



Challenges and Performance Improvement Strategies for Waste Scavengers in the Federal Capital Territory, Abuja, Nigeria

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ABSTRACT

Solid waste scavengers in the Federal Capital Territory (FCT), Abuja, contribute significantly to waste recovery and urban sanitation, yet they face persistent challenges that limit their effectiveness and threaten their livelihoods. This study aimed to examine the challenges confronting waste scavengers and propose performance improvement strategies to enhance their integration into formal waste management systems. A descriptive survey design was employed, involving 120 respondents selected from ten major scavenger depots across Abuja through purposive and accidental sampling. Data were collected using structured questionnaires, field observations, and interviews, and analyzed using descriptive statistics such as frequencies, percentages, means, and standard deviations. Findings revealed that the most critical challenges include lack of permanent depots, threats of relocation by government agencies, theft of properties, inadequate policy support, stigmatization, and occasional public assault. Among these, relocation threats (98%) and absence of permanent sites (99%) were the most widely reported. Respondents also expressed strong needs for formal recognition, policy protection, access to credit, and the establishment of recycling infrastructure. The mean scores for these needs ranged from 4.67 to 4.81, indicating strong consensus. In conclusion, the study highlights the urgent need for government intervention through policy reform, infrastructure support, and financial empowerment. It recommends formal recognition of scavengers, provision of secured depots, access to credit facilities, and investment in recycling infrastructure. If addressed, these measures could transform waste scavenging from an informal, stigmatized activity into a structured and sustainable sector that contributes meaningfully to urban development and environmental sustainability in Abuja.

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INTRODUCTION

Solid waste management has become a critical global environmental issue over the past several decades, particularly in rapidly urbanizing regions of the developing world. In Nigeria's Federal Capital Territory (FCT), Abuja, the inadequacy of formal waste management systems has led to growing reliance on informal waste scavengers' individuals and small enterprises who recover, sort, and recycle waste materials outside the official municipal framework. These

scavengers, though often marginalized and stigmatized, play an indispensable role in resource recovery, landfill reduction, and urban sanitation (Scheinberg *et al.*, 2010; Samson, 2009). Despite their contributions to environmental sustainability and local economies, they operate under difficult and unsafe conditions, with little recognition, protection, or support.

As Abuja continues to grow due to population influx and increased consumption, waste generation has risen sharply, outpacing the

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capacity of the Abuja Environmental Protection Board (AEPB) to manage it effectively.

Consequently, informal waste scavengers have filled the gap, collecting valuable materials from dumpsites, streets, markets, and households. Studies (Wilson & Cheeseman, 2006; Medina, 2000) indicate that scavengers are essential for recycling and urban waste reduction, yet they are exposed to social stigma, health hazards, and exploitation. While their work is critical in supporting livelihoods, reducing poverty, and generating raw materials for local industries, public perception remains largely negative, and institutional support is lacking.

This study therefore seeks to examine the activities of waste scavengers in Abuja, assess the challenges they face, and propose sustainable strategies for improving their performance. The aim is to explore how this informal sector can be better integrated into formal waste management systems for improved efficiency, livelihood security, and environmental sustainability. Specifically, the study aims to: (i) examine the socio-economic characteristics of waste scavengers in the FCC, (ii) identify the challenges confronting them, and (iii) recommend actionable measures to enhance their performance and contributions to urban waste management.

CONCEPTUAL REVIEW

Waste Scavengers in Urban Areas

More common in developing countries, scavengers earn a living by turning garbage into resources and also significantly reduce landfill use. They have become a key part of the waste recycling chain. According to Salem, scavengers save resources as use of recycled plastic saves Egypt 80% in imports of plastic materials. As cities in developing countries grapple with unemployment and budget deficits, waste scavenging provides an opportunity for engaging the youths in viable enterprises and creates a need for them to rethink approaches to the informal recycling sector (Rogerson, 2001).

Recycling is an economic development tool as well as an environmental tool. Reuse, Recycling and waste reduction offer direct

development opportunities for communities. When collected with skill and care, and upgraded with quality in mind, discarded materials are a local resource that can contribute to local revenue, job creation, business expansion and the local economic base. More than 300,000 people in Cairo alone make a living from trash. Simply removing it from the streets, however, won't pay the bills; the real money is in culling plastic, metal, paper, cloth and other materials from the refuse for recycling.

Waste Management Hierarchy

According to Gertsakis and Lewis, (2003), Waste Hierarchy is a list of approaches to managing waste, arranged in order of preference Figure 1 below is a common graphical representation of the Hierarchy, with the least preferred option for managing waste, disposal, located at the bottom and the most preferred option, prevention and minimization, located at the top.

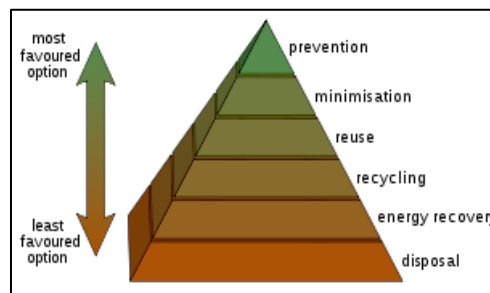


Figure 1: The waste management hierarchy

Source: Gertsakis and Lewis, (2003)

The Waste Hierarchy is widely used as a simple communication tool to remind those who generate or manage waste that: Strategies which try to avoid products becoming waste are generally preferable to strategies which seek to find a use for waste, which are in turn generally preferable to strategies for disposal, which should be used as a last resort. Waste minimisation is aimed at reducing the production of waste through education and improved production process rather than aiming to increase technology to improve treatment of waste. The idea of minimisation is not centered on technological advances, it can be



viewed as a method of managing existing resources and technology in order to maximise the efficiency of available resource use. Minimising waste generation has the potential to reduce costs or increase profits by maximising the use of resources and by reducing the amount of waste to be disposed of. The cost of waste management has also decreased.

Waste minimisation is perhaps the most important element of the Waste Hierarchy and also the one which presents the toughest challenges. Unfortunately, in spite of growing awareness in the community about the need to reduce waste, waste generation rates have continued to rise in line with growth in our standard of living. A recent study of attitudes to wasteful consumption made the disturbing finding that young people are both more likely to engage in wasteful consumption and less likely to feel guilty about such behaviour (Collins 2014).

Gertsakis and Lewis, (2003) outlined examples of avoidance techniques as follows: Consideration for individuals, buying goods in bulk, considering superfluous purchases, purchasing products in materials/packaging that is readily recycled, use of alternatives, e.g. landscaping that creates mulched gardens in place of lawns, consideration for industry, change in product design to reduce materials consumption, using crates instead of pallets to avoid the need for shrink wrap, incorporate Eco-design technology into production processes, adoption of Cleaner Production practices that ensure avoidance through efficiency measures, conduct of regular audits and monitoring of waste reduction/resource recovery practices.

The waste hierarchy refers to the 4Rs of reduce, reuse, recycle and recover or reuse, recycle, recover and remix which classify waste management strategies according to their desirability (Gertsakis & Lewis, 2003). The 3Rs are meant to be a hierarchy, in order of importance. However, in Europe the waste hierarchy has five steps: reduce, reuse, recycle, recovery, and disposal. The waste hierarchy has taken many forms over the past decade, but the basic concept has remained the cornerstone of most waste minimisation strategies. The aim of

the waste hierarchy is to extract the maximum practical benefits from products and to generate the minimum amount of waste. Some waste management experts have recently incorporated an additional R: Re-think, with the implied meaning that the present system may have fundamental flaws, and that a thoroughly effective system of waste management may need an entirely new way of looking at waste.

Source reduction involves efforts to reduce hazardous waste and other materials by modifying industrial production. Source reduction methods involve changes in manufacturing technology, raw material inputs, and product formulation. At times, the term pollution prevention may refer to source reduction. Another method of source reduction is to increase incentives for recycling. Many communities in the United States are implementing variable-rate pricing for waste disposal (also known as Pay as You Throw - PAYT) which has been effective in reducing the size of the municipal waste stream.

The three Rs: Reduce, Reuse, and Recycle. (3Rs)

The 3 R's; reduce, reuse and recycle - all help to cut down on the amount of waste we throw away. They conserve natural resources, landfill space and energy. The three R's save land and money communities must use to dispose of waste in landfills. Locating a new landfill has become difficult and more expensive due to environmental regulations and public opposition.

Reduce - to buy less and use less.

Incorporates common sense ideas like turning off the lights, rain barrels, and taking shorter showers, but also plays a part in composting/grass recycling (transportation energy is reduced), low-flow toilets, and programmable thermostats. The best way to manage waste is to not produce it. This can be done by shopping carefully and being aware of the following guidelines listed by Lantz (2019).

1. Buy products in bulk. Larger, economy-size products or ones in concentrated form use less packaging and usually cost less per one.

2. Avoid over-packaged goods, especially ones packed with several materials such as foil, paper, and plastic. They are difficult to recycle, plus you pay more for the package.
3. Avoid disposable goods, such as paper plates, cups, napkins, razors, and lighters. Throwing away contributes to the problem, and costs more because they must be replaced again and again.
4. Buy durable goods - ones that are well-built or that carry good warranties. They will last longer, save money in the long run and save landfill space.
5. At work, make two-sided copies whenever possible.
6. Maintain central files rather than using several files for individuals.
7. Use electronic mail or the main bulletin board.
8. Remove your name from the mailing lists of materials you no longer want to receive.
9. Use cloth napkins instead of paper napkins.
10. Use a dish cloth instead of paper towels.

Reuse

Reuse can be defined as recovering value from a discarded item without reprocessing or remanufacture Waste Management Board. Typically, this will involve an item being reused in its original function or similar. Importantly, the definition of reuse does not preclude relatively minor pre-treatments like washing, reconditioning or painting. It is the process of repeated use of a product in the same form but not necessarily for the same purpose. Materials or products are reused in their original state form or for their original purpose with no need to apply physical or chemical treatments. Some minor physical treatment may be required, such as washing or making repairs.

Reuse is given priority over recycling within the Waste Hierarchy because it is assumed to provide greater savings in resource consumption (Gregson & Crang 2015). In other words, reusing an item for its original

purpose generally consumes fewer resources than sending the item back to a manufacturer to be converted into the raw materials for the manufacture of a new version of the same item. The assumption that reuse is better than recycling has been challenged on many occasions by industry groups including the packaging industry. According to Ogwueleka (2013), many materials can be reused with very little or no processing instead of being disposed of to landfill. Reuse benefits the environment by reducing the need to harvest new resources for each new product, and as a consequence of this the overall cost of production may be significantly reduced. Many waste products have the potential to be reused enabling cost savings from landfill avoidance and from not having to make and use new products. (Saad & Khatib 2022) listed examples of reuse initiatives as follows:

1. Product reuse, retreading tyres, recovery of demolition materials, reuse of plastic bags, second hand clothing, reconditioning and repair of furniture and appliances;
2. Materials reuse, liquid paper board for seedlings planters, bottles, scrap paper for notes/phone messages; durable packaging - e.g. milk crates, bread trays, string or calico shopping bags.

Batool *et al.* (2023) outlined positive effects associated with reuse as follows:

1. More effective use of resources
2. Employment opportunities in the service and repair industries
3. Support for charity-based stores
4. Better protection of products as durable packaging is more robust
5. Changes in attitudes towards disposable products

In terms of Reuse, elements of the discarded item are used again. Initiatives include hand-me-downs, garage sales, quilting, travel mugs, and composting (nutrients). It makes economic and environmental sense to reuse products. Sometimes it takes creativity to reuse products for the same purpose.

Recycle

Recycling is a resource recovery method involving the collection and processing of waste products for use as a raw material in the manufacture of the same product or a different one (Stessel, 2012). Recycling is a series of steps that takes a used material and processes, remanufactures, and sells it as a new product. Recycling is a fraction of waste management. Recycling is regarded as a process of transforming waste materials that naturally can be reused and converting them into new products (Batool *et al.* 2023).

Recycling being the last r in the 3 R's policy (reduce, reuse, recycle) has become one of the most commonly used words in waste management and in solving environmentally related issues. Plastics, metals, glass, wood, paper, textiles are all recyclable. These items can either be transformed into its original form or be used to make new forms of product. Recycling not only conserves the materials of the recycled items, it also conserves earth's resources. For example, recycling one ton of paper saves 17 matured trees, about 6000 gallons of water and over 4000 kilowatt- hours of electricity, which can power an average home for about four to five months (Seeley *et al.*, 2012).



Figure 2: Recycling Symbol
Source: NSE Global, (2020)

The recycling symbol means one of two things either the product is made of recycled material, or the item can be recycled. For instance, many plastic containers have a recycling symbol

with a numbered code that identifies what type of plastic resin it is made from. However, just because the container has this code does not mean it can be easily recycled locally. Check collection centres and curbside pickup services to see what they accept, and begin collecting those materials. These can include metal cans, newspapers, paper products, glass, plastics and oil. There are several ways to promote product recycle outlined by Wilson *et al.* (2022) they include:

1. Consider purchasing recycled materials at work when purchasing material for office supply, office equipment or manufacturing.
2. Speak to store managers and ask for products and packaging that help cut down on waste, such as recycled products and products that are not over packaged.
3. Buy products made from material that is collected for recycling in your community.
4. Use recycled paper for letterhead, copier paper and newsletters.

The conceptual review affirms that waste scavengers play a vital socio-economic and environmental role in urban waste management, especially in developing countries. As informal actors, they significantly reduce landfill dependency and turn discarded materials into economic resources, offering employment and livelihood opportunities for thousands, particularly in low-income communities. Scavengers contribute to the circular economy by collecting, sorting, and selling recyclable materials, with cities like Cairo and Abuja witnessing substantial local benefits from their activities.

The review also emphasizes the relevance of the Waste Management Hierarchy, which prioritizes waste minimization through reduction, reuse, and recycling over disposal. Waste reduction strategies, such as avoiding unnecessary packaging and promoting durable goods, are foundational to efficient resource use. Reuse offers immediate environmental and economic advantages by extending product

lifespans without intensive processing. while recycling transforms waste into raw materials for new products, reducing environmental degradation and conserving energy and natural resources (Adelekan & Ogunde, 2012).

In essence, the integration of waste scavengers within structured waste management strategies that align with the 3Rs Reduce, Reuse, Recycle holds great potential for enhancing sustainability, promoting local economic development, and minimizing environmental impact. For this to be effective, waste management systems must shift from disposal-centered models to inclusive frameworks that empower informal workers, promote behavioral change, and prioritize waste minimization at the source.

METHODOLOGY

This study adopted a descriptive survey design to investigate the challenges faced by solid waste scavengers in the Federal Capital Territory (FCT), Abuja, and to identify their needs for improved performance. Data were collected from

ten major scavenger depots across Abuja, including Jabi, Deidei, Zuba, Apo, Lugbe, Mpape, Nyanya, Gwarimpa, Karmajiji, and Lokogoma. A total of 120 respondents were selected using purposive and accidental sampling techniques targeting only available and willing participants actively engaged in scavenging activities.

Primary data were gathered through structured questionnaires containing both closed and open-ended questions. The survey focused on socio-economic characteristics, operational challenges, and expectations from government. Field observations and interviews were also conducted to gain deeper insights into issues like insecurity, public assault, and stigmatization. Data analysis was carried out using descriptive statistics, including frequencies, percentages, means, and standard deviations. Responses were ranked to identify the most pressing challenges and needs across the ten depots.

RESULT AND DISCUSSIONS

Challengers faced by Solid Waste Scavengers in Abuja

Table 1: Challengers faced by Solid waste scavengers in Abuja

S/N	Challenges faced by solid waste scavengers	Strongly Disagreed	Disagreed	Neutral	Agreed	Strongly Agreed	Total
1	Lack of permanent site at scavengers' depot	- (0%)	- (0%)	1 (1%)	16 (13%)	103 (86%)	120 (100%)
2	Threat of relocation from government	- (0%)	- (0%)	- (0%)	2 (2%)	118 (98%)	120 (100%)
3	Theft of properties due to lack of security	- (0%)	1 (1%)	2 (2%)	21 (17%)	96 (80%)	120 (100%)
4	Vulnerability to assault	8 (7%)	7 (6%)	10 (8%)	17 (14%)	78 (65%)	120 (100%)
5	Lack of support from government	- (0%)	1 (1%)	2 (2%)	6 (4%)	111 (93%)	120 (100%)
6	Stigmatization`	3 (3%)	5 (4%)	5 (4%)	11 (9%)	96 (80%)	120 (100%)

Source: Field Survey, (2024).

Table 1 highlights the major challenges confronting solid waste scavengers in Abuja, based on responses from 120 participants. The most significant issue identified is the threat of relocation by government authorities, with 98% of

respondents strongly agreeing and 2% agreeing, indicating widespread insecurity due to the absence of tenure protection for scavenging depots. Closely following is the lack of a permanent site for their activities, with 86% strongly agreeing and 13% agreeing, showing that

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most scavengers operate in temporary or unstable locations.

Lack of government support was also identified as a critical challenge, with 93% of respondents strongly agreeing and 4% agreeing, emphasizing the absence of financial aid, policy backing, or institutional recognition. Theft of properties, attributed to poor security at scavenging sites, was strongly agreed to by 80% and agreed to by 17% of respondents.

Stigmatization remains a social barrier, as 80% strongly agreed and 9% agreed that they face negative public perception and social exclusion, further complicating their operations.

Public assault was comparatively less agreed upon, though still significant, with 65% strongly agreeing and 14% agreeing. However, 13% of respondents either disagreed or were neutral, indicating that while assaults occur, they may be less frequent or vary across locations.

In summary, the data reveal that Abuja's scavengers face a combination of physical insecurity, social exclusion, lack of institutional support, and operational instability. These challenges undermine their contribution to urban waste management and highlight the urgent need for formal recognition and policy-driven support.

Table 2: Challengers faced by Solid waste scavengers across the ten depots in FCT

	Lack of permanent site as scavengers' depot	Threat of relocation	Stigmatization	Theft	Lack of support	Assault
Jabi (26)	11 (43%)	7 (25%)	2 (9%)	2 (9%)	4 (14%)	
Deidei (20)	10 (50%)	4 (18%)	5 (23%)	-	1 (9%)	-
Zuba (18)	5 (27%)	4 (20%)	6 (35%)	3 (18%)	-	-
Apo (15)	6 (40%)	4 (25%)	2 (15%)	-	3 (20%)	-
Lugbe (11)	3 (28%)	2 (20%)	2 (20%)		3 (25%)	1 (7%)
Mpape (11)	5 (45%)	2 (15%)	2 (20%)	1 (10%)	-	1 (10%)
Nyanya (9)	3 (35%)	2 (18%)	2 (22%)	2 (25%)	-	-
Gwarimpa (4)	2 (50%)	-	2 (50%)	-	-	-
Karmajiji (3)	2 (67%)	-	-	-	1 (33%)	-
Lokogoma (3)	1 (35%)	-	-	-	2 (65%)	-

Source: Field survey, (2024).

From table 2 it is clear that the major challenge faced the solid waste scavengers in FCT is lack of permanent site to serve as scavenger's depot as reported in almost all the scavenger's depot in the territory. All the depots in the territory have had their respondents reporting this challenge in greater number (43%) in Jabi, (50%) in Deidei, (40%) in Apo, (28%) in

Lugbe, (45%) in Mpape, (35%) in Nyanya, (50%) in Gwarimpa and (67%) in Karmajiji. The second most pressing challenge is stigmatisation which has an average of 24% as can be seen from the table. Assault is the least of the challenges faced by the scavengers as it was reported mainly by few scavengers' depots.

Table 3: Needs of Abuja Solid Waste Scavengers from Government

Needs	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
Recognition from government as part of urban economy	0	1	2	21	96	38.13	0.51
Permanent sites at scavengers' depot	0	0	3	16	101	38.53	0.45
Protection from government policy	0	0	2	7	111	39.27	0.34
Access to credit facilities	0	1	3	14	102	38.47	0.5
Formalization of scavenging through policy	0	2	4	11	103	38.33	0.58
Building factories that process recycled solid waste	1	3	4	16	96	37.53	0.73

Source: Field Survey, (2024).

The analysis of Table 3 reveals a strong consensus among Abuja's solid waste scavengers on the critical support required from government to improve their operations and social standing. The calculated means for all six identified needs fall between 4.67 and 4.81 on a 5-point Likert scale, indicating that respondents not only agree but strongly agree with these demands. Additionally, the low standard deviations (ranging from 0.46 to 0.66) suggest consistent responses across the surveyed depots, highlighting a shared experience and urgency.

The highest-rated need was protection through government policy (Mean = 4.81, SD = 0.46), reinforcing findings by Scheinberg and Wilson, who emphasized the importance of regulatory safeguards to legitimize and protect informal waste workers. Formal policy frameworks help prevent forced evictions, discrimination, and exploitation challenges frequently reported by informal recyclers globally (Samson, 2009).

Closely following were formal recognition as part of the urban economy (Mean = 4.76) and provision of permanent depots (Mean = 4.81). These findings support Medina (2000), who asserted that integrating waste pickers into urban economic systems can enhance their productivity,

dignity, and contribution to sustainable development. The high priority placed on depot provision is consistent with the work of Wilson *et al.* (2006), who found that secure workspaces improve the operational efficiency and livelihood security of scavengers.

Access to credit facilities (Mean = 4.8) was also highly rated, echoing Nzeadibe and Anyadike (2012), who argued that financial inclusion empowers informal actors to expand operations, invest in tools, and scale up recycling initiatives. The formalization of scavenging (Mean = 4.79) aligns with global calls to integrate the informal sector into formal waste governance systems to enable better health, social protection, and access to markets (Samson, 2009).

Lastly, the need for solid waste recycling factories (Mean = 4.67) reflects awareness among scavengers of the importance of value chain development and the need for local industries to absorb and process recovered materials, as highlighted by Ogwueleka (2013). In summary, the consistency and strength of these responses indicate a well-defined set of expectations from Abuja's waste scavengers, all of which align with international best practices for informal sector integration and support.

Table 4: Needs of Solid waste scavengers from FCT Government

	Formal recognition from Govt	Permanent site as depots	Access to credits	Protection	Building wastes factories
Jabi (26)	11 (43%)	12 (48%)	2 (9%)	-	-
Deidei (20)	4(18%)	10 (50%)	5 (23%)	-	1 (9%)
Zuba (18)	5 (27%)	4 (20%)	9 (53%)	-	-
Apo (15)	2 (15%)	4 (25%)	6 (40%)	-	3 (20%)
Lugbe (11)	3 (28%)	5 (45%)	3 (27%)	-	-
Mpape (11)	3 (25%)	3 (30%)	4 (35%)	1 (10%)	-
Nyanya (9)	2 (25%)	3 (35%)	2 (22%)	2 (18%)	-
Gwarimpa (4)	-	2 (50%)	2 (50%)	-	-
Karmajiji (3)	-	2 (67%)	1 (33%)	-	1 (33%)
Lokogoma (3)	-	1 (35%)	2 (65%)	-	-

Source: Field survey, (2024).

Table 4 respondents were asked to comment on their needs from government and they have consensus on three major needs across the ten solid waste scavenger's depots in the federal capital territory. Except for depots like Lokogoma (35%), Mpape (30%), Apo (25%) and Zuba (20%), all other depots seem to have consensus on their need for permanent site for their business. These four depots have more interest in access to credits Lokogoma (65%), Mpape (35%), Apo (40%) and Zuba (53%) to further expand their business. This is followed by the need for formal recognition as championed by Jabi (43%), Lugbe (28%), Zuba (27%), Mpape and Nyanya (25%) each.

Conclusion and Recommendations

The study concludes that waste scavengers in the Federal Capital Territory (FCT), Abuja, play a vital role in urban waste management and resource recovery, yet they face multiple systemic challenges that hinder their performance and well-being. Chief among these challenges are the lack of a permanent site for their operations, frequent threats of relocation by government authorities, inadequate policy support, property theft due to insecure workspaces, public assault, and persistent stigmatization. These issues were consistently reported across the ten major scavenger depots, with relocation threats and lack of permanent

depots ranking highest among respondents. Despite these obstacles, scavengers have expressed clear and unified needs that, if addressed, could enhance their performance and improve integration into formal waste management systems.

The survey revealed that scavengers overwhelmingly desire formal recognition by the government, secure and designated workspaces, protection through government policy, access to credit facilities, and the establishment of recycling infrastructure. With high mean scores ranging between 4.67 and 4.81 on a 5-point Likert scale, these needs demonstrate a strong consensus across all depots. Notably, protection through policy and the provision of permanent depots were among the most urgently expressed needs, underscoring the sector's vulnerability and desire for legitimacy.

Based on these findings, it is recommended that the government formally recognize scavengers as integral actors in the urban economy and waste management system. This should be accompanied by the allocation of permanent depots, enactment of protective policies, and provision of financial support mechanisms such as credit access through SMEDAN. Public sensitization campaigns should also be launched to counter stigmatization and promote the social value of scavengers. Furthermore, investment in recycling infrastructure and targeted capacity-building

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programs can empower scavengers to operate more safely and efficiently. By implementing these strategies, Abuja can transform waste scavenging from a marginalized survival activity into a formal, secure, and sustainable contributor to urban development.

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