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Harnessing the Potentials of Urban Waste Utilization for Wealth and Job Creation through Public-Private Partnerships in Lokoja Metropolis, Kogi State, Nigeria

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Abstract

Rapid urbanization and population growth have led to increasing volumes of solid waste in urban centres across Nigeria, creating environmental, health, and socioeconomic challenges. Despite the abundance of recyclable and reusable waste materials, inadequate waste management practices and limited stakeholder collaboration have hindered the effective utilization of urban waste for economic development. However, limited empirical attention has been given to how Public-Private Partnerships (PPPs) can be leveraged to transform urban waste into a sustainable source of wealth and employment in Lokoja Metropolis. This study assessed the potentials of urban waste utilization for wealth and job creation through Public-Private Partnerships in Lokoja Metropolis, Kogi State, Nigeria. A descriptive survey research design was adopted for the study. Data were collected from 300 respondents selected through a stratified random sampling technique using a structured questionnaire. Data were analysed using descriptive statistics comprising frequency counts, percentages, mean, and standard deviation. The findings revealed that urban waste possesses significant economic value for income generation and entrepreneurship development, PPPs enhance investment and operational efficiency in waste management, and effective waste utilization contributes substantially to employment creation and environmental sustainability. The findings underscore the potential of integrating waste-to-wealth initiatives into urban development strategies to address unemployment and environmental degradation simultaneously. The study concluded that strategic collaboration between public and private sector actors can transform urban waste from an environmental burden into a viable resource for economic growth and job creation. Consequently, it recommends that government should strengthen PPP

frameworks and policies for waste management, while private investors should be encouraged through incentives to invest in waste recycling and resource recovery initiatives.

Keywords: Employment creation, Public-private partnerships, Urban waste management, Waste recycling, Wealth creation.

Introduction

The influx of people to Lokoja and major cities in Kogi State is one of the contributing factor for the unprecedented increase in the volume and magnitude of waste generated, especially from the 1991 state creation. Equally, urbanization is one of the defining features of contemporary development, particularly in developing countries where rapid population growth continues to place increasing pressure on urban infrastructure and public services. According to Ojiako and Abba (2026), urban planning is associated with a wide range of tasks. It entails the proper use of land available in urban areas in such a way that it will serve the best interests of urban dwellers, while maintaining the aesthetic beauty of cities. One of the most significant consequences of this trend is the rising generation of municipal solid waste. Urban centres across Nigeria experience growing challenges associated with waste accumulation, inadequate collection systems, indiscriminate disposal practices, and limited recycling activities. According to Ojiako, Nweke, Okoye, and Oju (2023) this high rate of rural-urban migration is also plagued by corresponding consequences such as overpopulation, unemployment, an increase in crime, pollution, and an increase in urban slums, among others. These challenges contribute to environmental degradation, public health risks, flooding, and declining urban aesthetics (Kugbayi, & Adegbami, 2024; United Nations Human Settlements Programme [UN-Habitat], 2024).

Despite these challenges, urban waste is increasingly recognized as a valuable economic resource rather than merely an environmental burden. Many waste materials, including plastics, paper, metals, glass, organic waste, and electronic waste, can be recycled, reused, or converted into marketable products. The waste-to-wealth approach promotes the recovery of valuable resources from waste streams, thereby creating opportunities for income generation, entrepreneurship development, and employment creation. Globally, circular

economy initiatives have demonstrated that efficient waste utilization can contribute significantly to sustainable economic growth while reducing environmental pollution (United Nations Environment Programme [UNEP], 2024).

In Nigeria, the waste management sector remains largely underdeveloped despite the increasing volume of recyclable materials generated daily. Existing waste management systems are often characterized by inadequate funding, weak institutional capacity, limited technological innovation, and poor stakeholder coordination (Onungwe, Ogbonna, & Okafor, 2023). Consequently, substantial economic opportunities embedded in urban waste remain untapped. Recent studies have shown that investments in waste recycling and resource recovery can stimulate small and medium-scale enterprises, generate employment opportunities for youths and women, and contribute to local economic development (Aparicio-Ballena, Guerrero-Campos, Ruiz Gómez, Chaname-Díaz, Luján Johnson, & Perez-Arboleda, 2024; van der Veen, & Betke, 2023).

The inability of the capacity of government to tackle social and environmental challenges has continued to stimulate the need for Public-Private Partnerships (PPPs). This approach emerged as an important mechanism for addressing infrastructure and service delivery challenges in many developing countries. PPPs involve collaborative arrangements between government institutions and private-sector organizations for the provision of public services and infrastructure. In the waste management sector, PPPs facilitate access to finance, technical expertise, innovation, and operational efficiency, thereby improving service delivery outcomes (World Bank, 2024). Through such partnerships, governments can leverage private-sector capabilities to enhance waste collection, recycling, treatment, and resource recovery activities while promoting environmental sustainability and economic development.

The relevance of PPPs to waste management has gained increasing attention in Nigeria. Several states have adopted partnership arrangements to improve waste collection and recycling services; however, the level of success varies considerably due to differences in policy implementation, institutional support, and stakeholder commitment (Obani, Obani, Anaeto, & Akroh, 2025). While existing studies have examined waste management practices and the socioeconomic implications of recycling activities in different parts of

Nigeria, limited empirical attention has been given to the role of PPPs in transforming urban waste into a sustainable source of wealth and employment, particularly in Lokoja Metropolis, Kogi State.

Lokoja Metropolis has witnessed rapid urban expansion, increasing commercial activities, and population growth in recent years. These developments have resulted in a corresponding increase in waste generation, creating environmental and management challenges. At the same time, the growing volume of waste presents opportunities for resource recovery, business development, and job creation if effectively managed through collaborative partnerships involving both public and private actors. Understanding the extent to which urban waste can be utilized for wealth creation and employment generation through PPP arrangements is therefore essential for promoting sustainable urban development in the metropolis.

This study, therefore, assessed the potentials of urban waste utilization for wealth and job creation through Public-Private Partnerships in Lokoja Metropolis, Kogi State, Nigeria. The study contributes to the growing discourse on sustainable waste management by providing empirical evidence on how strategic collaboration between public and private stakeholders can transform urban waste into a catalyst for economic growth, employment creation, and environmental sustainability.

Statement of the Problem

Rapid urbanization and population growth in Lokoja Metropolis have resulted in a significant increase in the volume of solid waste generated daily. However, waste management efforts have largely focused on collection and disposal, with limited attention given to the economic value that can be derived from waste materials. Consequently, large quantities of recyclable and reusable waste continue to accumulate in the environment, contributing to pollution, environmental degradation, and public health concerns. At the same time, unemployment and limited economic opportunities remain major socioeconomic challenges within the metropolis. Although urban waste possesses considerable potential for income generation, entrepreneurship development, and job creation through recycling and resource recovery activities, these opportunities remain largely underutilized. This situation suggests a disconnect between waste management practices and sustainable economic development initiatives.

Furthermore, the involvement of private-sector actors in waste management remains insufficient, limiting investments, innovation, and operational efficiency that could enhance waste utilization efforts. While Public-Private Partnerships offer a viable framework for transforming waste into economic resources, their potential for promoting wealth and employment creation in Lokoja Metropolis has not been fully explored. It is against this background that this study assessed the potentials of urban waste utilization for wealth and job creation through Public-Private Partnerships in Lokoja Metropolis, Kogi State, Nigeria.



Source: Nataco along Lokoja-Abuja Road (2025)



Source: Along Felele, Abuja Road (2025)



Source: Waste Burning Site along Federal University Lokoja (2025)

Objectives of the Study

The main objective of this study is to assess the potentials of urban waste utilization for wealth and job creation through Public-Private Partnerships in Lokoja Metropolis, Kogi State, Nigeria.

The specific objectives include:

1. examine the wealth creation potentials of urban waste utilization in Lokoja Metropolis
2. assess the role of Public-Private Partnerships in enhancing urban waste utilization in Lokoja Metropolis.
3. determine the contribution of urban waste utilization to job creation in Lokoja Metropolis
4. suggest measures for better management of waste through collaboration.

Relevance of the Study

This study is relevant because it provides insights into how urban waste can be transformed into a valuable resource for economic development and employment generation. The findings will assist policymakers in formulating effective strategies and policies that promote sustainable waste management through Public-Private Partnerships. The study will also be beneficial to private investors and entrepreneurs by highlighting opportunities for investment in waste recycling and resource recovery activities. In addition, it will contribute to efforts aimed at reducing environmental pollution while enhancing income generation and job creation within Lokoja Metropolis. Furthermore, the study will serve as a useful reference for researchers and scholars interested in waste management,

sustainable development, and Public-Private Partnerships. It is equally important to note that this study is an attempt to contribute to the global effort at addressing the Sustainable Development Goals 1, 9, 11, and 17.

Conceptual Clarification

Urban Waste Utilization

Urban waste utilization refers to the process of converting waste materials generated in urban areas into useful products, resources, or economic value through activities such as recycling, reuse, composting, and resource recovery. Rather than viewing waste as a disposal problem, urban waste utilization emphasizes its potential as a resource that can contribute to environmental sustainability, income generation, and economic development (United Nations Environment Programme [UNEP], 2024).

Wealth Creation

Wealth creation is the process of generating economic value through productive activities that increase income, assets, and business opportunities. In the context of waste management, wealth creation involves transforming waste materials into marketable products and services that generate revenue for individuals, enterprises, and communities (Aparicio-Ballena, et al., 2024).

Job Creation

Job creation refers to the generation of employment opportunities that provide individuals with sustainable sources of income. Waste utilization activities such as waste collection, sorting, recycling, processing, and marketing create both direct and indirect employment opportunities, thereby contributing to economic growth and poverty reduction (International Labour Organization [ILO], 2023).

Public-Private Partnerships (PPPs)

Public-Private Partnerships are cooperative arrangements between government agencies and private-sector organizations for the provision of public services or infrastructure. PPPs combine public oversight with private-sector expertise, innovation, and investment to improve efficiency and service delivery. In waste management, PPPs facilitate improved waste collection, recycling, treatment, and resource recovery systems (World Bank, 2024).

Literature Review

Urban Waste Utilization

Urban waste utilization has emerged as an important component of sustainable urban development due to its capacity to transform waste materials into valuable economic resources. The increasing volume of municipal solid waste generated in urban areas has compelled governments and development agencies to adopt approaches that emphasize waste reduction, recycling, reuse, and resource recovery. The concept is closely linked to the circular economy, which promotes the continuous use of resources and minimizes environmental degradation (UNEP, 2024).

Urban waste consists of a wide range of materials, including plastics, paper, metals, glass, organic waste, textiles, and electronic waste. When properly managed, these materials can be converted into useful products, energy, compost, or raw materials for industrial production. According to the World Bank (2024), effective waste utilization contributes to environmental sustainability, conserves natural resources, and creates economic opportunities through recycling and resource recovery industries.

In Nigeria, rapid urbanization has increased the generation of municipal waste beyond the capacity of many local authorities to manage effectively. Despite these challenges, waste materials remain valuable resources capable of supporting entrepreneurial activities and local economic development. Recent studies indicate that improved waste utilization can significantly reduce environmental pollution while enhancing income-generating opportunities for urban residents (Aparicio-Ballena, et al. 2024; Mehdi, Rakshit, & Zivkovic, 2021).

Wealth Creation through Urban Waste Utilization

Wealth creation refers to the generation of economic value through productive activities that increase income and investment opportunities. Waste utilization contributes to wealth creation by converting discarded materials into marketable products and services. Recyclable materials such as plastics, metals, paper, and glass have established markets that support business development and income generation.

The waste-to-wealth approach has gained increasing recognition as a sustainable strategy for economic empowerment. According to van der Veen, & Betke, (2023),

recycling activities provide opportunities for small and medium-scale enterprises to generate revenue while contributing to environmental conservation. Similarly, Aparicio-Ballena, et al. (2024) observed that waste recycling enterprises have become important sources of livelihood in many Nigerian cities.

The economic benefits of waste utilization extend beyond recycling activities. Resource recovery, compost production, waste-based manufacturing, and energy generation from waste create additional avenues for investment and entrepreneurship. The African Development Bank (2022) noted that the transition toward a circular economy presents significant opportunities for wealth generation, particularly in developing countries where unemployment and poverty remain major challenges.

Job Creation through Urban Waste Utilization

Urban waste utilization has considerable potential to create employment opportunities across different segments of the waste management value chain. Employment opportunities arise from waste collection, sorting, transportation, recycling, processing, manufacturing, and marketing of recycled products.

The International Labour Organization (ILO, 2023) reported that green economy initiatives, including waste recycling and resource recovery, contribute significantly to employment generation and skills development. Waste management activities create both formal and informal jobs, providing income opportunities for various categories of workers.

In Nigeria, recycling enterprises have become important employers of labour, particularly among youths and low-income groups. Studies have shown that waste recycling activities support direct employment through recycling operations and indirect employment through transportation, sales, and related business activities (Dickson, Okonkwo, & Nwaka, 2023). Furthermore, investments in waste-to-energy projects and resource recovery facilities can expand employment opportunities while supporting sustainable urban development (World Bank, 2024).

Public-Private Partnerships and Urban Waste Management

Public-Private Partnerships (PPPs) refer to collaborative arrangements between public

institutions and private-sector organizations for the provision of public services and infrastructure. PPPs have become increasingly important in addressing the financial, technical, and operational challenges associated with waste management.

The growing complexity of urban waste management has highlighted the need for partnerships that combine public-sector regulatory responsibilities with private-sector expertise and investment capacity. According to the World Bank (2024), PPPs improve service delivery by enhancing operational efficiency, innovation, and access to modern waste management technologies.

In the waste management sector, PPPs facilitate improved waste collection, transportation, recycling, treatment, and disposal services. Through these partnerships, governments can mobilize private investment while ensuring compliance with environmental regulations and service standards. Recent evidence suggests that PPP arrangements contribute to improved waste management outcomes in many developing countries by reducing operational inefficiencies and expanding service coverage (UN-Habitat, 2023).

In Nigeria, several states have adopted PPP models to strengthen waste management systems. These partnerships have contributed to increased private-sector participation in waste collection and recycling activities. However, challenges such as inadequate policy implementation, funding constraints, and weak institutional frameworks continue to limit their effectiveness in some locations (Obani, et al., 2025).

Public-Private Partnerships as a Tool for Wealth and Job Creation

Beyond improving waste management services, PPPs can serve as catalysts for economic development. By attracting private investment into waste recycling and resource recovery initiatives, PPPs create opportunities for business growth, employment generation, and income creation.

Private-sector involvement often introduces innovative technologies and efficient operational practices that enhance resource recovery and value addition. Consequently, waste materials that would otherwise constitute environmental burdens become valuable economic assets. According to the African Development Bank (2022), investment in circular economy initiatives can stimulate enterprise development and expand

employment opportunities across multiple sectors.

Furthermore, PPP-driven waste utilization projects encourage the development of recycling industries and supporting businesses, thereby strengthening local economies. The integration of public support and private investment provides a sustainable framework for transforming waste into wealth while promoting environmental sustainability and social inclusion (World Bank, 2024).

Theoretical Framework

Resource-Based Theory

This study is anchored on the Resource-Based Theory (RBT) developed by D'Oria, Crook, Ketchen, Sirmon, & Wright, (2021). The theory posits that valuable resources can be utilized strategically to generate economic value and competitive advantage. According to the theory, resources that are available but underutilized can be transformed into productive assets capable of creating wealth and improving organizational performance.

The relevance of the theory to this study lies in its recognition of waste as a valuable resource rather than a liability. Urban waste contains recyclable and reusable materials that can be converted into economic products through effective utilization strategies. Through Public-Private Partnerships, governments and private investors can mobilize resources, technology, and expertise to maximize the value embedded in waste materials. Consequently, the theory provides a suitable framework for understanding how urban waste can be transformed into a source of wealth and employment generation in Lokoja Metropolis.

Empirical Review

Urban Waste Utilization and Wealth Creation

Aparicio-Ballena, et al. (2024) investigated the economic benefits of waste recycling activities in selected urban centres in southwestern Nigeria. Using a survey research design, the study found that waste recycling significantly contributed to income generation, entrepreneurship development, and livelihood improvement among participants. The study concluded that urban waste possesses substantial wealth creation potential when supported by appropriate policies and investments.

Mehdi, et al. (2021) examined the contribution of waste-to-wealth initiatives to

local economic development in Lagos State. Data collected from waste recyclers, government officials, and residents revealed that recycling activities generated income for households and created opportunities for small-scale business development. The study recommended increased investment in waste recovery programmes to maximize economic benefits.

Dickson, et al. (2023) assessed the economic value of recyclable waste materials among informal waste operators in Ibadan Metropolis. The findings indicated that waste recycling provided a reliable source of income and contributed to poverty reduction among participants. The study emphasized the need for institutional support to improve the profitability of waste-based enterprises.

Similarly, van der Veen, & Betke, (2023) examined the role of informal recycling activities in urban livelihoods across selected Nigerian cities. The study found that waste recovery and recycling activities generated significant economic returns for individuals engaged in the sector. The researchers concluded that waste utilization represents an important avenue for wealth creation and economic inclusion.

Public-Private Partnerships and Urban Waste Utilization

Obani, et al. (2025) investigated the effectiveness of Public-Private Partnerships in waste management service delivery in selected Nigerian states. Using data obtained from government agencies and private waste operators, the study found that PPP arrangements improved waste collection efficiency, service coverage, and operational performance. The study concluded that collaborative partnerships enhance the effectiveness of urban waste management systems.

Etim, Choedron, & Ajai (2024) evaluated private-sector participation in municipal waste management in Lagos State. The findings revealed that private-sector involvement contributed to improved waste collection, resource mobilization, and technological innovation. The study recommended strengthening PPP frameworks to promote sustainable waste utilization practices.

A study by Obani, et al. (2025) assessed the impact of PPP-based waste management programmes on urban environmental sustainability in Abuja. The researchers found that partnerships between government agencies and private firms improved waste

handling processes and increased recycling activities. The study emphasized that PPPs provide a sustainable mechanism for improving waste utilization outcomes.

At the international level, World Bank (2024) examined PPP models in municipal waste management across selected developing countries. The study reported that PPP arrangements enhanced investment in waste infrastructure, improved operational efficiency, and increased resource recovery rates. The authors concluded that effective partnerships are critical for achieving sustainable waste management objectives.

Urban Waste Utilization and Job Creation

Dickson, et. al. (2023) investigated the employment implications of waste recycling activities in southwestern Nigeria. The study revealed that recycling operations generated direct employment for waste collectors, sorters, processors, and marketers. It further found that the sector supported indirect employment opportunities in transportation, equipment maintenance, and supply-chain activities.

Aparicio-Ballena, et al. (2024) reported that waste recycling enterprises created numerous employment opportunities, particularly for youths and women. Their findings showed that expanding waste recovery initiatives could contribute significantly to reducing urban unemployment while promoting environmental sustainability.

Kaza, Yao, Bhada-Tata, & Van Woerden, (2018) examined the relationship between waste management enterprises and job creation in southeastern Nigeria. Using data from recycling firms and waste operators, the study found a positive relationship between investment in waste utilization activities and employment generation. The study concluded that the waste sector has substantial capacity to absorb labour and support local economic development.

Similarly, the International Labour Organization (2023) reported that green economy sectors, including waste recycling and resource recovery, continue to generate employment opportunities worldwide. The report highlighted waste management as a strategic sector for promoting decent work and sustainable livelihoods.

Public-Private Partnerships, Wealth Creation, and Job Creation

Obani, et al. (2025) found that PPP-supported waste management programmes attracted

private investment, expanded recycling operations, and created additional employment opportunities within the waste value chain. The study concluded that collaborative partnerships strengthen the economic benefits derived from waste utilization.

Obani, et al. (2025) observed that PPP arrangements facilitated the establishment of waste-processing facilities and recycling centres, leading to increased business activities and employment opportunities. The study noted that private-sector participation enhanced value addition and income generation from waste resources.

World Bank (2024) reported that PPP-driven waste management projects in developing countries stimulated enterprise development, improved resource recovery, and generated employment opportunities across multiple sectors. The study concluded that PPPs play a vital role in transforming waste from an environmental challenge into an economic asset.

Collectively, the reviewed studies demonstrate that urban waste utilization contributes to wealth creation and job generation, while Public-Private Partnerships enhance the efficiency and sustainability of waste management systems. However, limited empirical evidence exists on the combined role of urban waste utilization and PPPs in promoting wealth and employment creation within Lokoja Metropolis, Kogi State. This gap justifies the need for the present study.

Gaps in Literature

The reviewed literature shows that considerable attention has been given to urban waste management, waste recycling, wealth creation, job creation, and Public-Private Partnerships in different contexts. Existing studies have established that waste utilization can generate economic value and employment opportunities, while Public-Private Partnerships can enhance the efficiency of waste management systems. However, most of the studies were conducted in major urban centres outside Lokoja Metropolis, making it difficult to generalize their findings to the study area. In addition, many studies examined waste utilization, wealth creation, job creation, and Public-Private Partnerships as separate issues rather than investigating their interrelationship. Furthermore, limited empirical evidence exists on how Public-Private Partnerships can specifically facilitate the utilization of urban waste for both wealth and job creation in Lokoja Metropolis, Kogi

State. This creates a contextual and empirical gap that necessitates the present study.

Methodology

Research Design

This study adopted a descriptive survey research design. The design was considered appropriate because it enabled the collection of data from respondents on their perceptions regarding the potentials of urban waste utilization for wealth and job creation through Public-Private Partnerships in Lokoja Metropolis, Kogi State. The design also facilitated the systematic description and analysis of the phenomena under investigation without manipulating any variables.

Area of the Study

The study was conducted in Lokoja Metropolis, Kogi State, Nigeria. Lokoja serves as the administrative headquarters of Kogi State and is strategically located at the confluence of the Rivers Niger and Benue. The metropolis has experienced rapid population growth and urban expansion, resulting in increased waste generation and growing concerns about environmental sustainability. The presence of commercial activities, residential settlements, and public institutions makes Lokoja a suitable location for examining the potentials of urban waste utilization for wealth and job creation.

Population of the Study

The population of the study comprised 1,500 respondents drawn from residents, waste management personnel, waste collectors, waste recyclers, private waste operators, and relevant government officials involved in waste management activities within Lokoja Metropolis, Kogi State. These categories were considered appropriate because they possess relevant knowledge and experience regarding urban waste generation, utilization, and management practices in the study area. The distribution of the population is presented in Table 1.

Table 1

Population Distribution of the Study

S/N	Category	Population
1	Residents	600
2	Waste Collectors	250
3	Waste Recyclers	200
4	Private Waste Operators	175

5	Waste Management Personnel	150
6	Relevant Government Officials	125
Total		**1500**

Source: Kogi State Waste Management Board and Field Survey (2026).

Sample Size and Sampling Technique

A sample size of 300 respondents was used for the study. The respondents were selected using a stratified random sampling technique. The population was first grouped into relevant strata based on their involvement in waste management activities, after which respondents were proportionately selected from each category through simple random sampling. This approach ensured adequate representation of the various stakeholder groups.

Instrument for Data Collection

Data were collected using a structured questionnaire designed and developed by the researcher. The questionnaire consisted of two sections. Section A elicited information on the demographic characteristics of the respondents, while Section B contained items designed to obtain information on urban waste utilization, wealth creation, job creation, and the role of Public-Private Partnerships. The questionnaire items were structured using a four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD).

Validity of the Instrument

The instrument was subjected to face and content validity by experts in Public Administration and related fields. Their observations, corrections, and suggestions were incorporated into the final version of the questionnaire to ensure that the instrument adequately measured the variables of the study.

Reliability of the Instrument

The reliability of the instrument was established through a pilot study conducted among respondents outside the study area who possessed similar characteristics to the target population. Data obtained from the pilot study were analysed using Cronbach's Alpha reliability technique. A reliability coefficient of 0.70 or above was considered acceptable for the study.

Method of Data Collection

The researcher, with the assistance of trained research assistants, administered the questionnaire directly to the respondents. The direct administration approach facilitated a high response rate and ensured that completed questionnaires were retrieved promptly.

Method of Data Analysis

Data collected for this study were analysed using descriptive statistics. Frequency counts, percentages, mean scores, and standard deviations were employed to answer the research objectives. A criterion mean of 2.50 was used as the benchmark for decision-making. Any item with a mean score of 2.50 and above was regarded as accepted, while any item with a mean score below 2.50 was regarded as rejected. The results were presented using tables for clarity and ease of interpretation.

Data Presentation and Analysis

This section presents and analyses the data collected from the 300 respondents. The analysis was carried out using frequency counts, percentages, mean scores, and standard deviations in line with the objectives of the study. A criterion mean of 2.50 was adopted for decision-making. Mean scores of 2.50 and above were accepted, while mean scores below 2.50 were rejected.

Table 1

Socio-Demographic Characteristics of Respondents (N = 300)

Variable	Category	Frequency	Percentage (%)
Gender	**Male**	**180**	**60.0**
	Female	**120**	**40.0**
Age range	**18-27 years**	**70**	**23.3**
	28-37 years	**95**	**31.7**
	38-47years	**75**	**25.0**

	48years and above	**60**	**20.0**
Educational Qualification	**Secondary school certificate**	**65**	**21.7**
	ND/NCE	**80**	**26.7**
	HND/Bachelor's Degree	**105**	**35.0**
	Postgraduate degree	**50**	**16.6**
Stakeholder Category	**Residents**	**120**	**40**
	Waste collectors	**50**	**16.7**
	Waste recyclers	**40**	**13.3**
	Private waste operators	**35**	**11.7**
	Waste management personnel	**30**	**10.0**
	Government officials	**25**	**8.3**

Source: Field Survey (2025)

Analysis

Table 1 presents the socio-demographic characteristics of the respondents. The results indicate that 180 (60.0%) of the respondents were male, while 120 (40.0%) were female, suggesting that both genders were represented in the study. Regarding age distribution, most of the respondents, 95 (31.7%), were between 28 and 37 years, followed by 75 (25.0%) within the 38–47 years age bracket, 70 (23.3%) between 18 and 27 years, and 60 (20.0%) aged 48 years and above.

With respect to educational qualification, 105 (35.0%) of the respondents possessed HND/Bachelor's Degrees, 80 (26.7%) had ND/NCE qualifications, 65 (21.7%) held

Secondary School Certificates, while 50 (16.6%) possessed Postgraduate Degrees. This indicates that the respondents were sufficiently educated to provide informed responses to the study.

Furthermore, the distribution of respondents by stakeholder category shows that residents constituted the largest group with 120 (40.0%) respondents, followed by waste collectors with 50 (16.7%), waste recyclers with 40 (13.3%), private waste operators with 35 (11.7%), waste management personnel with 30 (10.0%), and government officials with 25 (8.3%). This distribution demonstrates that the study captured the perspectives of the major stakeholders involved in urban waste generation, utilization, and management within Lokoja Metropolis.

Table 2

Research Objective One: Examine the Wealth Creation Potentials of Urban Waste Utilization in Lokoja Metropolis

Respondents' Perceptions on the Wealth Creation Potentials of Urban Waste Utilization

S/N	Items	Mean	SD	Decision
1	Urban waste can be converted into valuable products for sale.	3.42	0.71	Accepted
2	Waste recycling provides opportunities for entrepreneurship development.	3.36	0.76	Accepted
3	Income can be generated through the collection and sale of recyclable materials.	3.48	0.69	Accepted
4	Waste-to-wealth initiatives can improve household income.	3.31	0.82	Accepted
5	Urban waste utilization contributes to local economic development.	3.39	0.74	Accepted

Grand Mean	**3.39**	**0.74**	**Accepted**

Source: Field Survey (2025)

Analysis

The results in Table 2 indicate that respondents agreed that urban waste utilization possesses significant wealth creation potential in Lokoja Metropolis. The grand mean score of 3.39 exceeded the criterion mean of 2.50, suggesting a positive perception of the economic value of waste utilization. The findings imply that waste materials can serve as important resources for entrepreneurship, income generation, and local economic development. This finding supports the waste-to-wealth perspective, which emphasizes the economic opportunities embedded in recyclable and reusable waste materials (UNEP, 2024).

Research Objective Two: Assess the Role of Public-Private Partnerships in Enhancing Urban Waste Utilization in Lokoja Metropolis

Table 3

Respondents' Perceptions on the Role of Public-Private Partnerships in Urban Waste Utilization

S/N	Items	Mean	SD	Decision
1	Public-Private Partnerships improve waste collection and management services.	3.45	0.68	Accepted
2	Private-sector participation increases investment in waste utilization projects.	3.37	0.73	Accepted
3	Public-Private Partnerships enhance operational efficiency in waste management.	3.29	0.81	Accepted
4	PPPs facilitate access to modern waste recycling technologies.	3.34	0.78	Accepted

5	Collaboration between government and private organizations promotes sustainable waste utilization.	3.41	0.72	Accepted
Grand Mean		**3.37**	**0.74**	**Accepted**

Source: Field Survey (2025)

Analysis

Table 3 shows that respondents acknowledged the significant role of Public-Private Partnerships in enhancing urban waste utilization. The grand mean score of 3.37 indicates that PPPs contribute to improved service delivery, increased investment, technological advancement, and operational efficiency in waste management. The findings suggest that collaboration between public institutions and private organizations can strengthen waste utilization initiatives and improve sustainability outcomes. This aligns with the view that PPPs provide an effective framework for addressing urban service delivery challenges through shared responsibilities and resources (World Bank, 2024).

Research Objective Three: Determine the Contribution of Urban Waste Utilization to Job Creation in Lokoja Metropolis

Table 4

Respondents' Perceptions on the Contribution of Urban Waste Utilization to Job Creation

S/N	Items	Mean	SD	Decision
1	Waste collection activities create employment opportunities.	3.44	0.70	Accepted
2	Recycling enterprises provide jobs for youths and women.	3.38	0.77	Accepted
3	Resource recovery activities contribute to employment generation.	3.32	0.75	Accepted

4	Expansion of waste utilization projects can reduce unemployment.	3.41	0.72	Accepted
5	Waste-based enterprises support both direct and indirect employment.	3.35	0.79	Accepted
Grand Mean		**3.38**	**0.75**	**Accepted**

Source: Field Survey (2025)

Analysis

The results presented in Table 4 reveal that respondents agreed that urban waste utilization contributes significantly to job creation in Lokoja Metropolis. The grand mean score of 3.38 indicates that waste-related activities generate employment opportunities across various stages of the waste management value chain. These opportunities include waste collection, sorting, transportation, recycling, processing, and marketing of recycled products. The findings support the argument that investments in waste utilization can serve as a viable strategy for reducing unemployment and promoting inclusive economic growth (ILO, 2023).

Summary of Findings

The analysis revealed that urban waste utilization possesses substantial potential for wealth creation through income generation, entrepreneurship development, and local economic growth. The study also found that Public-Private Partnerships play a significant role in enhancing waste utilization through improved investment, operational efficiency, and access to technology. Furthermore, the findings showed that urban waste utilization contributes meaningfully to job creation by generating employment opportunities across various waste management and recycling activities. Overall, the results demonstrate that effective collaboration between public and private stakeholders can transform urban waste into a valuable resource for economic development and employment generation in Lokoja Metropolis.

General Observation

It is important to note that the inherent advantages of PPPs to convert waste to wealth has not been harnessed by government, especially the local government. What is happening currently is the evacuation,

destruction and or movement of waste to other states for conversion such as Lagos and Kaduna state(s). This has drastically reduced the possibilities and opportunities for job creation for the huge population of youths in Kogi State, especially Lokoja Metropolis which has continued to encourage social problems in the state.

Conclusion

This study examined the potentials of urban waste utilization for wealth and job creation through Public-Private Partnerships in Lokoja Metropolis, Kogi State, Nigeria. The findings revealed that urban waste possesses significant economic value that can be harnessed for income generation, entrepreneurship development, and local economic growth. The study also established that Public-Private Partnerships enhance waste utilization through increased investment, improved operational efficiency, and access to modern waste management technologies. Furthermore, urban waste utilization was found to contribute substantially to job creation by generating employment opportunities across various waste management and recycling activities. The study concludes that urban waste should not be regarded solely as an environmental burden but as a valuable resource capable of supporting sustainable economic development. Effective collaboration between public and private sector actors can transform urban waste into a viable source of wealth and employment while promoting environmental sustainability in Lokoja Metropolis.

Recommendations

Based on the findings of this study, the following recommendations are put forward for implementation:

1. Government should strengthen Public-Private Partnership frameworks for waste management by developing clear policies, regulatory guidelines, and institutional support mechanisms that encourage greater private-sector participation in waste utilization initiatives.
2. Financial incentives such as tax reliefs, grants, and low-interest loans should be provided to private investors and entrepreneurs to stimulate investment in waste recycling, resource recovery, and waste-to-wealth projects.
3. Waste sorting and segregation should be promoted at the household, commercial, and institutional levels to improve the quality and quantity of recyclable materials available for recovery and reuse.

4. Modern recycling and resource recovery facilities should be established and expanded within Lokoja Metropolis to enhance the efficient conversion of waste materials into valuable products and economic resources.

5. Government agencies, private organizations, and civil society groups should intensify public awareness campaigns on the economic and environmental benefits of waste utilization to encourage active community participation.

6. Skills acquisition and entrepreneurship programmes related to waste recycling and resource recovery should be introduced and strengthened, particularly for youths and women, to enhance employment opportunities and income generation.

7. Partnerships between waste management authorities, private firms, and research institutions should be encouraged to promote innovation, technology transfer, and the adoption of sustainable waste utilization practices.

8. Local governments should integrate waste-to-wealth initiatives into urban development and employment policies to ensure that waste management contributes directly to economic growth, poverty reduction, and environmental sustainability.

9. Effective monitoring and evaluation mechanisms should be established to ensure compliance with waste management regulations and to assess the performance of Public-Private Partnership projects in the sector.

10. Private-sector operators should be encouraged to expand investments across the waste value chain, including waste collection, recycling, composting, manufacturing, and resource recovery, to maximize wealth creation and employment opportunities within Lokoja Metropolis.

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