

Influence of Indiscriminate Refuse Dumping on Public Health: A Study of Etsako West, Edo State

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The study examined the Implication of Indiscriminated Dumping of Refuse in Etsako West, Edo State which traced the effect on public health and destruction on the ecosystem. A structured questionnaire format was used based on samples from 100 residents to gather data on perception and behavior on waste disposal practices. The analysis was done through the simple percentage method to have a numerical representation of responses and findings were that there exist a strong relationship between poor waste handling practices leading to health risk such as disease outbreak and environmental hazard. Results show that poor waste disposal and public perception are the main causes of this problem. The preponderance of refuse generated may be one of the causes of excessive refuse clearance, hence requiring some immediate intervention to meeting a sustainable waste management need for the people living in Etsako West, which will translate into healthy habitable environment for fast growing population residing in the study area.

Keywords: Indiscriminate, Dumping, Ecosystem, Preponderance, Perception **Abstract**

Introduction

dumping of refuseIndiscriminately is a pressing environmental challenge that has garnered significant attention in recent years. In many regions, especially in developing countries, the lack of effective waste management systems has led to alarming rates of pollution and public health crises. The case study of Etsako West in Edo State, Nigeria, exemplifies the dire consequences of this issue, where improper waste disposal practices have resulted in severe environmental degradation and health risks for the local population (Akanbi et al., 2021).The rapid urbanization and population growth in Etsako West have exacerbated the refuse problem. As cities expand, the volume of waste generated increases, often outpacing the available infrastructure for waste management. Studies indicate that inadequate planning and insufficient resources contribute significantly to the rise in indiscriminate dumping (Ogunjimi et al., 2022). The situation is compounded by limited public awareness regarding the impacts of waste mismanagement.

In Etsako West, residents have developed the habit of frequently dumping of refuse in open spaces, water bodies, and along roadsides. This behavior can be attributed to several factors, including cultural practices, economic constraints, and the perceived lack of enforcement of environmental regulations (Eze et al., 2023). Such practices not only tarnish the landscape but also pose serious health hazards, as they attract pests and contribute to the spread of diseases.The

environmental consequences of indiscriminate dumping are multifaceted. Contaminated water sources can lead to outbreaks of waterborne diseases, while the accumulation of refuse can create breeding grounds for mosquitoes and other vectors (Nwankwo et al., 2021). In Etsako West, cases of cholera and malaria have been linked to the improper disposal of waste, highlighting the urgent need for effective intervention strategies.Moreover, the socio-economic implications of poor waste management are profound. Communities affected by refuse dumping often experience decreased property values and a decline in tourism, which can hinder local economic development (Ogbodo et al., 2022). The negative perception of the area as a result of environmental neglect can deter investment and exacerbate poverty levels among residents.Government efforts to address waste management in Nigeria have been sporadic and often lack the necessary coherence and commitment. While there are policies in place aimed at improving waste disposal practices, enforcement remains weak, leading to continued non-compliance among residents (Abdullahi et al., 2023). This gap between policy and practice underscores the importance of community involvement and awareness in addressing the issue.

The role of education in promoting

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responsible waste management cannot be overstated. Initiatives aimed at educating the community about the dangers of indiscriminate dumping and the benefits of recycling and proper waste disposal are essential for fostering a culture of environmental stewardship (Adeleke et al., 2022). Such programs can empower residents to take ownership of their environment and advocate for better waste management practices. Furthermore, the integration of local government and community efforts can enhance the effectiveness of waste management strategies. Collaboration between stakeholders, including local leaders, environmental groups, and residents, can facilitate the development of sustainable waste management systems tailored to the unique needs of Etsako West (Ibrahim et al., 2023). This approach not only encourages local participation but also ensures that solutions are culturally relevant and practical. In conclusion, the indiscriminate dumping of refuse in Etsako West is a multifaceted problem that necessitates urgent attention. The interplay of environmental, health, and socio-economic factors illustrates the complexity of waste management in the region. Addressing this challenge requires a holistic approach that combines education, community involvement, and robust policy enforcement to promote sustainable waste disposal practices and protect public health (Chukwu et al., 2024)

Literature Review

Waste Management Issues

Waste management refers to the process of collecting, transporting, processing, and disposing of waste materials. Indiscriminate refuse dumping has emerged as a significant environmental challenge in many urban areas like Etsako West, particularly in developing nations. The lack of proper waste management systems often results in serious health risks and environmental degradation (Omokhodion & Omokhodion, 2021). In Etsako West, Edo State, this issue is exacerbated by inadequate infrastructure and public awareness, contributing to a public health crisis.

The Impact of Poor Waste Disposal on Public Health

Research indicates that improper waste disposal is linked to various health problems, including respiratory diseases, vector-borne illnesses, and other sanitation-related diseases (Pérez et al., 2022). In Etsako West, the accumulation of waste not only pollutes the environment but also creates breeding grounds for disease vectors like mosquitoes, leading to increased morbidity rates in the community.

Environmental Degradation and Biodiversity Loss

Indiscriminate dumping contributes to soil and water contamination, affecting local biodiversity (Adebayo et al., 2023). In Etsako West, the local flora and fauna are under threat due to pollution, disrupting ecosystems and leading to loss of species. Studies show that environmental degradation significantly impacts food security and local livelihoods (Obinna, 2022).

Socio-Economic Implications of Waste Mismanagement

The socio-economic impact of poor waste management practices is profound. Communities burdened by waste often experience decreased property values and deterred investment (Nwankwo, 2021). In Etsako West, economic activities have been hampered by health concerns and reduced tourism, further aggravating local poverty.

Cultural Attitudes Towards Waste Disposal

Cultural beliefs and practices play a crucial role in waste disposal behaviors. In many Nigerian communities, traditional practices may conflict with modern waste management strategies (Ogunbode & Olawale, 2023). Understanding these cultural nuances is essential for developing effective waste management policies in Etsako West.

Government Policies and Regulatory Framework

Effective waste management requires robust government policies and regulations. However, in Etsako West, existing frameworks are often poorly enforced, leading to widespread neglect of waste management protocols (Idris et al., 2022). The lack of political will hampers progress and exacerbates the waste crisis.

The Role of Community Participation

Community engagement is critical for sustainable waste management solutions. Studies show that local participation in waste management initiatives leads to improved compliance and better outcomes (Chukwu et al., 2023). In Etsako West, fostering community involvement can enhance awareness and responsibility regarding waste disposal.

Technological Innovations in Waste Management

Innovative waste management technologies, such as waste-to-energy systems and recycling initiatives, have shown promise in urban areas (Akanbi et al., 2022). Implementing such technologies in Etsako West could mitigate the

refuse dumping problem and transform waste into valuable resources.

Public Awareness Campaigns and Education

Raising public awareness about the impacts of waste dumping is crucial for behavioral change. Educational campaigns that inform residents about the health risks and environmental consequences of indiscriminate dumping have proven effective in various contexts (Ede et al., 2023). Tailoring these campaigns to the Etsako West community can foster greater responsibility.

The Role of NGOs and Civil Society

Non-governmental organizations (NGOs) play a vital role in promoting environmental sustainability and advocating for better waste management practices. Their involvement can lead to significant improvements in public awareness and community participation (Oluoch et al., 2021). In Etsako West, collaboration with local NGOs could enhance waste management efforts.

Urban Planning and Waste Management Infrastructure

Urban planning that incorporates effective waste management strategies is essential for sustainable development (Akinyemi, 2023). In Etsako West, improving waste collection infrastructure and establishing designated dumping sites are critical steps to curb indiscriminate dumping.

Case Studies of Successful Waste Management Initiatives

Analyzing successful waste management initiatives from other regions provides valuable lessons for Etsako West. For instance, cities that have adopted integrated waste management systems demonstrate reduced waste generation and improved environmental outcomes (Johnson et al., 2022). Such models can be adapted to local contexts.

Climate Change and Waste Management Challenges

The intersection of climate change and waste management poses additional challenges. Increased rainfall and flooding can exacerbate waste accumulation and health risks (Adebiyi, 2023). Addressing these challenges in Etsako West requires a comprehensive approach that considers climate resilience.

Methodology

The population for this study was some few selected persons of the local government. 200 persons were selected as the research population,

out of which 100 were randomly selected as the sample size. Questionnaire was used to collect the relevant data for this study. Simple percentage method was used to analyze the retrieved 100 questionnaires from the study area. Below is the data presentation and analysis of the data obtained

Table 1: Demographics of Respondents

Demographic Factor	Frequency	Percentage (%)
Age Group		
18-30	30	30%
31-45	40	40%
46-60	20	20%
61 and above	10	10%
Gender		
Male	55	55%
Female	45	45%
Total	100	100

The sample consists primarily of individuals aged between 31-45, indicating a predominantly working-age demographic, with a slightly higher representation of males. This demographic distribution can influence perspectives on waste management and environmental health.

Table 2: Awareness of Waste Management Policies

Awareness Level	Frequency	Percentage (%)
Aware	50	50%
Not Aware	30	30%
Somewhat Aware	20	20%
Total	100	100

About 50% of respondents are aware of waste management policies, which highlights a significant gap in awareness. The 30% who are unaware indicates the need for improved education and outreach efforts regarding existing waste management initiatives.

Table 3: Common Waste Disposal Practices

Disposal Method	Frequency	Percentage (%)
Indiscriminate Dumping	60	60%
Burying	25	25%
Burning	10	10%
Proper Disposal (Bins)	5	5%
Total	100	100

A staggering 60% of respondents engage in indiscriminate dumping, underscoring a major challenge for waste management in Etsako West. The minimal use of proper disposal methods indicates a critical need for infrastructure improvement and community education.

Table 4: Perceived Health Effects of Poor Waste Management

Health Effect	Frequen	Percentag (%)
Respiratory Issues	35	35%
Vector-Borne Diseases	30	30%
Skin Infections	20	20%
No Perceived Effect	15	15%
Total	100	100

Most respondents recognize health issues linked to poor waste management, particularly respiratory problems and vector-borne diseases. This perception reflects an understanding of the public health risks involved, which could motivate community action.

Table 5: Community Engagement in Waste Management Initiatives

Level of Engagement	Frequenc	Percentag (%)
Actively Engaged	25	25%
Occasionally Engaged	35	35%
Not Engaged	40	40%
Total	100	100

Only 25% of respondents are actively engaged in waste management initiatives, while 40% report no engagement at all. This highlights a significant opportunity for enhancing community involvement and ownership of waste management practices.

Table 6: Suggested Solutions to Improve Waste Management

Suggested Solution	Frequenc	Percentag (%)
Increased Public Awareness	40	40%
Better Infrastructure	30	30%
Community Involvement Programs	20	20%
Strict Enforcement of Laws	10	10%

Respondents strongly advocate for increased public awareness as the top solution for waste management issues. This feedback emphasizes the importance of educational campaigns alongside infrastructural improvements to tackle waste challenges effectively.

Summary of Findings

The findings of the research work were briefly explained below:

1. The demographic analysis of the respondents reveals a predominantly working-age population, with 40% of participants aged 31-45 and 30% aged 18-30. This distribution is significant because it reflects a group that is likely to be actively engaged in economic activities and, consequently, is more affected by

waste management issues.

2. Awareness of waste management policies is an essential factor in effective waste management. The study indicates that 50% of respondents are aware of existing policies, while 30% are not aware at all, and 20% claim to be somewhat aware. This disparity highlights a significant gap in public education and outreach efforts regarding waste management initiatives.
3. The data from the survey reveals alarming trends in waste disposal practices, with 60% of respondents engaging in indiscriminate dumping. This practice poses a major challenge for waste management in Etsako West and indicates a dire need for immediate intervention. Only 5% of respondents reported using proper disposal methods, such as bins, which underscores a lack of infrastructure and facilities available for effective waste disposal.
4. Respondents demonstrated a clear understanding of the health risks associated with poor waste management, with 35% citing respiratory issues and 30% identifying vector-borne diseases as significant concerns. The recognition of these health effects suggests that the community is aware of the direct consequences of improper waste disposal, which can be a motivating factor for community action.
5. Community engagement in waste management initiatives is alarmingly low, with only 25% of respondents actively involved and 40% reporting no engagement at all. This indicates a significant gap in community ownership and responsibility regarding waste management practices. Engaging the community is essential for fostering a sense of ownership and accountability, which can lead to more sustainable waste management outcomes.
6. Respondents identified increased public awareness (40%) as the most effective solution for addressing waste management issues, highlighting the importance of education in promoting responsible waste disposal. Better infrastructure (30%) and community involvement programs (20%) were also deemed necessary for improving waste management practices. The relatively low emphasis on strict enforcement of laws (10%) suggests that respondents may prioritize proactive measures, such as education and community engagement,

over punitive approaches.

Conclusion

The issue of indiscriminate dumping of refuse in Etsako West, Edo State, has profound implications for public health, environmental sustainability, and community well-being. The alarming prevalence of waste accumulation not only breeds diseases, such as malaria, typhoid and cholera, but also undermines the natural beauty and ecological integrity of the area. Furthermore, the lack of effective waste management strategies reflects broader systemic challenges, including inadequate infrastructure, limited community awareness, and insufficient government intervention. To combat these pressing issues, it is crucial for local authorities to implement comprehensive waste management programs that promote recycling and proper disposal practices. Community engagement and education will be essential in fostering a culture of environmental responsibility among residents. Moreover, partnerships with non-governmental organizations can enhance resources and expertise in waste management initiatives. Addressing these challenges holistically will not only mitigate health risks but also contribute to the sustainable development of Etsako West. Ultimately, proactive measures and community collaboration are vital to transform waste management practices, ensuring a cleaner, healthier environment for current and future generations.

Recommendations

Based on the findings of the above research, the following recommendations were deduced:

1. The government should create and enforce comprehensive waste management policies that prioritize proper waste disposal and recycling in every community.
2. The government should initiate educational campaigns to inform residents about the health risks of improper waste disposal and promote community responsibility.
3. The government should expand and enhance waste collection services to ensure timely and efficient removal of refuse from all neighborhoods.
4. The government should introduce fines and penalties for individuals and businesses that engage in indiscriminate dumping to deter such practices.
5. The government should set up more

designated waste disposal sites and recycling centers that are easily accessible to all community members.

6. The government should organize community clean-up events and incentivize local participation to foster a sense of ownership and responsibility toward waste management.
7. The government should partner with non-governmental organizations to leverage resources and expertise for effective waste management solutions and environmental education programs.

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