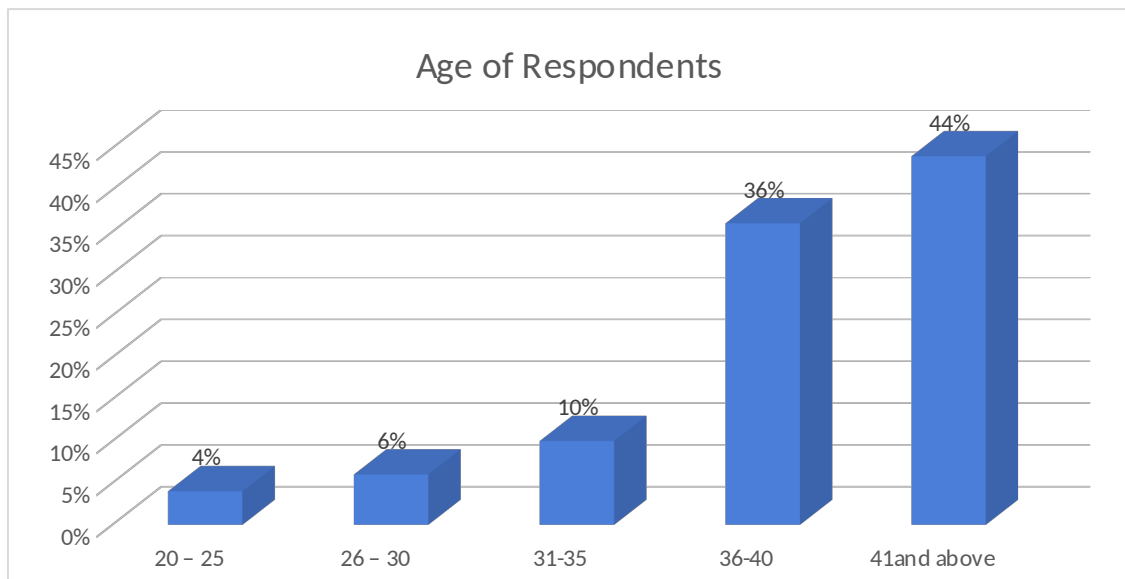


Fig 1: Age of respondents

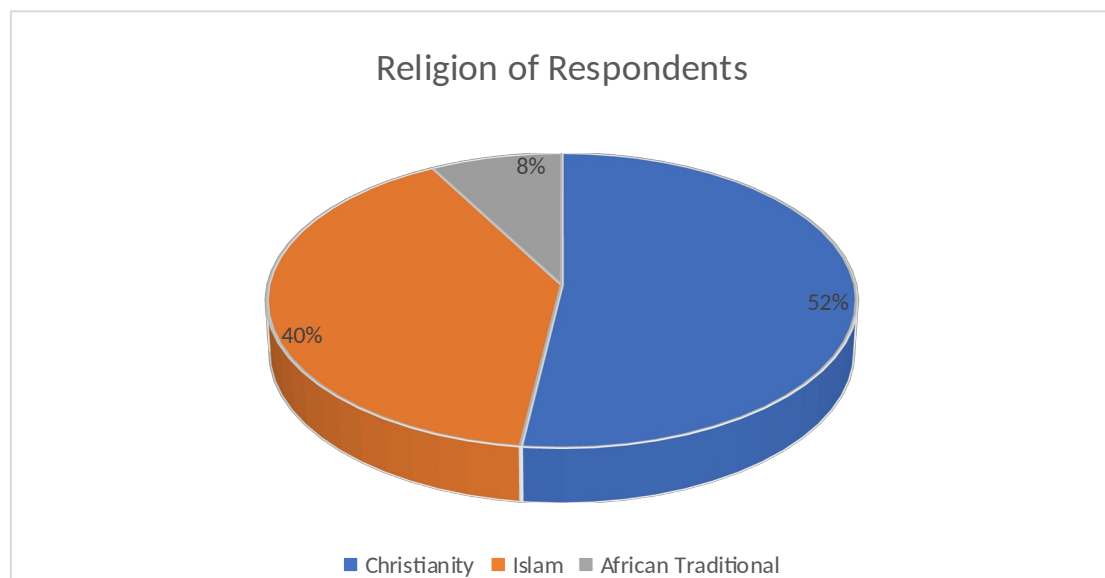


Fig 2: Respondents' religion

3.2. Presentation of Responses to Questionnaire

Table 2: Mode and frequency of solid waste collection, transportation and disposal

S/N	Items	Yes F(%)	No F(%)
1.	Are there restrictions on the types of materials accepted in regular waste bins?	91(91)	9(9)
2.	Does your area offer drop-off locations for recyclable materials?	100(100)	0(0)
3.	Are there designated recycling pickup days separate from regular waste collection?	100(100)	0(0)
4.	Is there a community-wide education program on waste sorting and recycling?	100(100)	0(0)
5.	Are there any initiatives in place for composting organic waste separate from regular waste streams?	100(100)	0(0)

6.	Is there a separate fee for bulky item collection in your area?	100(100)	0(0)
7.	Does your community provide curbside pickup for hazardous waste?	100(100)	0(0)
8.	Are there penalties in place for improper disposal of waste?	83(83)	17(17)
		Municipal Contractor s	Private Contractors
9.	Is solid waste collection in your area primarily conducted by municipal trucks or private contractors?	100(100)	0(0)
		Manual methods	Automated methods
10.	Does your community utilize manual or automated methods for solid waste collection?	75(75)	25(25)
		Weekly	Bi-Weekly
11.	Is the frequency of solid waste collection in your area weekly or bi-weekly?	100(100)	0(0)
		Landfills	Waste-to- energy facilities
12.	Is solid waste primarily transported to landfills or waste-to-energy facilities?	100(100)	0(0)

3.3. Dichotomous (Yes (2.0), No (1.0))

Table 2 provides information on the mode and frequency of solid waste collection, transportation, and disposal in a given area. Ninety one percent 91% of respondents indicated that there are restrictions on materials accepted in regular waste bins, while 9% disagreed. 100% confirmed that the area offers drop-off locations for recyclable materials, designated recycling pickup days, and community-wide education programs on waste sorting. Composting initiatives are also present, with full agreement (100%). A separate fee for bulky item collection is in place, and 83% mentioned penalties for improper disposal. All respondents confirmed that solid waste collection is conducted by municipal contractors (100%) using primarily manual methods (75%). Waste is collected bi-weekly (100%) and transported to landfills (100%). In summary, waste management services in the community are highly structured, with comprehensive recycling and composting systems, strict penalties, and a reliance on landfills.

Table 3: Problems/Challenges associated with solid waste in the study area

S/N	The following are the problems/challenges associated with solid waste management	Strongly Agree F(%)	Agree F(%)	Disagree F(%)	Strongly Disagree F(%)	Undecided F(%)
1.	Inadequate waste management infrastructure	81(81)	19(19)	0(0)	0(0)	0(0)
2.	Improper waste disposal behaviors among community members	72(72)	28(28)	0(0)	0(0)	0(0)
3.	Insufficient government regulations and enforcement regarding waste management	82(82)	18(18)	0(0)	0(0)	0(0)
		Not a Problem	Slight Problem	Moderate Problem	Significant Problem	Very Significant Problem

4.	How much of a problem do you think inadequate public awareness and education about proper waste disposal practices are in your area?	0(0)	6(6)	8(8)	21(21)	65(65)
		Very Low Concern	Low Concern	Moderately Low Concern	High Concern	Very High Concern
5.	Please rate the level of concern you have regarding the environmental impacts of improper solid waste disposal (e.g., pollution, habitat destruction):	0(0)	0(0)	16(16)	24(24)	60(60)
		Not at all	Slightly	Moderately	Significant	Extremely
6.	How much do you believe the lack of public participation and engagement in waste reduction initiatives contributes to solid waste problems?	0(0)	15(15)	17(17)	15(15)	53(53)
		Very Ineffective	Ineffective	Neutral	Effective	Very Effective
7.	Please rate the effectiveness of current waste collection and disposal practices in your community in addressing the solid waste problem	14(14)	20(20)	30(30)	24(24)	12(12)
		Very Low Concern	Low Concern	Moderate Concern	High Concern	Very High Concern
8.	How much of a concern do you think the economic costs associated with solid waste management pose for your community?	12(12)	13(13)	18(18)	25(25)	32(32)

3.4. Strongly Agree (SA) 4.0, Agree (A) 3.0, Disagree (D) 2.0, Strongly Disagree (SD) 1.0, Undecided (U) 0.

Table 3 highlights the challenges associated with solid waste management in the study area, summarized as follows. 81% strongly agree that infrastructure is insufficient, while 19% agree. The item 'Improper Disposal Behaviors' revealed that 72% strongly agreed and 28% agreed. The item 'Insufficient Regulations' depicts that 82% strongly agreed and 18% agreed that government enforcement is lacking. As regards Public Awareness, 65% see inadequate awareness as a very significant problem and 21% reported significant. Regarding Environmental Concerns, 60% have very high concern about improper disposal. As regards Economic Costs, 32% consider them a very high concern. Concerning Waste Collection Effectiveness the respondents' opinions vary, with only 12% rating it very effective. The findings reveal strong concerns about infrastructure, public awareness, and economic costs of waste management.

Table 4: Magnitude of solid waste management problems/challenges in the study area

S/N	Items	YES F(%)	NO F(%)
1.	Are overflowing waste bins a common sight in public areas within your community?	67(67)	33(33)
2.	Does the community experience frequent instances of illegal dumping or littering?	91(91)	9(9)

3.	Are there noticeable odors emanating from waste disposal sites or collection points in your community?	100(100)	0(0)
4.	Have there been reports of wildlife disturbances or health hazards due to improper solid waste management practices in your community?	78(78)	22(22)
5.	Are there visible signs of environmental degradation, such as soil or water contamination, linked to solid waste mismanagement in your community?	100(100)	0(0)

3.5. Yes (2.0), No (1.0)

Table 4 highlights the extent of solid waste management challenges in the community. Sixty seven percent(67%) of respondents noted that overflowing waste bins are a frequent sight in public areas, indicating inefficiencies in waste collection, while 33% disagreed. 91% observed frequent instances of illegal dumping or littering, suggesting poor regulation and public compliance, whereas 9% did not report this issue. All respondents (100%) confirmed noticeable odors emanating from waste disposal sites or collection points, highlighting health and environmental risks. 78% of respondents acknowledged wildlife disturbances or health risks linked to improper waste management, whereas 22% did not. 100% of respondents reported visible signs of environmental degradation, such as soil and water contamination, directly linked to improper solid waste management practices. These results show widespread issues related to waste management, posing significant environmental and public health challenges.

Table 5 Strategies for effective management of solid waste

S/N	Items	Very Ineffective F(%)	Ineffective F(%)	Neutral F(%)	Effective F(%)	Very Effective F(%)
1.	Please rate the effectiveness of community-wide recycling programs in promoting waste diversion and reduction:	84(84)	16(16)	0(0)	0(0)	0(0)
2.	How effective do you think public education and awareness campaigns are in promoting responsible waste disposal behaviors among community members?	30(30)	23(23)	30(30)	17(17)	0(0)
3.	Please rate the effectiveness of implementing waste segregation at the source (e.g., households, businesses) in improving recycling rates and reducing waste contamination.	33(33)	60(60)	7(7)	0(0)	0(0)
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
4.	To what extent do you believe incentivizing waste reduction initiatives (e.g., pay-as-you-throw programs, rebates for composting) encourages community participation in waste management efforts?	22(22)	13(13)	20(20)	15(15)	25(25)
5.	To what extent do you believe investing in modern	0(0)	0(0)	0(0)	37(37)	63(63)

	waste management technologies (e.g., waste-to-energy, composting) is crucial for sustainable waste management?					
6.	To what extent do you think investing in infrastructure for proper waste collection, transportation, and disposal facilities is essential for effective solid waste management?	71(71)	29(29)	0(0)	0(0)	0(0)
		Very Unimportant	Unimportant	Neutral	Important	Very Important
7.	Please rate the importance of implementing strict waste disposal regulations and enforcement mechanisms for mitigating solid waste management challenges:	0(0)	(0)	0(0)	54(54)	46(46)
		Not Valuable at All	Slightly Valuable	Moderately Valuable	Very Valuable	Extremely Valuable
8.	How valuable do you perceive collaboration between government agencies, private sector stakeholders, and community organizations in addressing solid waste management issues?	0(0)	0(0)	0(0)	10(10)	90(90)

Table 5 outlines strategies for effective solid waste management. Community-wide recycling programs were rated as very ineffective by 84% of respondents, and ineffective by 16%, showing little success in promoting waste reduction. Public education campaigns were viewed as mostly ineffective, with 30% rating them very ineffective, 23% ineffective and only 17% effective. Waste segregation at the source was found ineffective by 93% of respondents. Incentivizing waste reduction had mixed responses, with 25% strongly disagreeing, 22% strongly agreeing. Modern waste technologies were seen as crucial, with 63% strongly agreeing on their importance. Investing in infrastructure was highly regarded as essential, with 71% strongly agreeing. Strict regulations were considered important by 100% of respondents. Collaboration between stakeholders was valued highly, with 90% rating it extremely valuable. These responses indicate challenges in the current strategies, particularly in recycling programs and public education, while investments in technology and collaboration are seen as critical solutions.

4. Discussion

4.1. Demographic Characteristics

The socio-demographic data from Table 1 suggests that the respondents are predominantly in the age group of 41 and above (44%) and are largely female (64%). A significant portion of the respondents has secondary education (32%), and most are either unemployed (40%) or self-employed (38%). The majority fall in the lower income bracket, with 43% earning below ₦50,000 monthly. A similar pattern was observed in a study by Akande (2021), where socio-economic factors such as income and education significantly influenced household behaviors and access to services.

4.2. Research Question 1: What is the mode and frequency of solid waste collection, transportation and disposal?

Table 1 highlights a well-structured solid waste management system in the community, with clear regulations and efficient services. Ninety-one percent of respondents report restrictions on materials accepted in waste bins, and 100% confirm the availability of drop-off locations for recyclables, recycling pickup days, and community-wide education programs. This aligns with a study by Ijeoma (2022), which emphasized that community-wide waste management education and strict disposal penalties significantly improve waste collection and recycling efficiency.

4.3. Research Question 2: What are the problems/challenges associated with solid waste in the study area?

Table 3 from the study provides a comprehensive overview of the challenges in solid waste management, with a strong emphasis on infrastructure, public awareness, and economic costs. The findings reflect a significant consensus on the need for improved infrastructure, as 81% of respondents strongly agree that it is insufficient. This concern aligns with the research by Torgal and Lemos (2022), which highlights that inadequate infrastructure, is a critical barrier to effective solid waste management in urban areas. Torgal and Lemos (2022) emphasize that the lack of proper infrastructure impedes efficient waste collection and disposal, exacerbating environmental and public health issues. Their study also underscores the importance of public awareness and regulatory enforcement, aligning with your findings where 65% of respondents highlight inadequate public awareness as a major issue, and 82% express concern over insufficient government regulations. The study's results on environmental concerns and economic costs further resonate with their findings, where high economic costs are identified as a barrier to effective waste management.

4.4. Research Question 3: What is the magnitude of solid waste management problems/challenges in the study area?

Table 4 provides a detailed account of the prevalent challenges associated with solid waste management in the community. The data highlights several critical issues: frequent overflowing of waste bins, illegal dumping, noticeable odors from waste sites, wildlife disturbances, and environmental degradation. The findings of the study resonate strongly with the research conducted by Adama *et al.* (2021). Their study reveals similar concerns about waste management inefficiencies, emphasizing that overflowing waste bins and illegal dumping are prevalent issues in many urban and peri-urban areas. Adama *et al.* (2021) also report that poor regulation and inadequate public compliance contribute significantly to these problems, aligning with the 91% of respondents in the study who observed frequent illegal dumping and littering. Moreover, their research highlights the health and environmental risks associated with waste management practices, including noticeable odors and environmental degradation, which mirror the 100% of respondents in the study who reported these issues. Both studies underscore the urgent need for improved waste management strategies to address these widespread challenges and mitigate their impact on public health and the environment.

4.5. Research Question 4: What are the strategies for effective management of solid waste in the area?

The data from Table 5 shows significant dissatisfaction with current waste management strategies, especially in areas like public education campaigns and source segregation. However, investments in modern waste technologies and infrastructure are recognized as crucial for sustainable waste management. A journal article by Chanza and Musakwa (2021) similarly highlights that waste management success in many communities depends on technology adoption and infrastructure investments. They emphasize that without modern

technologies, efforts to manage solid waste remain ineffective, which aligns with the respondents' views in this study.

5. Summary of Findings, Conclusion and Recommendations

5.1. Summary

The study was carried out to assess Waste Management Practice among Residents of Ibadan South West Local Government Area, Oyo State, Nigeria. A cross-sectional descriptive research design was adopted using a simple random sampling technique. 134 questionnaires were selected to be administered and 100 questionnaires were correctly filled and returned. Data collection was through the use of validated self-developed questionnaires. The questionnaires were used to obtain socio demographic data of the respondents, and then four other sections were on questions to examine respondent's mode and frequency of solid waste collection, transportation and disposal, examine the problems/challenges associated with solid waste in the study area, determine the magnitude of solid waste management problems/challenges in the study area, and to assess respondent's strategies for effective management of solid waste in the area. The mode and frequency of solid waste collection were rated highly by 96% of the respondents, indicating efficient waste collection practices in the area. Additionally, 79% of participants demonstrated a strong understanding of the challenges associated with solid waste management, including inadequate infrastructure and improper disposal behaviors. Regarding the magnitude of these problems, 87% of respondents displayed a good awareness of the impacts, such as environmental degradation and health risks. However, when it came to knowledge of strategies for effective waste management, 63% of respondents indicated only fair knowledge, highlighting the need for enhanced public education and stronger initiatives to improve waste management practices in the community.

5.2. Conclusion

In conclusion, the study highlights several critical issues in solid waste management within the community. The socio-demographic profile indicates a largely middle-aged and female population with varying educational and economic backgrounds, which influences their perspectives on waste management. Despite a structured waste management system with clear regulations and community education, significant challenges remain, including inadequate infrastructure, insufficient public awareness, and economic constraints. Problems such as overflowing waste bins, illegal dumping, and noticeable odors further exacerbate environmental and health risks. The study underscores the need for improved infrastructure and investment in modern technologies. Effective waste management strategies must address these gaps to enhance public health and environmental sustainability. The findings align with existing research, emphasizing the urgency of comprehensive waste management reforms and continued community engagement.

5.3. Recommendations

Based on the findings in this study, the following recommendations are made;

1. Invest in upgrading and expanding waste management infrastructure, including more waste bins, efficient collection systems, and advanced recycling facilities, to address the prevalent issues of overflowing bins and inadequate waste processing.
2. Implement comprehensive community education campaigns focused on proper waste disposal practices and the benefits of recycling. Regular workshops and outreach programs should be conducted to increase public understanding and compliance.

3. Enforce stricter waste management regulations and introduce penalties for illegal dumping and littering. Regular inspections and monitoring should be carried out to ensure compliance and address violations promptly.
4. Allocate more funds towards waste management technologies and infrastructure. Public-private partnerships could be explored to facilitate investments in modern waste processing and recycling technologies.
5. Encourage and facilitate source segregation of waste through public education and the provision of separate waste bins for recyclables, organics, and non-recyclables. This will improve recycling efficiency and reduce contamination.
6. Develop financial support mechanisms, such as subsidies or incentives, for low-income households to participate in waste management programs. This could help mitigate the economic barriers to effective waste management and promote broader community involvement.

5.4. Suggestion for further studies

The study is confined to assess waste management practice among residents of Ibadan South West Local Government Area, Oyo State, Nigeria. We hereby call for further studies on the areas like knowledge attitude and practice of waste management among the residents in the community.

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