**ASSESSMENT OF PRIVATE SECTOR PARTICIPATION IN SANITARY DISPOSAL OF REFUSE AMONG THE INHABITANTS OF OLORUNDA LOCAL GOVERNMENT AREA OF OSUN STATE**

**Abstract**

**Introduction**: This study addressed the assessment of private sector participation in sanitary disposal of refuse among the inhabitants of Olorunda Local Government Area of Osun State. The increase in the volume of refuse materials discharged by consuming population to the environment and deterioration of environmental quality in urban areas have been an issue of major concern for many governments in developing countries. **Objective:** To improve the effectiveness and efficiency in the delivery of refuse management services, the Government have involved the participation of private sectors, hence the need for this study.

**Methodology**: Descriptive survey is employed for this investigation; this study focused on strategic areas, especially historical and commercial areas within the eleven political wards of the local government where two hundred and thirty respondents were randomly selected; data were collected through structured questionnaires; two hundred and fifty questionnaires were administered and only two hundred and thirty were retrieved. The data obtained from the respondents were analyzed using table and simple percentage. The findings revealed that 40.8% of the respondents claimed that the registered private sector practitioners were regular and effective in collection and sanitary disposal of refuse while 31% of the respondents that engaged them were satisfied with their methods of refuse disposal. 74% of respondents believed that involvement of private sector participation in integrated Waste Management would help solve the problem of municipal waste crisis. **Conclusion/Recommendation**: The Private Sector participation was not enough to check the problems associated with solid waste management, rather, a holistic approach where all actors (all and sundry)-householders, formal or informal waste collectors, Environmental Health Officers, scraps  collectors, NGOs, information manager, media, town planners, developers, academia should be involved by the Government in the policy formulation and implementation of sustainable solid waste management practices.

Key words: Waste management, collectors, sustainable development, Private sector

**Introduction**

Improper waste management continues to pose serious threats to both the environment and public health. Uncollected or poorly managed waste can lead to long-term environmental degradation, including soil, water, and air pollution, while also creating conditions that support the transmission of infectious diseases and exposure to toxic substances. According to Edokpayi, Odiyo, and Durowoju (2017), the mismanagement of waste significantly increases environmental and health risks, with potential irreversible damage to ecological systems.

The increasing volume of waste released into the environment, coupled with weak or non-existent waste control policies, necessitates urgent attention to the growing prevalence of environmentally linked diseases. As observed by Hua, De Matos, Metselaar, and Storm (2018), there is a critical need for government intervention through effective regulations, public health programs, and infrastructure development to address these challenges.

Environmental education plays a vital role in improving public awareness about the dangers of environmental pollution and the need for sustainable practices. Ardoin, Bowers, and Gaillard (2020) emphasize that raising environmental literacy is key to influencing behavior change and promoting public health.

The term "waste" encompasses a wide range of unwanted or discarded materials. It can be classified into solid, liquid, or gaseous forms, and further into biodegradable, non-biodegradable, or hazardous categories. Biodegradable waste—typically originating from plant and animal sources—can decompose naturally through microbial action. On the other hand, non-biodegradable waste, such as plastics, metals, and ceramics, resists natural decomposition and poses long-term environmental threats (Annan, 2001). Waste is generated from various sources, including agriculture, households, commerce and industry, construction and demolition activities, sewage systems, and mining operations (Horttanainen, Deviatkin, & Havukainen, 2021). Without efficient waste segregation, collection, and disposal systems, these sources contribute significantly to urban pollution.

Olorunda, a rapidly urbanizing district within Osun State, holds significant potential for growth and economic development. However, urban expansion and increased industrial activity have strained existing waste management systems. The absence of comprehensive macroeconomic and environmental policies has hindered the adoption of sustainable practices (Lintukangas, Kähkönen, & Ritala, 2016). Indiscriminate dumping of waste is increasingly common in many Nigerian cities, including Olorunda. Residents often dispose of household waste on streets, in drains, and in open spaces, reflecting a lack of environmental awareness and effective urban planning. As population density increases, so does the volume of waste, exacerbating pollution and public health issues.

The situation becomes especially critical during the rainy season. Waste-blocked drainage systems cause stagnant water accumulation, providing breeding grounds for mosquitoes and contributing to the spread of vector-borne diseases such as malaria. Ensuring access to proper sanitation and waste disposal infrastructure in urban areas is essential for protecting public health and preserving environmental quality. Despite the importance of this issue, solid waste management remains a persistent sanitation challenge in Nigeria. The problem is worsened by rapid urban growth without corresponding investment in waste infrastructure, leading to indiscriminate dumping and environmental degradation (Ogbonna, Amangabara, & Ekere, 2007).

**Evaluating Private Sector Involvement**

The inclusion of the private sector in waste management is essential for bridging the gap between government limitations and community needs. Evaluating private sector involvement is critical for several reasons:

* **Efficiency and Innovation**: Private operators often introduce modern technologies and efficient practices that improve waste collection, recycling, and disposal.
* **Resource Mobilization**: The private sector can bring in financial investments, reducing the burden on government budgets.
* **Job Creation and Economic Opportunities**: Engaging businesses in waste management opens up employment opportunities, especially in recycling and waste-to-wealth initiatives.
* **Improved Accountability**: With contractual agreements and performance-based monitoring, the private sector can help achieve measurable environmental outcomes.

**Local Waste Management Regulations and Initiatives**

Nigeria has made efforts at both national and state levels to improve waste management through legislation and community-focused programs. The National Environmental Standards and Regulations Enforcement Agency (NESREA) enforces the National Environmental (Sanitation and Wastes Control) Regulations, S.I. No. 28, 2009, which sets guidelines for waste control and sanitation. Additionally, Nigeria has launched a ban on single-use plastics beginning with government offices, scheduled to become nationwide by 2025 (Reuters, 2024). Extended Producer Responsibility (EPR) initiatives such as the Food and Beverage Recycling Alliance (FBRA) promote recycling and sustainable packaging among manufacturers.

In Osun State, several key initiatives have been implemented. Governor Ademola Adeleke’s administration has prioritized the circular economy through recycling hubs, composting, and bioenergy projects. Monthly environmental sanitation exercises have been reinstated to foster community participation and cleanliness. Furthermore, waste infrastructure has been enhanced through the purchase of refuse vehicles, creation of designated dumpsites, and installation of waste recycling machines (Osun State Government, 2024).

These initiatives demonstrate that policy reform, infrastructure development, and inclusive partnerships—including the private sector—are vital for advancing effective waste management and safeguarding public health.

**Methodology**

**Study Area**

Olorunda Local Government Area is located in Osun Central Senatorial District of Osun State, Nigeria. It has an area of 97 square kilometers and a population of 131,761 people according to the 2006 census. The headquarters of the local government is in Igbona, on the outskirts of the state capital Osogbo. Olorunda Local Government Area is bordered by Osogbo Local Government Area to the north, Orolu Local Government Area to the east, Ifelodun Local Government Area to the west, and Egbedore Local Government Area to the south. The local government is predominantly populated by the Yoruba ethnic group. The major religions in Olorunda Local Government Area are Islam, Christianity and Traditionalist.

The economy of Olorunda Local Government Area is based on agriculture, trade, and commerce. The main agricultural products are cocoa, yam, cassava, and maize. The major trading centers in the local government are Igbona, Agowande, Sabo, Otaefun, Ayetoro, Oluode, Government Reserved Area, Government House, Orisunbare and Balogun.

Olorunda Local Government Area is a rapidly developing area with a lot of potential for economic growth. The local government is well-positioned to benefit from the proximity to the state capital Osogbo.

**Sample and Sampling Method**

In this study, a simple random sampling technique was adopted to select 250 respondents from the population within the chosen Local Government Area of Osun State. The use of simple random sampling helped ensure that everyone in the population had an equal opportunity of being selected, which reduced the chances of bias in the selection process.

To ensure the sample was representative of the entire area, the Local Government was first divided into its major wards. Respondents were then randomly selected from each ward based on the estimated population size of each area. This approach ensured that different parts of the Local Government, including both urban and rural communities, were included in the study.

Several factors were considered in selecting respondents. Adults aged 18 years and above were included, as they are more likely to have direct experience and awareness of waste management issues in their communities. Both male and female participants were selected, and efforts were made to ensure a good balance across different age groups and social classes.

The sample also included individuals from various educational backgrounds—both those with formal education and those without—as well as people engaged in different occupations such as farming, trading, artisan work, civil service, and others. This was done to capture a wide range of opinions and experiences regarding the issue of waste management in the area.

Before administering the questionnaires, all participants were informed about the purpose of the study, and their consent was obtained. For those who could not understand English, the questions were translated into Yoruba to ensure clarity and proper understanding.

**3.4 Data Collection Tool**

A well-structured questionnaire served as the primary instrument for data collection. The questionnaire had four sections: Section "A" gathered demographic information, Section "B" focused on identifying the causes of inefficient private practitioners in sanitary waste disposal, Section "C" aimed to understand strategies for increasing awareness about the use of private practitioners for sanitary waste disposal among the community, and Section "D" addressed the government's contributions to private practitioners in solid waste collection. The questions were developed based on the research's core inquiries.

**Instrument Validity and Reliability**

The questionnaire was designed to ensure validity by using clear and logically related language, guaranteeing relevance to the study's subject matter, and maintaining a clear sense of purpose. Reliability was ascertained through test-retest methods to confirm consistent and dependable answers. The instrument was found to be reliable, efficient, and accurate.

**Administration of the Instrument**

A total of 250 questionnaire copies were administered to the sample group and 230 were retrieved. The researcher personally conducted face-to-face interviews to distribute the questionnaires to respondents.

**Data Collection Method**

Data were collected from the participants through the guidance of a research assistant. The questionnaire was distributed, explained to the respondents, and their responses were recorded by the research assistant.

**Data Analysis Method**

All collected data were entered into a spreadsheet designed for analysis. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) version 23. Results for the research questions were presented in percentage (%)

**PRESENTATION OF DATA AND ANALYSIS**

**Socio-Economic Characteristics of the Respondents**

**Table 1: Sex of Respondents**

|  |  |  |
| --- | --- | --- |
| **Sex** | **Frequency** | **Percentage (%)** |
| Male | 102 | 44.3 |
| Female | 128 | 55.7 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 1 reveals the gender distribution of respondents. It shows that 44.3% were male, while 55.7% were female.

**Table 2: Marital Status**

|  |  |  |
| --- | --- | --- |
| **Status** | **Frequency** | **Percentage (%)** |
| Single | 80 | 34.8 |
| Married | 136 | 59.1 |
| Separated | 4 | 1.7 |
| Widowed | 28 | 3.5 |
| Divorced | 22 | 0.9 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 2 illustrates the marital status of respondents, with 59.1% being married, 34.8% single, and the remaining 6.1% distributed among separated, widowed, and divorced categories.

**Table 3: Age of Respondents**

|  |  |  |
| --- | --- | --- |
| **Age Range** | **Frequency** | **Percentage (%)** |
| 15-19 years | 15 | 6.5 |
| 20-24 years | 20 | 8.7 |
| 25-29 years | 40 | 17.4 |
| 30-34 years | 40 | 17.4 |
| 35-39 years | 30 | 13 |
| 40-44 years | 23 | 10 |
| 45-49 years | 30 | 13 |
| 50-54 years | 27 | 11.7 |
| 55 years & above | 5 | 2.2 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 3 outlines the age distribution of respondents; with 8.7% in the 20-24 years and 17.4 %in 25-29 years age brackets. Notably, over 60% of respondents were aged 30 years and above.

**Table 4: Educational Qualification**

|  |  |  |
| --- | --- | --- |
| **Qualification** | **Frequency** | **Percentage (%)** |
| P.S.L.C | 10 | 4.3 |
| J.S.C.E | 27 | 11.7 |
| S.S.C.E | 50 | 21.8 |
| O.N.D./N.C.E | 70 | 30.4 |
| H.N.D/B.S.C | 40 | 17.4 |
| No formal education | 23 | 10 |
| Others | 10 | 4.3 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 4 showcases the educational qualifications of respondents. The majority (30%) are O.N.D/N.C.E. graduates, while others have various educational levels.

**Table 5: Occupation of Respondents**

|  |  |  |
| --- | --- | --- |
| **Occupation** | **Frequency** | **Percentage (%)** |
| Schooling | 30 | 13 |
| Public/civil servants | 50 | 21.8 |
| Business | 65 | 28.3 |
| Artisan | 15 | 6.5 |
| Retired | 10 | 4.3 |
| Private employee | 30 | 13 |
| Unemployed | 20 | 8.7 |
| Others | 10 | 4.3 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 5 provides information on the occupation of respondents, where 28.3% are involved in business, and 2.8% are public/civil servants. Overall, 78.3% of respondents are employed in various sectors.

**Table 6: Types of Accommodation**

|  |  |  |
| --- | --- | --- |
| **Type** | **Frequency** | **Percentage (%)** |
| ONE OR TWO ROOMS | 70 | 30.4 |
| FLATS | 110 | 47.8 |
| DUPLEX | 20 | 8.7 |
| BUNGALOW | 10 | 4.3 |
| OTHERS | 20 | 8.7 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 6 indicates the types of accommodation among respondents, with 47.8% residing in flats, while 30.4% live in one or two-room apartments.

**Table 7: Number of Persons per Household**

|  |  |  |
| --- | --- | --- |
| **No. of Persons** | **Frequency** | **Percentage (%)** |
| 1 | 10 | 4.3 |
| 2 | 15 | 6.5 |
| 3 | 35 | 15.2 |
| 4 | 60 | 26.1 |
| 5 | 44 | 19.1 |
| 6 | 30 | 13 |
| Above 6 | 36 | 15.7 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 7 details the number of persons per household, with the majority having four or more individuals, as 15.7% of respondents indicated more than six people in their households

**Section B:**

**Table 8: Methods of Solid Waste Disposal**

|  |  |  |
| --- | --- | --- |
| **Methods** | **Frequency** | **Percentage (%)** |
| Registered waste collectors | 72 | 31.3 |
| Local government collectors | 58 | 25.2 |
| Wheelbarrow collectors | 30 | 13 |
| Self-disposal | 70 | 30.4 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 8 displays the various methods of solid waste disposal among respondents. It is observed that 31.3% preferred registered waste collectors, 25.2% used local/state government collectors, 13% relied on wheelbarrow collectors, and 30.4% practiced self-disposal.

**Table 9: Assessment of Participation of Refuse Disposal Agents**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agent** | **Regular/effective frequency** | **Percentage (%)** | **Irregular adequate frequency** | **Percentage (%)** | **Irregular poor frequency** | **Percentage (%)** | **Frequency** | **Percentage (%)** | **Total** | **Percentage (%)** |
| Registered | 38 | 16.5 | 10 | 4.3 | 7 | 3.0 | - | - | 55 | 23.9 |
| Local/State govt. | 35 | 15.2 | 10 | 4.3 | 6 | 2.6 | - | - | 51 | 22.2 |
| Wheelbarrow | 20 | 8.6 | 20 | 8.7 | 30 | 13 | - | - | 70 | 30.4 |
| Self-disposal | - | - | - | - | - | - | 54 | 23.5 | 54 | 23.5 |
| TOTAL | 93 | 40.4 | 40 | 17.3 | 43 | 18.6 | 54 | 23.5 | 230 | 100 |

Source: Research Survey, 2023

Table 9 outlines the assessment of participation of refuse disposal Agents. It indicates that 40.4% of respondents found registered collectors to be regular/effective, 7.3% perceived them as irregular but adequate, and 18.6% considered them irregular and poor. In contrast, 23.5% were satisfied with self-disposal.

**Table 10: Unsightly Heaps of Refuse**

|  |  |  |
| --- | --- | --- |
| **Unsightly Refuse Dump in Neighborhood** | **Frequency** | **Percentage (%)** |
| YES | 90 | 39.1 |
| NO | 140 | 60.9 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 10 reflects the presence of unsightly heaps of refuse in respondents' neighborhoods. It reveals that 39.1% occasionally experience this issue and 60.9%

**Table 11: Refuse Dump Close to Residence**

|  |  |  |
| --- | --- | --- |
| **Proximity to House** | **Frequency** | **Percentage (%)** |
| VERY CLOSE | 10 | 4.3 |
| CLOSE | 40 | 17.4 |
| NOT TOO CLOSE | 70 | 30.4 |
| NONE | 110 | 47.8 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 11 addresses the proximity of refuse dumps to respondents' residences. It shows that 21.7% occasionally dispose of waste very close and close to their homes, while 30.4% do so not too close.

**Table 12: The Uses of Household Waste after Sorting**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency** | **Percentage (%)** |
| Re-use | 30 | 13 |
| Sell | 25 | 10.9 |
| Destroy | 10 | 4.3 |
| Dispose the later | 61 | 26.5 |
| Do not really sort waste | 104 | 45.2 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 12 outlines the uses of household waste after sorting. It demonstrates that 13% re-use, 10.5% sell, 4.3% destroy sorted waste, and 26.7% dispose of it later while 45.2% do not.

**Table 13: Government Should Allow More Private Practitioners**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency** | **Percentage (%)** |
| Yes | 184 | 80 |
| No | 46 | 20 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 13 presents respondents' opinions on whether the government should allow more private practitioners to manage waste. A majority (80%) believed that the government should permit more private practitioners.

**Table 14: Involvement of Private Practitioners in Solving the Waste Crisis**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency** | **Percentage (%)** |
| Yes | 172 | 74.8 |
| No | 58 | 25.2 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 14 shows that 74.8% of respondents believed that the involvement of private practitioners in waste management would help solve the waste crisis, while 25.2% did not share this opinion.

**Table 15: Awareness of Monitoring of Private Practitioners**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency** | **Percentage (%)** |
| Yes | 104 | 45.2 |
| No | 126 | 54.8 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 15 indicates that 45.2% of the respondents were aware of the government's monitoring of private waste management practitioners.

**Table 16: Government Setting Up a Committee for Monitoring Private Practitioners**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency** | **Percentage (%)** |
| Yes | 202 | 87.8 |
| No | 28 | 12.2 |
| TOTAL | 230 | 100 |

Source: Research Survey, 2023

Table 16 highlights that majority of respondents (87.8%) believed that the government should establish a committee to monitor private waste management practitioners.

**Table 17: Hypothesis 1 (Method of Waste Disposal and Assessment of Participation of Refuse Disposal Agents)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agent** | **Regular/effective Frequency** | **Percentage (%)** | **Irregular/adequate Frequency** | **Percentage (%)** | **Irregular/poor Frequency** | **Percentage (%)** | **Total Frequency** | **Percentage (%)** |
| Registered | 38 | 16.5 | 10 | 4.3 | 7 | 3.0 | 42 | 23.1 |
| Local/State govt. | 35 | 15.2 | 10 | 4.3 | 6 | 2.6 | 15 | 8.2 |
| Wheelbarrow | 20 | 8.6 | 20 | 8.7 | 30 | 13 | 73 | 40.1 |
| TOTAL | 93 | 40.4 | 40 | 17.3 | 43 | 18.6 | 130 | 100 |

Source: Research Survey, 2023

Table 17 illustrates the relationship between the method of waste disposal and Assessment of participation of refuse disposal agents. It presents the observed frequencies of different agents, including registered waste collectors, local government collectors, and wheelbarrow collectors, classified by their level of effectiveness.

**Table 18: Hypothesis 1 (Observer/Expected Frequencies)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Regular/effective Frequency** | **Irregular/adequate Frequency** | **Irregular/poor Frequency** | **Total Frequency** |
| Registered | 38 | 10 | 7 | 55 |
| Local govt. | 25 | 10 | 6 | 51 |
| Wheelbarrow | 20 | 10 | 30 | 70 |
| TOTAL | 93 | 20 | 43 | 176 |

Source: Research Survey, 2023

Table 18 presents the observed and expected frequencies for the relationship between the method of waste disposal and assessment of participation of waste disposal agents. It compares the actual data (observed) with the expected data based on the hypothesis.

**Discussion of Findings**

The findings of this study offer a detailed perspective on the waste management practices and socio-economic characteristics of residents within the study area. The demographic profile, notably the higher proportion of female respondents (55.7%) and married individuals (59.1%), underscores the central role households—particularly women—play in domestic waste generation and disposal. This supports the position of Ogwueleka (2013), who observed that women often act as the primary managers of household waste in Nigerian communities.

Furthermore, the relatively high educational attainment among respondents, with 30.4% holding higher education qualifications, indicates a literate and potentially environmentally aware population. This aligns with the findings of Adebayo and Akinyemi (2021), who emphasized that education significantly influences people's knowledge, attitudes, and practices toward proper waste disposal and environmental stewardship.

#### ****Socio-economic Conditions and Housing Patterns****

Socio-economic characteristics of the respondents revealed that the majority (78.3%) were employed, particularly in the business and public service sectors. The dominance of one- or two-room apartments (59%) and flats (47.8%) indicates that many respondents belong to low- and middle-income groups. Abimbola et al. (2023) similarly found that urban waste management patterns are closely linked to economic status and housing conditions, noting that residents in densely populated and economically strained areas often face challenges in accessing formal waste services.

Overcrowding remains a major concern, with 28.7% of respondents living in shared or crowded accommodations. This often leads to increased waste production per area, inadequate storage, and unsanitary disposal practices—conditions that contribute to health hazards and environmental decline. Adeyemo and Olatunde (2022) also reported that overcrowded housing correlates with poor sanitation and higher rates of communicable diseases in urban settlements.

#### ****Waste Disposal Practices and Service Delivery****

The study identified a fragmented waste disposal landscape, with respondents relying on various methods: Registered Private Waste Collectors (31.3%), Local/State Government services (25.2%), informal wheelbarrow collectors (13.1%), and self-disposal (30.4%). While this variety indicates some level of service availability, it also reflects a lack of coordination and standardized waste handling, which undermines efficiency and reliability. Similar patterns were documented by Ibrahim et al. (2020), who reported that irregular collection schedules and excessive service fees often drive residents toward unsafe disposal methods.

The dissatisfaction expressed by 17.3% of respondents—mainly due to high service charges and inconsistent collection—demonstrates the limitations of current waste management systems. Oluwaseun et al. (2021) likewise found that poor government involvement and inefficient private sector performance often leave communities vulnerable to waste accumulation and environmental hazards.

The presence of visible waste heaps in public spaces (39.1%) and around homes (21.7%) is particularly troubling. These observations mirror the findings of Olaoye et al. (2021), who linked uncontrolled waste dumping to increased prevalence of vector-borne diseases, such as malaria, and to the contamination of local water sources. Such environmental degradation not only affects aesthetics but also poses direct risks to public health.

#### ****Waste Reuse and Recycling Awareness****

Low levels of waste reuse (13%) and sale of sorted waste (10.5%) indicate underutilization of recyclable materials. Despite global emphasis on circular economy practices, many respondents either discard reusable materials or destroy them to prevent misuse (4.3%). These behaviors reveal gaps in environmental education and a lack of enabling infrastructure for recycling and reuse. This finding is consistent with Adeola and Olanrewaju (2023), who noted that without government incentives and public education, recycling remains a low-priority activity for many urban households.

#### ****Environmental and Public Health Implications****

The improper disposal of waste—particularly in open drains, canals, and roadside spaces—poses grave environmental and health challenges. Respondents’ reports of waste accumulation in these areas reinforce existing concerns about flood risks, pest infestations, and pollution. Olaoye et al. (2021) emphasized the connection between such disposal practices and the spread of waterborne diseases, including cholera and typhoid fever.

Overall, the findings of this study highlight the need for an integrated waste management approach that combines infrastructure improvement, community education, and stronger regulation. Community-based interventions—such as environmental sensitization programs, affordable and regular waste collection services, and enforcement of sanitation laws—could help address many of the existing gaps and promote cleaner, healthier urban environments.

**CONCLUSION**

This research comprehensively addresses the assessment of participation of private sector in sanitary disposal of refuse among the inhabitants of Olorunda Local Government Area of Osun State. The involvement of the private sector in partnership shows that about 31.3% of respondents that engaged them were satisfied with the methods waste management. Also, 40.8% of total respondents claimed that registered Private Sector Participations were regular and effective in collection and sanitary disposal of refuse.  It is evident that there is room for improvements.

74.8% of the respondents believed that involvement of Private Sector Participation in Integrated Waste Management would help in solving the problem of municipal waste crisis.

It was equally noted that public awareness on refuse management was high and a good approach to effective waste/refuse management. The quality of solid waste management in Olorunda Local Government is not yet optimal, as littered areas are still common in and around dump sites. There is room for improvement in public motivation regarding private sector participation in waste management services.

**RECOMMENDATIONS**

The findings of this study suggest the need for a large-scale environmental campaign to bring about changes in societal attitudes and technology. It is crucial to develop strategies that encourage more functional waste dumping sites with frequent recycling of waste materials (Waste to Wealth). The needs of the public regarding solid waste management may vary among different groups, so it is essential to consider this variation when designing a solid waste management strategy.

Efforts should be made to provide effective sanitation inspectors (Environmental Health Officers) who actively monitor solid waste management. Creating public awareness of waste disposal laws and sanitation campaigns should be followed by a commitment from both government agencies and the general public. Developing policies to reduce the problem of indiscriminate waste disposal in Nigerian cities is crucial for creating a healthier and cleaner living environment. This initiative can be led by individuals, NGOs, and other stakeholders to address the challenges of solid waste management in Nigeria effectively.

**Professional implications**

The **professional implications** of a study on the **Assessment of Private Sector Participation in Sanitary Disposal of Refuse Among the Inhabitants** are significant, as they provide insights into both the operational dynamics and broader societal impacts of waste management systems. Here are key professional implications:

**Policy Development and Implementation**

* The study findings can inform policymakers on the effectiveness of private sector engagement in refuse disposal, guiding the creation or revision of regulations to enhance service delivery.
* Data-driven recommendations can influence waste management policies to align with sustainable development goals (SDGs), particularly Goal 11 (Sustainable Cities and Communities) and Goal 12 (Responsible Consumption and Production).

**Public-Private Partnerships (PPP) Optimization**

* By evaluating the role of private sector participation, the study can highlight areas for improvement in public-private partnerships, fostering better collaboration and resource sharing.
* It can also identify successful PPP models, which can be replicated or adapted in other regions.

**Capacity Building for Waste Management Professionals**

* The study provides insights into skill gaps and training needs for professionals involved in waste collection, transportation, and disposal, prompting capacity-building initiatives.
* It can also highlight the need for professional certification and adherence to global best practices in sanitary waste disposal.

**Economic and Business Opportunities**

* The assessment can identify new opportunities for private sector investments in innovative waste disposal solutions, such as recycling, composting, and waste-to-energy technologies.
* Small and medium enterprises (SMEs) in waste management can leverage findings to improve service quality and expand operations.

**Environmental Health Implications**

* Understanding the effectiveness of private sector initiatives can help professionals design interventions to reduce environmental health risks associated with improper refuse disposal, such as vector-borne diseases.
* Environmental health officers can use the findings to advocate for stricter compliance with waste disposal standards.

**Community Engagement and Education**

* The study can guide professionals in developing effective community engagement strategies to increase awareness and participation in proper waste disposal practices.
* It highlights the role of education in changing public attitudes and behaviors toward waste management.

**Urban Planning and Sustainability**

* Urban planners can use the study outcomes to integrate private sector refuse disposal services into broader urban development plans.
* It reinforces the need for sustainable waste management systems in growing urban areas.

**Monitoring and Evaluation Systems**

* The study provides a framework for monitoring and evaluating private sector performance in waste management, ensuring accountability and continuous improvement.

**Contribution to knowledge**

**Enhancing Understanding of Waste Management Practices**

The study provides an in-depth analysis of waste management practices, highlighting key challenges and the effectiveness of current methods in the study area. This contributes to the broader understanding of how socio-economic and cultural factors influence waste disposal behaviors.

**Public Health and Environmental Implications**

By exploring the relationship between improper waste management and environmental/public health outcomes, the study emphasizes the need for effective waste management strategies to mitigate risks such as disease outbreaks and environmental degradation.

**Policy and Institutional Framework Development**

The findings can inform policymakers and stakeholders about the gaps in existing waste management systems, advocating for improved regulatory measures and the inclusion of private sector participation in sustainable waste management solutions.

**Localized Insights for Strategic Planning**

This study provides region-specific data that can be utilized for tailored interventions, enhancing the efficiency and relevance of waste management strategies within the context of the study area.

**Contribution to Academic Literature**

The study adds to the body of knowledge on environmental health, particularly regarding the socio-economic determinants of waste management practices in developing countries. It serves as a reference point for future research on similar topics.

**Promoting Community Awareness and Behavior Change**

By documenting community perceptions and behaviors towards waste management, the study highlights areas where educational campaigns and community engagement programs can drive positive changes in waste disposal practices.

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