



## **Influence of Environmental Public Relations on Waste Management Behaviour among Residents of Nsukka Urban of Enugu State, Nigeria**

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### **ABSTRACT**

**Background:** Waste management remains a major environmental challenge in many Nigerian urban communities due to indiscriminate waste disposal, inadequate facilities, and poor environmental sanitation practices. Environmental public relations strategies have increasingly been adopted to promote environmental awareness and responsible waste management behaviour.

**Objective:** This study examined environmental public relations strategies used in promoting waste management behaviour among residents of Nsukka Urban, Enugu State.

**Method:** The study adopted a descriptive survey research design. The population comprised 483,256 residents of Nsukka Urban, Enugu State. The Australian Online Sample Size Calculator was used to determine a sample size of 384 respondents at a 95% confidence level and 5% margin of error. A multi-stage sampling technique was adopted in selecting respondents from major communities within Nsukka Urban. Data were collected using a structured questionnaire whose validity was confirmed by experts in mass communication and public relations, while reliability was established through a pilot study which yielded a Cronbach's alpha coefficient of 0.81. Data were analyzed using frequency distributions and simple percentages.

**Result:** Findings revealed that environmental public relations strategies are utilized to a high extent in improving waste management behaviour, with posters and flyers emerging as the most frequently used communication channel. The strategies promote proper waste disposal, participation in sanitation exercises, and compliance with waste management practices. However, inadequate waste disposal facilities and poor enforcement of sanitation laws remain major challenges. The findings support the Two-Way Symmetrical Theory and Systems Theory by highlighting the importance of communication and stakeholder collaboration in effective waste management.

**Conclusion:** The study concludes that environmental public relations strategies contribute to improved waste management behaviour among residents of Nsukka Urban.

**Unique Contribution:** The study provides empirical evidence on the role of environmental public relations in influencing waste management behaviour within an urban Nigerian context.

**Key Recommendation:** Government and environmental management agencies should strengthen environmental public relations campaigns through radio programmes, social media platforms, community meetings, and information materials while providing adequate waste disposal facilities and enforcing environmental sanitation regulations to promote sustainable waste management behaviour among residents.

**Keywords:** Environmental Public Relations, Waste Management, Behavioral Change, Environment Sanitation



## INTRODUCTION

Environmental sustainability and urban sanitation have become major global concerns due to rapid urbanization, population growth, and changing consumption patterns. Effective waste management depends not only on the availability of disposal facilities but also on the attitudes, awareness, and waste management behaviour of residents. One of the major environmental challenges confronting urban centres is the increasing generation and improper disposal of solid waste. The World Bank estimates that global municipal solid waste generation will rise from 2.01 billion tonnes in 2016 to 3.40 billion tonnes by 2050, placing significant pressure on environmental management systems and urban infrastructure worldwide (Kaza et al., 2018).

In Nigeria, waste management remains a major environmental challenge due to rapid urbanization, population growth, inadequate waste collection systems, and weak enforcement of environmental regulations. These factors significantly influence residents' waste management behaviour, resulting in indiscriminate waste disposal, blocked drainage channels, flooding, and environmental pollution (Eneh, 2025). The situation is particularly evident in urban and semi-urban areas where waste management infrastructure has not kept pace with population growth and economic activities (Dissanayake et al., 2022)..

Nsukka Urban in Enugu State is one of the rapidly growing urban areas in southeastern Nigeria, comprising communities such as Ihe/Owerre, Nru, and parts of Obukpa, with increasing commercial, residential, and educational activities largely influenced by the University of Nigeria, Nsukka. Despite these developments, improper waste disposal behaviour remains a major environmental challenge within the area. Refuse dumps are commonly seen along roadsides, markets, drainage systems, and residential areas, thereby affecting environmental quality and urban aesthetics (Nwosu, Orji and Yuni, 2017).

Environmental public relations is increasingly recognized as a strategic tool for addressing environmental challenges and promoting sustainable development. According to the Public Relations Society of America (PRSA, 2023), public relations is a strategic communication process that builds mutually beneficial relationships between organizations and their publics. In environmental management, environmental public relations extends beyond awareness creation to include stakeholder engagement, behavioural change communication, community relations, advocacy campaigns, social mobilization, and participatory communication aimed at influencing environmental attitudes and improving waste management behaviour (Capizzo & Luisi, 2024). Through media campaigns, community outreach programmes, and stakeholder engagement initiatives, environmental public relations helps environmental agencies promote proper waste disposal practices and sustainable environmental behaviour (Aronczyk & Espinoza, 2019). It also fosters dialogue among stakeholders and encourages collective responsibility toward waste management (Özgen & Şahin, 2025). Onyilo, Eriba, Omula, Chinanwife, and Ndah-John (2025) further noted that public relations strategies such as media campaigns, community meetings, and social mobilization are essential for enhancing public participation in waste management programmes.



Despite environmental sanitation campaigns, improper waste disposal remains prevalent in Nsukka Urban. Nigeria generates over 32 million tonnes of solid waste annually, much of which is poorly managed due to inadequate facilities and weak public compliance (Maiha & Yusuf, 2025). Although environmental communication campaigns have been shown to improve environmental behaviour (Capizzo & Luisi, 2024), existing studies in Nigeria focus mainly on the environmental and infrastructural aspects of waste management. Consequently, little empirical evidence exists on how environmental public relations strategies influence waste management behaviour in Nsukka Urban. This gap necessitates the present study.

### **RESEARCH QUESTIONS**

1. To what extent are environmental public relations strategies used in improving waste management behaviour among residents of Nsukka Urban?
2. What environmental public relations communication channels are used in promoting waste management behaviour among residents of Nsukka Urban?
3. What is the perceived influence of environmental public relations strategies on waste management behaviour among residents of Nsukka Urban?
4. What challenges affect effective waste management behaviour among residents of Nsukka Urban?

### **REVIEW OF RELATED LITERATURE**

#### **Environmental Public Relations**

Public relations is widely understood as a strategic communication process that builds and sustains mutually beneficial relationships between organizations and their publics (PRSA, 2023). Modern public relations goes beyond media relations and publicity to include stakeholder engagement, reputation management, community relations, and behavioural influence (Tench & Yeomans, 2017). Public relations plays an important role in environmental management and sustainable development by educating people on environmental responsibility and encouraging public participation in environmental programmes through awareness campaigns, media communication, community engagement, and advocacy initiatives aimed at promoting responsible environmental practices (Capizzo & Luisi, 2024).

However, Environmental public relations is a branch of public relations focused on promoting environmental sustainability and responsible behaviour through strategic communication (Capizzo & Luisi, 2024). It has shifted from mere awareness creation to participatory communication that addresses environmental challenges such as waste management. Scholars argue that environmental public relations improves environmental awareness and promotes positive behavioural outcomes when communication is sustained and community-based. Aronczyk and Espinoza (2019) found that media advocacy combined with community engagement is more effective in influencing environmental attitudes than isolated campaigns. Similarly, Capizzo and Luisi (2024) posits that behavioural change is stronger when environmental communication integrates participation and persuasion. Furthermore, Özgen and Şahin (2025) observed that stakeholder engagement improves trust and participation in environmental programmes, while Onyilo et al. (2025) noted that social mobilization and media



campaigns significantly enhance public involvement in waste management initiatives. Overall, evidence suggests that environmental public relations is most effective when it integrates advocacy, stakeholder engagement, and behavioural change communication to influence environmental behaviour.

## **Waste Management**

Waste management refers to the process of collecting, transporting, recycling, processing, and disposing waste materials in ways that reduce environmental pollution and health hazards (Lennifer, 2024). It includes all activities involved in managing waste from the point of generation to final disposal. According to Omeje and Okanya (2024), waste management involves practices such as reuse, recycling, recovery, and proper disposal aimed at minimizing environmental degradation. Effective waste management contributes to cleaner environments, improved public health, and sustainable urban development.

In Nigeria, poor waste management has remained a major environmental challenge due to rapid urbanization, population growth, inadequate infrastructure, and weak environmental policies. Fakunle (2024) noted that many urban centres in Nigeria still experience indiscriminate dumping of refuse, open burning of waste, and poor waste collection systems.

## **Waste Management Practices in Nigeria**

Waste management practices in Nigeria are characterized by inadequate waste disposal facilities, irregular waste collection, poor environmental awareness, and weak enforcement of sanitation laws. Omokaro et al. (2026), argue that the persistence of open dumping and informal disposal practices across Nigerian cities reflects weak regulatory enforcement and inadequate waste infrastructure. In contrast, Adewuyi et al. (2024) contends that Informal waste collectors, known as scavengers, play a critical role in resource recovery, collecting recyclables from dumpsites and contributing to the informal recycling sector. Urban areas such as Lagos, Abuja, Port Harcourt, and Enugu have established waste management agencies responsible for refuse collection and environmental sanitation (Orga & Anulika, 2021). However, challenges such as insufficient funding, poor infrastructure, and lack of public cooperation continue to limit effective waste management practices.

In Enugu State, environmental sanitation activities are coordinated through the Enugu State Waste Management Authority (ESWAMA). Despite the efforts of the agency, waste disposal challenges remain visible in many urban areas, including Nsukka Urban.

## **Public Relations Strategies Used to Promote Waste Management**

Public relations (PR) strategies play a crucial role in promoting environmental awareness and improving waste management behaviour by influencing public knowledge, attitudes, and participation in sanitation activities. Rahayu and Evanita (2024), observed that strategic communication is essential in educating the public on environmental responsibility and encouraging sustainable waste disposal practices. Similarly, Onyilo et al. (2025) identified key PR tools commonly used in waste management campaigns, including media campaigns,



community sensitization, public enlightenment programmes, and digital communication platforms.

### **Public Enlightenment Campaigns**

Public enlightenment campaigns are central to waste management communication because they create awareness and improve public understanding of proper sanitation practices. These campaigns often involve posters, flyers, town hall meetings, and environmental sanitation programmes designed to educate residents on the consequences of improper waste disposal and the benefits of sustainable environmental behaviour. When consistently implemented, public enlightenment initiatives help to reduce indiscriminate dumping and improve community participation in waste control activities.

### **Media Relations**

Media relations through radio, television, and newspapers remain one of the most effective PR strategies for waste management advocacy. These traditional media platforms are widely accessible and help government agencies and environmental organizations reach diverse audiences. Radio programmes, in particular, are effective in rural and low-literacy communities, while television and newspapers provide visual and detailed messaging that reinforces environmental campaigns. Adewole (2024) emphasizes that media-based communication enhances public understanding and strengthens behavioural change toward environmental responsibility.

### **Community Engagement**

Community engagement involves direct participation of residents in environmental sanitation activities through stakeholder meetings, town hall discussions, and organized sanitation exercises. This strategy promotes collective responsibility and encourages citizens to actively participate in waste management programmes. Onyilo et al. (2025) note that community involvement improves compliance with sanitation regulations because people are more likely to support initiatives they are part of in decision-making and implementation processes.

### **Social Media Communication**

Social media has become an increasingly important PR tool for environmental awareness campaigns. Platforms such as Facebook, X (Twitter), Instagram, and WhatsApp enable organizations to disseminate information quickly and interact with a large and diverse audience. Sharma (2025) notes that digital communication enhances the reach and impact of environmental campaigns by influencing public behaviour through continuous engagement, visual content, and real-time updates on waste management initiatives.

### **Two-Way Communication**

Two-way communication is a fundamental principle of public relations that emphasizes dialogue, feedback, and mutual understanding between communicators and the audience. Omula (2021), PR is aimed at establishing mutual understanding based on truth, knowledge, and



complete information. In waste management campaigns, two-way communication allows authorities to receive feedback from residents, understand their challenges, and adjust strategies accordingly. This interactive approach strengthens trust and improves the effectiveness of environmental policies and programmes.

## **EMPIRICAL REVIEW**

Onyilo, Hope, Omula, Chinanuife, and Ndah-John (2025) conducted a study on public relations and waste management in Nigeria, using the National Environmental Standards and Regulations Enforcement Agency (NESREA) as a case study. The study investigated the role of public relations in promoting effective waste management practices and environmental sustainability in Nigeria. The study was anchored on the principles of public relations and stakeholder engagement, emphasizing the importance of communication in influencing environmental behaviour. A survey research design was adopted, and data were collected from relevant stakeholders associated with NESREA's environmental communication programmes. The data were analyzed using descriptive statistical techniques. The findings revealed that public relations strategies such as public enlightenment campaigns, media engagement, community outreach programmes, and stakeholder relations significantly improved environmental awareness and encouraged responsible waste disposal practices among citizens. The study further found that effective communication enhances public understanding of environmental regulations and promotes cooperation between environmental agencies and the public. Based on the findings, the study concluded that public relations is a vital tool for achieving sustainable waste management and environmental protection in Nigeria. However, while the study focused on the role of NESREA's public relations activities in promoting waste management at the national level, the present study examines the influence of environmental public relations strategies on waste management behaviour among residents of Nsukka Urban, Enugu State.

A study conducted by Okeke, Mohammed, and Garba (2024) on the evaluation of communication interventions for improved waste management systems in Nigeria investigated the communication strategies adopted within Public-Private Partnership (PPP) arrangements to enhance waste management and reduce scavenging practices in the country. The study aimed to examine the communication strategies employed under PPP initiatives and assess the effectiveness of collaborative approaches in addressing waste management challenges and mitigating scavenging activities in Nigeria. The study was anchored on the Social Marketing Theory, which emphasizes the use of targeted communication and behavioural change strategies to influence public attitudes and practices. The researchers adopted a literature review and case study analysis approach, systematically reviewing relevant literature and selected case studies on waste management communication interventions and PPP initiatives within and outside Nigeria. The findings revealed that communication plays a crucial role in shaping public perceptions, promoting behavioural change, and fostering stakeholder collaboration for effective waste management. The study identified key communication strategies such as targeted public outreach, community engagement programmes, public awareness campaigns, and the adoption of modern waste management systems. However, the findings further showed that many communication intervention programmes in Nigeria have not achieved optimal effectiveness due



to corruption, weak government policies, and institutional challenges. Based on the findings, the study concluded that effective communication and strong collaborative partnerships are essential for sustainable waste management and the reduction of scavenging practices in Nigeria

Akinpelu, Simon, Owolabi, and Sotayo (2021) conducted a study on solid waste storage and collection practices in the traditional residential area of Abeokuta Metropolis, Ogun State, Nigeria. The study investigated the methods of solid waste storage and collection adopted by residents and assessed their implications for environmental sanitation and sustainable waste management. The study aimed to evaluate existing waste management practices and identify factors affecting effective waste collection and disposal within the study area. A survey research design was adopted, and data were collected from households through structured questionnaires and field observations. The data were analyzed using descriptive statistical techniques. The findings revealed that many residents employed inappropriate waste storage methods and experienced irregular waste collection services, which contributed to environmental pollution and public health concerns. The study further found that inadequate waste management infrastructure, poor waste collection systems, and low public awareness of proper waste disposal practices were major challenges to effective waste management. Based on the findings, the study concluded that improving waste collection services, providing adequate waste storage facilities, and intensifying public enlightenment programmes are necessary for sustainable waste management in urban communities. The study is relevant to the present research because it highlights the importance of public awareness and behavioural change in achieving effective waste management. However, while Akinpelu et al. (2021) focused on waste storage and collection practices in Abeokuta Metropolis, the present study examines the influence of environmental public relations strategies on waste management behaviour among residents of Nsukka Urban, Enugu State.

The reviewed studies demonstrate that communication interventions, media campaigns, social media platforms, and public enlightenment programmes contribute positively to environmental awareness and waste management practices. However, most of the studies focused on waste management generally, communication interventions, or environmental awareness without specifically examining the influence of environmental public relations strategies on waste management behaviour among residents. Furthermore, limited empirical evidence exists on the communication channels used in environmental public relations campaigns and the challenges affecting their effectiveness in Nsukka Urban, Enugu State. This gap provides the justification for the present study.

## **THEORETICAL FRAMEWORK**

This study is anchored on Two-Way Symmetrical Theory and Systems Theory.

The Two-Way Symmetrical Theory was developed by James E. Grunig and Todd Hunt in 1984 as part of their four models of public relations presented in the book *Managing Public Relations*. The theory emerged as a response to traditional public relations approaches that focused mainly on persuasion and one-way communication. Grunig and Hunt argued that effective public relations should be based on mutual understanding, dialogue, and relationship building between



an organization and its publics rather than merely influencing public opinion in favor of the organization. The theory is founded on the assumption that organizations and their stakeholders are interdependent and that communication should benefit both parties. It assumes that publics possess valuable opinions and information that organizations should consider when making decisions. Consequently, communication should be a continuous process of interaction, negotiation, and adjustment, allowing both the organization and its publics to influence one another.

The relevance of this Theory to this study lies in its explanation of how waste management agencies and government institutions can interact effectively with residents of Nsukka Urban in promoting proper waste disposal practices.

Systems Theory was developed by Ludwig von Bertalanffy (1968) and posits that society consists of interconnected and interdependent components that function collectively to maintain stability and achieve common objectives. The theory views organizations and social institutions as open systems that interact continuously with their environment through the exchange of resources, information, and feedback. A fundamental assumption of the theory is that changes occurring in one part of a system inevitably affect other parts, thereby influencing the performance of the entire system. Systems Theory are the concepts of interdependence, inputs, outputs, feedback, and adaptation. Interdependence refers to the mutual reliance among the various components of a system. Inputs consist of resources such as information, public support, funding, and human capital that are required for the functioning of the system. Outputs are the outcomes generated from the transformation of these inputs, while feedback provides information that enables the system to evaluate its performance and make necessary adjustments. Adaptation allows the system to respond effectively to changes within its internal and external environments. Scholars have argued that effective organizational performance depends on continuous interaction, feedback, and adaptation among system components (Taylor & Nowell, 2024). The relevance of Systems Theory to this study lies in its explanation of waste management as a collaborative process involving government agencies, residents, media organizations, sanitation workers, and community leaders. These stakeholders constitute interconnected elements within the waste management system and depend on one another for effective environmental sanitation. Waste management agencies receive inputs in the form of public cooperation, information, funding, and policy support. While the Two-Way Symmetrical Theory explains the communication processes through which environmental public relations strategies influence residents' attitudes and behaviour, Systems Theory provides insight into the interdependent relationships among stakeholders involved in waste management. Together, the theories offer a comprehensive framework for understanding how communication and stakeholder collaboration contribute to effective waste management behaviour in Nsukka Urban.

## **METHODOLOGY**

The study adopted the descriptive survey research design. The population comprised 483,256 residents of Nsukka Urban, Enugu State, Nigeria (World Population Review, 2026). A sample size of 384 respondents was determined using the Australian Online Sample Size Calculator at a 95% confidence level and 5% margin of error. A multi-stage sampling technique was employed



to select respondents from major communities within Nsukka Urban. Data were collected using a structured questionnaire consisting of demographic and research-related items. The instrument was subjected to face and content validity by experts in Mass Communication and Public Relations, while a pilot study produced a Cronbach's Alpha reliability coefficient of 0.81. Copies of the questionnaire were administered directly to respondents. Data collected were analysed using frequency distributions, percentages, and tables. Ethical principles of voluntary participation, anonymity, and confidentiality were strictly observed.

## DATA PRESENTATION, ANALYSIS AND RESULTS

A total of three hundred and eighty-four (384) copies of the questionnaires were distributed while three hundred and eighty copies (380) were recovered. Therefore, data presentation and analysis shall be based on the 380 total valid questionnaire

**Table 1: Analysis of Respondents Demographic Data**

<b>Gender</b>	<b>Frequency</b>	<b>percentage</b>
Male	230	60.5
Female	150	39.5
<b>Age</b>		
20 -25 years	68	17.9
26 – 30 years	49	12.9
31– 35 years	72	18.9
36- 40 years	80	21.1
41- 45 years	56	14.7
46 years and above	55	14.5
<b>Marital Status</b>		
Single	189	49.7
Married	157	41.3
Divorced	13	3.4
Widowed	12	3.2
<b>Total</b>	<b>380</b>	<b>100</b>

The demographic data indicate that males were more represented in the study than females. Respondents were drawn from different age groups, with the majority falling within the age 36-40 80 (21.1%), suggesting adequate representation of individuals likely to be involved in waste management activities. Regarding marital status, married and single respondents constituted the largest proportion of the sample, providing diverse perspectives on the issues examined in the study.



**Table 2: Extent to Which Public Relations Strategies are Used in Improving Waste Management Practices in Nsukka Urban.**

<b>Variables</b>	<b>Frequency</b>	<b>percentage</b>
Very high	216	56.9
High	117	30.8
Moderate	9	2.3
Very Low	16	4.2
Low	22	5.8
<b>Total</b>	<b>380</b>	<b>100</b>

Table 2 shows respondents' responses on the extent public relations strategies are used in improving waste management behaviour in Nsukka Urban. 216 (56.9%) of the respondents indicated that Environmental public relations strategies are used to a very high extent, 117 (30.8%) said high extent, 9 (2.3%) indicated moderate extent. 16 (4.2%), while 22 (5.8%) indicate low extent. The findings indicate that environmental public relations strategies are widely utilized in promoting waste management practices in Nsukka Urban, as 87.7% of respondents rated their usage as either high or very high..

**Table 3: Environmental Public relations communication channels used in promoting waste management awareness in Nsukka Urban.**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Radio programmes	85	22.4%
Posters and flyers	180	47.4%
Social media	75	19.7%
Community meetings	40	10.5%
<b>Total</b>	<b>380</b>	<b>100</b>

Table 3 shows that 85 (22.4%) respondents identified radio programmes, while 180 (47.4%) identified posters and flyers, Furthermore, 75(19.7%) identified social media and 40 (10.5%) identified community meetings. Posters and flyers were identified by the highest proportion of respondents (47.4%), suggesting that they remain the most visible environmental communication channel in the study area



**Table 4: Perceived influence of public relations strategies on residents' waste management behaviour in Nsukka Urban**

Variable	Frequency	Percentage
Proper waste disposal	200	52.6%
Participation in sanitation exercise	117	30.8%
Compliance with waste management practices	63	16.5%
<b>Total</b>	<b>380</b>	<b>100</b>

Table 4 shows 200 (52.6%) respondents stated that Environmental public relations strategies encourage proper waste disposal, 117 (30.8%) indicated participation in sanitation exercises, while 63 (16.5%) said compliance with waste management practices. The findings indicates that respondents perceived Environmental public relations strategies as contributing primarily to proper waste disposal behaviour.

**Table 5: Challenges affecting effective waste management practices in Nsukka Urban**

Variables	Frequency	Percentage
Inadequate waste disposal facilities	193	60.3%
Poor enforcement of sanitation laws	98	25.8%
Residents negligence	62	16.3%
Poor environmental awareness	27	7.1 %
<b>Total</b>	<b>380</b>	<b>100</b>

Table 5 shows respondents' responses on the challenges affecting effective waste management practices in Nsukka Urban. Data reveals that 193 (60.3%) identified inadequate waste disposal facilities as a major challenge, 98 (25.8%) identified poor enforcement of sanitation laws, 62 (16.3%) identified residents negligence, while 27 (1.4%) respondents identified poor environmental awareness. Therefore, the findings suggest that infrastructural deficiencies, particularly inadequate waste disposal facilities, constitute the most significant challenge to effective waste management in Nsukka Urban.

## DISCUSSION

The demographic findings revealed that males constituted a greater proportion of the respondents than females. The respondents were drawn from different age categories, with the majority falling within the active adult population. In addition, both married and single respondents formed substantial proportions of the sample. This demographic composition suggests that the study captured the views of individuals who are likely to be actively involved in environmental sanitation activities and waste management practices within Nsukka Urban.



The study found that environmental public relations strategies are utilized to a high extent in improving waste management practices in Nsukka Urban. This finding answers research question one and suggests that environmental communication has become an important tool for promoting environmental awareness and encouraging responsible waste disposal behavior among residents. The finding is consistent with (Rahayu & Evanita, 2024), who observed that strategic communication plays a significant role in educating the public on environmental responsibility and sustainable waste management practices. The study also revealed that posters and flyers constitute the major environmental public relations communication channels used in promoting waste management awareness in Nsukka Urban. This finding answers research question two and suggests that traditional communication channels remain effective in disseminating environmental information to residents. The finding supports Onyilo et al. (2025), who identified posters, flyers, media campaigns, and public enlightenment programs as important public relations tools for environmental awareness campaigns.

Furthermore, the study found that environmental public relations strategies promote positive waste management behavior among residents, particularly in the areas of proper waste disposal, participation in sanitation exercises, and compliance with waste management practices. This finding answers research question three and indicates that environmental communication contributes to behavioral change and increased participation in environmental sanitation activities. The finding agrees with Aronczyk & Espinoza (2019), who noted that environmental communication initiatives enhance public participation and encourage environmentally responsible behavior. Finally, the study revealed that inadequate waste disposal facilities, poor enforcement of sanitation laws, residents' negligence, and poor environmental awareness constitute major challenges affecting effective waste management practices in Nsukka Urban. This finding answers research question four and suggests that although environmental public relations strategies contribute to improved waste management behaviour, their effectiveness may be constrained by infrastructural and institutional deficiencies. The finding is consistent with the study of Okafor and Hamma (2024), which identified poor funding, inadequate facilities, and implementation challenges as major obstacles to effective waste management in Nigeria. The finding also supports Gasiokwu and Akpomede (2022), who observed that weak enforcement of environmental regulations significantly undermines effective waste management practices.

## **CONCLUSION**

Based on the findings of the study, it was concluded that environmental public relations strategies are important tools for promoting positive waste management behaviour among residents of Nsukka Urban, Enugu State. The study established that communication channels such as posters and flyers, radio programmes, social media platforms, and community meetings play important roles in creating environmental awareness and encouraging responsible waste disposal practices. The findings further revealed that environmental public relations strategies contribute to residents' participation in sanitation activities and compliance with waste management practices. However, challenges such as inadequate waste disposal facilities, poor enforcement of sanitation laws, and residents' negligence continue to undermine effective waste management. The study therefore concludes that effective environmental communication,



supported by adequate infrastructure and stakeholder collaboration, is essential for sustainable waste management in Nsukka Urban.

## **RECOMMENDATIONS**

Based on the findings of the study, the following recommendations were made:

1. Government agencies and environmental management bodies should develop continuous environmental public relations campaigns using behaviour-change communication strategies to encourage responsible waste disposal among residents.
2. Environmental agencies should adopt an integrated communication approach that combines radio programmes, social media platforms, posters, flyers, and community meetings to reach different segments of the population.
3. Environmental sanitation agencies should strengthen enforcement of waste management regulations while encouraging community participation and feedback mechanisms to enhance compliance.
4. Community leaders, educational institutions, market associations, and environmental agencies should collaborate in planning and implementing environmental sanitation campaigns to improve residents' participation in waste management activities.

## **Ethical clearance**

Ethical consent was sought and obtained from the participants used in this study. They were made to understand that the exercise was purely for academic purposes, and their participation was voluntary.

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The study was not funded.

## **Conflict of Interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## **Authors' Contributions**

So and so conceived the study, including the design, so and so collated the data, and so and so handled the analysis and interpretation, while so and so wrote the initial manuscript. All authors have critically reviewed and approved the final draft, and are responsible for the content and similarity index of the manuscript.



### **Artificial Intelligence (AI) Use Disclosure**

The author(s) declare that no generative Artificial Intelligence (AI) or AI-assisted technologies were used in the writing, analysis, or preparation of this manuscript.

### **Data availability statement**

The datasets on which conclusions were made for this study are available on reasonable request.

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