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Community Perceptions of Waste Management Practices: A Qualitative Study in Urban Neighborhoods

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ABSTRACT

Waste management has become one of the most pressing urban challenges in developing countries, where rapid population growth and urbanization increase the volume of household waste beyond the capacity of municipal services. This study explores community perceptions of waste management practices in selected urban neighborhoods, focusing on residents' experiences, attitudes, and challenges in participating in waste reduction and recycling programs. Using a qualitative descriptive approach, data were collected through semi-structured interviews, focus group discussions, and field observations involving 30 residents across three neighborhoods. The findings reveal that while communities recognize the importance of proper waste management for health and environmental sustainability, barriers such as limited infrastructure, lack of consistent education, and weak enforcement of regulations hinder effective participation. Cultural norms, economic considerations, and local leadership also shape attitudes toward waste disposal practices. The study highlights the critical role of community engagement, awareness campaigns, and participatory governance in strengthening sustainable waste management. Policy implications suggest that interventions should integrate local perspectives, build trust with residents, and ensure long-term accessibility of facilities.

Keywords: *Community Perceptions, Environmental Sustainability, Qualitative Study, Urban Neighborhoods, Waste Management*

INTRODUCTION

Urbanization has reshaped the environmental landscape of cities worldwide, leading to increasing volumes of waste that challenge existing management systems (Boro, 2022; Wilson et al., 2012). Kaza et al. (2018) estimates that global municipal solid waste will rise to 3.4 billion tons annually by 2050, with developing countries bearing the greatest burden due to limited infrastructure and governance capacity. In many urban neighborhoods, waste is often mismanaged, resulting in pollution, public health risks, and environmental degradation (Abubakar et al., 2022; Ferronato & Torretta, 2019). As a result, sustainable waste management has emerged as a critical issue in urban planning and community development.

The effectiveness of any waste management system is inherently tied to the principles of circular economy, which emphasize waste reduction, reuse, and recycling to minimize environmental impact and extract maximum value from resources (Kirchherr et al., 2017). However, the transition from a linear “take-make-dispose” model to a circular one is complex, requiring not only technological innovation but also profound changes in consumer behavior and public participation. In many urban contexts, this transition is stalled at the household level, where the initial and crucial step of waste segregation takes place (Kalyanasundaram et al., 2021; Moeini et al., 2023).

In Indonesia and other Southeast Asian countries, urban neighborhoods often face significant waste management challenges. Despite government regulations mandating waste separation and recycling, compliance remains low (Sembiring et al., 2024). The disconnect between top-down policies and community practices reflects a gap in understanding how local residents perceive and respond to waste management initiatives. Therefore, examining community perceptions is vital to identifying socio-cultural, economic, and behavioral factors that influence waste practices at the grassroots level (Anwari & Rusnalasari, 2025).

Previous studies highlight that waste management is not merely a technical or infrastructural problem but also a social issue shaped by attitudes, awareness, and cultural norms (Guerrero et al., 2013; Zurbrügg et al., 2012). Community perceptions determine the extent to which residents participate in sorting waste, recycling, and adopting environmentally responsible behaviors. However, research has shown mixed outcomes: while some communities embrace waste segregation, others resist due to inconvenience, lack of trust in government services, or economic constraints (Marshall & Farahbakhsh, 2013).

In urban neighborhoods, perceptions are often influenced by daily experiences with waste collection services, visibility of environmental problems, and leadership from local authorities (Puche-Regaliza et al., 2021). For instance, inconsistent collection schedules or overflowing waste bins can reinforce negative perceptions of municipal waste management, reducing motivation to comply with rules (Fadhullah et al., 2022). Conversely, communities that receive regular

awareness campaigns and access to recycling infrastructure are more likely to develop positive perceptions and cooperative behavior (Kalra, 2019).

While the influence of infrastructure and policy is well-documented, there is a need for more nuanced studies that delve into the specific perceptual constructs—such as perceived responsibility, perceived effectiveness of recycling, and perceived barriers—within the unique socio-cultural fabric of Indonesian urban communities. Much of the existing literature focuses on either macro-level policy analysis or quantitative assessments of behavior, leaving a gap in qualitative, perception-based insights that can explain the 'why' behind community actions or inactions.

This study aims to explore community perceptions of waste management practices in selected urban neighborhoods. Specifically, it seeks to answer the following questions: (1) How do residents perceive the importance of waste management for health and environmental sustainability? (2) What barriers and challenges do communities face in implementing proper waste disposal practices? (3) What role do socio-cultural and economic factors play in shaping perceptions of waste management? By addressing these questions, this research contributes to a deeper understanding of how grassroots perspectives can inform more effective waste management policies and interventions.

RESEARCH METHODOLOGY

This research adopted a qualitative descriptive approach to explore community perceptions, experiences, and attitudes toward waste management practices in urban settings. The qualitative design was chosen because it allows for an in-depth understanding of social realities and contextual nuances that cannot be fully captured through quantitative surveys. Through open-ended inquiry and naturalistic observation, the study aimed to uncover how residents interpret waste-related behaviors, what motivates or hinders their participation, and how social and institutional factors influence their environmental practices.

The study took place in three urban neighborhoods within a mid-sized Indonesian city known for its rapid urbanization, dense population, and limited waste management infrastructure. These neighborhoods were strategically chosen to represent a spectrum of socio-economic diversity: one low-income settlement with informal housing, one middle-income residential area with partial waste services, and one mixed neighborhood combining both formal and informal systems. This variation allowed for comparison of community behaviors and perceptions shaped by differing access to resources, education, and local governance.

The participants consisted of 30 residents (10 from each neighborhood), selected through purposive sampling to capture a diverse range of perspectives. The sample included household heads, homemakers, youth representatives, and local leaders—groups assumed to hold varying degrees of responsibility and influence in

waste management practices. Attention was given to gender, age, and occupational diversity to ensure that the findings reflected a balanced view of community voices. Participants were briefed about the research objectives, and informed consent was obtained before data collection.

Data were collected from January to March 2025 through three complementary methods. First, semi-structured interviews were conducted individually with residents to explore their daily waste management routines, awareness of municipal regulations, and perceptions of government waste collection services. Second, focus group discussions (FGDs) were held in each neighborhood with six to eight participants per group. These discussions encouraged interactive reflection on collective attitudes, community challenges, and potential solutions. Third, field observations were carried out at waste collection points, informal disposal sites, and small-scale recycling facilities to gain direct insights into environmental practices and local infrastructure. This triangulated approach provided a rich, multifaceted understanding of waste management at both individual and community levels.

The qualitative data were analyzed using thematic analysis following the six-step process outlined by Braun and Clarke (2006) familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Interview and FGD transcripts were manually coded to identify recurring patterns and key issues such as waste awareness, behavioral barriers, cultural norms, and trust in local institutions. The analysis was guided by Social Practice Theory (Shove et al., 2012), which conceptualizes human behavior as the interaction of meanings (social norms and values), materials (infrastructure and tools), and competencies (knowledge and skills). This framework provided a lens for understanding how social and material conditions shape community engagement in waste management. To ensure credibility and validity, data triangulation from interviews, FGDs, and observations was employed, alongside member checking to confirm interpretations with participants.

RESULT AND DISCUSSION

The findings of this study reveal five key themes that collectively illustrate how residents in urban neighborhoods perceive, experience, and engage in waste management practices. These include (1) awareness of waste management importance, (2) perceptions of government services, (3) barriers and challenges, (4) the role of socio-cultural norms, and (5) community leadership and participation. The themes highlight the complex interplay between individual awareness, structural constraints, and social dynamics that shape waste-related behaviors.

Awareness of Waste Management Importance

Most participants demonstrated a strong awareness of the importance of proper waste management for maintaining public health and environmental sustainability. They frequently mentioned issues such as disease prevention, unpleasant odors, and the risks of flooding caused by clogged drainage systems due to littering. However, this awareness often failed to translate into consistent behavioral practices. Middle-income residents tended to follow waste segregation more regularly because they had access to waste bins and regular collection schedules. In contrast, residents in low-income neighborhoods prioritized immediate livelihood concerns over environmental hygiene, perceiving waste management as a secondary issue. This gap between awareness and practice suggests that knowledge alone is insufficient without supporting infrastructure and incentives.

Perceptions of Government Services

Residents' perceptions of municipal waste management services varied significantly. While some participants appreciated occasional cleaning programs and awareness campaigns, most expressed frustration over irregular waste collection schedules, inadequate waste bins, and inefficient recycling systems. A recurrent complaint was that sorted household waste was later mixed by collectors, leading to a sense of futility and distrust toward recycling initiatives. This perception discouraged residents from maintaining waste segregation at home. However, neighborhoods that received sustained communication and monitoring from local authorities exhibited more positive attitudes and greater participation in formal waste programs. This indicates that government transparency and consistent service delivery are crucial for building trust and sustaining citizen engagement.

Barriers and Challenges

Several barriers were identified that hindered effective waste management at the community level. The most common challenges included limited infrastructure, lack of continuous public education, and economic constraints. Residents from lower-income areas often relied on informal waste pickers for disposal, while others admitted to open burning or dumping waste into nearby rivers or vacant lots due to the absence of accessible collection points. Furthermore, weak enforcement of waste regulations—particularly the absence of fines or community sanctions—allowed improper disposal practices to persist. These structural limitations highlight the need for integrated policies combining infrastructure development, community education, and regulatory enforcement.

Role of Socio-Cultural Norms

Socio-cultural practices significantly influenced community perceptions and behaviors regarding waste. In some neighborhoods, *gotong royong* (communal clean-up activities) promoted collective responsibility and reinforced positive

environmental habits. In other areas, however, individual household management dominated, reducing shared accountability for neighborhood cleanliness. Gender roles were also apparent: women were primarily responsible for waste sorting, cleaning, and disposal, while men were less involved unless community events required collective labor. These cultural dynamics suggest that interventions must be sensitive to existing social norms, emphasizing both collective and gender-inclusive approaches to foster behavioral change.

Community Leadership and Participation

The influence of local leadership emerged as a decisive factor in shaping community participation. Neighborhoods with proactive leaders—particularly those collaborating with non-governmental organizations (NGOs) or environmental groups—showed higher levels of recycling and waste segregation. Such leaders often acted as mediators between residents and municipal authorities, facilitating communication and organizing local initiatives. Conversely, areas with passive or disengaged leadership experienced lower community motivation and weaker participation in waste management programs. This finding underscores the importance of empowering local leaders as catalysts for behavioral change and sustainability.

Overall, the results indicate that community perceptions of waste management are shaped by an intersection of structural, cultural, and relational factors. Awareness alone does not guarantee behavioral change; rather, it must be supported by consistent government services, community leadership, and culturally rooted engagement strategies.

Table 1 Summary of Key Findings

Theme	Key Observations	Implications
1. Awareness of Waste Management Importance	High awareness of health and environmental risks, but inconsistent practice across socio-economic levels.	Awareness programs must be supported by infrastructure and incentives to promote behavioral change.
2. Perceptions of Government Services	Mixed perceptions; distrust arises when sorted waste is re-mixed by collectors.	Transparency and reliability in service delivery increase community trust and participation.
3. Barriers and Challenges	Limited facilities, weak enforcement, and economic constraints hinder waste practices.	Integrated solutions combining infrastructure, regulation, and education are required.
4. Role of Socio-Cultural Norms	<i>Gotong royong</i> enhances community cohesion; gender roles assign waste duties mostly to women.	Programs should leverage local cultural values and promote inclusive participation.

Theme	Key Observations	Implications
5. Community Leadership and Participation	Active leadership fosters engagement and collaboration; passive leadership results in weak practices.	Strengthening local leadership and partnerships with NGOs can enhance sustainability.

Source: Author's Analysis

The findings of this study demonstrate that community perceptions of waste management are shaped by a complex interplay of awareness, infrastructure, cultural norms, and leadership. Although the majority of residents expressed concern for the environmental and health consequences of poor waste disposal, their daily behaviors were often constrained by inadequate infrastructure, limited institutional support, and socio-economic pressures. This outcome reflects the argument of Guerrero et al. (2013), who emphasized that waste management challenges in developing countries extend beyond technical deficiencies, encompassing social, cultural, and governance factors. The Jakarta neighborhoods in this study illustrate this dynamic vividly: even when residents are conscious of environmental hazards such as flooding or air pollution, their capacity to act responsibly is often hindered by inconsistent collection systems and limited access to proper waste bins.

A central theme emerging from the findings is the gap between awareness and practice, which resonates strongly with the work of Marshall and Farahbakhsh (2013). While most residents demonstrated awareness of waste management's importance, this knowledge did not consistently translate into sustainable action. The inconsistency was particularly evident in low-income neighborhoods, where immediate livelihood concerns outweighed long-term environmental priorities. Without sufficient access to collection services, many residents resorted to informal or unsafe disposal methods such as open burning or dumping. This mismatch between knowledge and behavior is symptomatic of deeper structural problems rather than a lack of personal responsibility. Zurbrugg et al. (2012) similarly found that ineffective or unreliable municipal recycling systems often erode community motivation. In this study, participants expressed frustration that sorted household waste was mixed again by collectors, which led to skepticism toward official recycling efforts and discouraged further participation.

The issue of institutional trust emerges as a pivotal factor influencing behavioral compliance. Communities that perceived local authorities as responsive and transparent were more likely to engage in waste segregation and neighborhood clean-ups. Conversely, where municipal inefficiency or corruption was suspected, residents felt their efforts were futile. This finding aligns with Kalra (2019), who highlighted that community-based participation in environmental programs depends on trust in local governance structures. In contexts like Indonesia, where local government capacity varies widely, participatory models that involve

residents in decision-making and monitoring can enhance accountability and long-term engagement.

Cultural and social practices also played a critical role in shaping waste management behaviors. The tradition of *gotong royong* (collective community work) proved to be a valuable cultural asset, fostering a sense of shared responsibility for environmental cleanliness. In neighborhoods where communal clean-up events were organized regularly, residents expressed stronger environmental commitment and inter-household cooperation. This supports Kalra (2019), who argued that leveraging local traditions and community cohesion can significantly enhance the sustainability of waste management programs. However, the erosion of communal norms in certain neighborhoods, due to urban individualism or migration, weakened collective accountability. This variation underscores the need to design interventions that are culturally adaptive rather than imposing uniform behavioral expectations.

Another dimension of the findings involves the gendered division of labor in waste management practices. Women, particularly housewives, were primarily responsible for sorting, storing, and disposing of household waste, while men were more involved in community-level activities such as transporting waste or participating in clean-up events. This finding mirrors observations by Almasi et al. (2019), who noted that women play a central but often undervalued role in domestic waste management, particularly in low- and middle-income countries. Policies that acknowledge and empower women's contributions—such as through targeted education programs or micro-incentives—can therefore enhance the overall effectiveness of waste initiatives. Furthermore, incorporating gender-sensitive perspectives in environmental planning ensures that women's insights and needs are not marginalized in policy development.

Leadership and community participation emerged as another decisive element influencing local waste management outcomes. Neighborhoods with proactive leaders—those who facilitated recycling initiatives, organized educational workshops, or partnered with NGOs—demonstrated higher engagement and improved waste practices. In contrast, areas with passive or absent leadership displayed fragmented efforts and weaker cooperation. This pattern supports the findings of Wilson et al. (2012), who argued that local champions are essential for bridging communication gaps between authorities and citizens. Effective leaders serve as mediators who not only coordinate local initiatives but also translate technical waste policies into actionable community programs. Moreover, partnerships with non-governmental organizations and private recyclers provided alternative waste management pathways, offering both economic and environmental benefits.

The findings also highlight the interconnection between socio-economic status and participation. Middle-income neighborhoods were generally more organized and consistent in waste sorting due to better access to infrastructure and

information. Conversely, low-income communities faced structural disadvantages that limited their options. However, these communities also demonstrated strong informal networks and adaptive strategies, such as collaboration with informal waste pickers. Integrating these informal systems into formal waste management frameworks could enhance efficiency and inclusivity, echoing the recommendations of Pariatamby and Tanaka (2014), who advocate hybrid models that combine formal policy with informal sector contributions.

Overall, this study reinforces the notion that waste management is not merely a technical or logistical challenge, but a socially embedded process requiring participatory governance, cultural sensitivity, and active community engagement. Effective solutions must address not only physical infrastructure but also social trust, leadership capacity, and local cultural dynamics. Top-down policies risk failure if they overlook the lived experiences and perceptions of the communities they intend to serve. Consistent with Guerrero et al. (2013) and Wilson et al. (2012), this study concludes that sustainable waste management in developing contexts demands a holistic approach integrating education, community leadership, and institutional accountability. By fostering collaboration between citizens, local leaders, and municipal agencies, waste management initiatives can evolve from isolated interventions into socially supported movements that promote long-term environmental resilience and public well-being.

CONCLUSION

This study explored community perceptions of waste management practices in urban neighborhoods using a qualitative approach. The findings reveal that while residents generally recognize the importance of proper waste management for health and environmental sustainability, barriers such as inadequate infrastructure, weak enforcement, economic constraints, and distrust in government services hinder effective participation. Socio-cultural norms and local leadership significantly shape perceptions, with positive community engagement emerging where leaders actively promote collective responsibility.

The study underscores the need for policies that integrate community perspectives, strengthen trust in municipal services, and leverage cultural practices to enhance participation. Practical implications include investing in reliable infrastructure, conducting continuous education campaigns, and empowering local leaders to act as waste management facilitators. Future research should expand this inquiry across different urban and rural settings, compare gendered experiences, and explore innovative models of participatory governance. By centering community voices, waste management policies can become more responsive, inclusive, and sustainable.

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