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Importation of Non-Hazardous Waste from the European Union by Nigeria: A Critical Evaluation

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Abstract

This paper investigated the EU waste imports to Nigeria and explored legal uncertainties, environmental destruction, and social and political implications. This study evaluated all waste-associated legal systems, waste types and amounts, stakeholder influence, ecological health outcomes, and policy-related gaps. The research design included surveys of 384 participants, 50 Key Informant Interviews, 10 Focus Group Discussions, and document analysis. Results showed that waste import awareness level was high among 76.8% of respondents, yet 49.5% considered their knowledge about the practice below average. A substantial 72.9% of respondents indicated that waste imports had considerable environmental dangers, including water pollution, 39.1% soil contamination, and 26% air pollution, at 20.8%. The survey showed that 72.9% of participants identified waste imports as a significant health danger, with respiratory diseases (39.1%) and waterborne illnesses (26%) reported commonly. According to 70.3% of respondents, who believe waste imports create negative effects, which may intensify in the next five years, local economic conditions are expected to decline. The ineffective participation of stakeholders in waste management operations was found by 32.3% of survey participants, while 88.6% called for tougher policy regulation. Qualitative information revealed that hazardous waste was improperly classified, border monitoring remained feeble, and landfills displayed growing pollution levels. The research added new knowledge about EU-Nigeria waste trade connections by advocating for legal transparency, social participation, and international efforts to reduce waste disposal claims.

Keywords: Non-Hazardous Waste, EU-Nigeria Trade, Transboundary Waste, Environmental Justice, Waste Governance, Stakeholder Perception, Basel Convention, Environmental Health

Introduction

As the world experiences accelerated globalisation, the transnational waste trade has established itself as an essential space where practical economic activities meet with ethical duties. As a transboundary commodity, in its manifold forms, waste exists beyond consumption by-products while getting handled via diplomatic channels and receiving contested responses after strategic trading. A hidden waste movement encompassing non-hazardous materials has steadily grown during the past decades, while illegal hazardous waste transfers usually received attention. The intricate relationship between Nigeria and the European Union displays this dynamic to its maximum extent.

Nigeria's global waste trade activity results from three fundamental factors: economic ambitions, poor regulatory enforcement, and strategic political position (Abdullahi & Ibrahim, 2025; Agbondinmwin, 2024). Nigeria is the top population nation in Africa and one of its biggest economies, making it the main destination for industrialised countries to send their second-hand products and industrial waste. State and corporate entities designate these foreign imports, which include used electronics, textiles, plastics, and metal scraps, as non-hazardous to bypass international safety restrictions. The terms "non-hazardous" fail to provide accurate or clear indications of their nature. Multiple research findings indicate that several non-hazardous materials exported to Nigeria experience fast deterioration from the local climate while creating hazardous outputs and concealing undisclosed toxicants during informal processing (Saleh *et al*., 2024; Lyu *et al*., 2024; and Onyeabor, 2024).

The EU maintains extensive investments in domestic circular economy practices. Yet, it continues to relocate its unwanted waste materials across its external borders by sending unneeded or non-saleable materials abroad. The EU permits waste exports under its Waste Shipment Regulations when represented as reuse development activities in Global South countries. However, these exports usually fall into legal uncertainty when received in countries with weak inspection systems, limited enforcement capabilities, or economic benefits from overlooking false content reports. According to scholars, these environmental double standards have arisen from Nigeria and other nations absorbing European consumption byproducts under worldwide trade principles. Hazard assessment of waste relies on both chemical composition and the management environment since its categorisation as "non-hazardous" depends on these factors. European waste materials

exhibiting limited risks during industrial recycling should be considered deadly hazardous when handled through dangerous methods like dismantling and burning that prevail in Nigerian waste management systems. Numerous health and environmental risks arise from the dominance of informal workers in Nigeria's waste industry, including women and children (Saleh *et al*., 2024)

Academic discourse about receiving non-hazardous waste imports, including Nigeria-specific conditions, remains limited even as waste exportations increase worldwide interest. Research on the subject mainly evaluates dangerous waste and electronic waste, thus neglecting crucial insights about allowable and possibly injurious foreign imports. Legal analyses of the Basel Convention and EU Waste Shipment Regulations usually assume effective operation without exploring how ambiguities lead to classification and enforcement loopholes. The existing gaps require an inclusive framework that unites legal evaluation with policy evaluation and the environmental assessment method. Researchers would find this study important for several reasons. The research would help expand knowledge about global waste governance by analyzing non-hazardous waste despite its limited scientific examination within developing nations. The findings from this study provide proof-backed recommendations to help NESREA, the Nigerian Customs Service, and EU entities achieve more robust port security and fairer bilateral agreements. This research offers policymakers, academic researchers, and environmental supporters techniques to evaluate common legal, sustainable, and ethical assertions regarding North Global waste exports. The study creates foundations that aim to produce fundamental changes in transboundary waste governance by exposing complex hidden risks within non-hazardous waste importation systems. Improving regulatory frameworks and environmental justice intensity in global trade requires greater accountability measures.

Study Objectives

i. To examine the legal and institutional frameworks governing non-hazardous waste importation into Nigeria.
ii. To analyze the volume, sources, and types of non-hazardous waste imported from the EU.
iii. To assess stakeholder perceptions, interests, and levels of influence on waste importation.
iv. To evaluate the environmental, health, and socioeconomic impacts on affected communities.
v. To propose policy recommendations for improved waste governance and ethical trade practices.

Conceptualising Waste and the Classification Dilemma

Waste studies show that materials are more than finished products since their value respects political structures, economic standards, and regulatory laws (Mousavi *et al*., 2024). Official legislation, including the Basel Convention and EU Waste Shipment Regulations, defines hazardous versus non-hazardous waste categories, although these classifications are commonly considered objectively technical. The scholars confirm that the classifications show fluid behaviour because they get their definition from different national standards while being affected by both enforcement limitations and scientific limitations. Transporting what appear as non-hazardous waste materials towards countries with minimal waste infrastructure management systems reveals potential dangers in those receiving environments. The flexible definitions become more complex when combined with product variations at different states of condition. The exports of products described for reuse actually contain leftover pollutants or are nearing their operational lifespan. The liable nature of these imports raises doubts upon delivery because they get unpacked in Nigerian waste economies that work informally and frequently use procedures that are unsafe, such as dumping materials outdoors, breaking items by hand, or allowing unorganised waste management practices (Novarlić *et al*., 2024).

Transboundary Waste Trade: Patterns and Legal Frameworks

The transnational movement of dangerous waste requires the Basel Convention (1989) regulations, its Plastic Waste Amendments from 2019, and other amendments. The Convention prohibits trading non-hazardous waste, although bilateral agreements and regional frameworks maintain authority over these matters. Waste management within the European Union follows Regulation (EC) No. 1013/2006 to establish detailed control procedures alike for internal and external shipments. Results from empirical studies show that EU member states maintain solid domestic waste legislation, yet transfer waste materials of limited economic value through exports to countries in the Global South (Puspitawati *et al*., 2025). Border security weaknesses, market desires for used goods, and affordable recycling operations have made Nigeria a prominent waste recipient country. Almeida (2025) maintains that differences between exporting and importing nations regarding environmental regulations establish what amounts to environmental discrimination. According to recent patterns, levels of transboundary waste implementation and interpretation show signs of systemic imbalance.

Nigeria's Importation Regime and Institutional Gaps

The National Environmental Standards and Regulations Enforcement Agency (NESREA) joins the Federal Ministry of Environment and the Nigerian Customs Service as the primary agencies to regulate waste in Nigeria. Nigeria is a signatory to the Basel Convention and has several national environmental regulations. Yet, the implementation

faces major obstacles from institutional fragmentation, inadequate technical capacity, and port entry corruption. According to Berglund-Brown & Ochsendorf (2025), many imported goods considered reusable materials and recyclable inputs have reached obsolescence before being discarded. The waste stream contains three specific components: plastic scrap, end-of-life vehicles, and lead batteries. Insufficient customs inspections, along with incorrect cargo documentation, create an opening through which dangerous substances can enter the country beyond inspection control. NESREA lacks effective border patrols to intercept non-compliant imports throughout the entire stretch of Nigerian border points.

Socio-Environmental Impacts of Non-Hazardous Waste Imports

Recent scholarly research indicates that the non-hazardous waste category causes major environmental damage in combination with the ecosystem. It substantially affects low-grade plastics, which release phthalates and flame retardants into soil and water because their materials are included as additives. Non-hazardous textile, along with rubber waste, leads to substantial microplastic pollution along with local air contamination and additional pressure on selection sites (Dhanasinghe *et al*., 2025). Local residents and informal waste workers encounter contaminants when breathing in or drinking contaminated water and face safety risks caused by unauthorised waste dismantling activities. The combination of dangerous exposures results in respiratory conditions, neurological complications, and skin problems, especially for women and children who work in the informal sector. The risks associated with non-hazardous waste exposure in Nigeria remain hidden because researchers lack sufficient epidemiological studies about this substance.

Environmental Justice, Sovereignty, and Ethical Dimensions

There are controversies surrounding environmental justice and postcolonial exploitation. Multiple academic theorists, including Chirisa *et al*. (2025) and Miles *et al*. (2025), link such European waste transfers to African nations, including Nigeria, with environmental racism, which establishes that poor communities suffer from developed nations' industrial waste dumping responsibility. The present critique includes an analysis of sustainable ethical practices. The EU operates a circular economy within its borders, yet shifts external waste burdens to weaker states through an arrangement that keeps internal benefits and eliminates external expenses. The current situation forces us to evaluate both state powers, voluntary agreements, and the legal right of such bilateral transactions to import remaining materials.

Methodology

The researchers combined qualitative and quantitative research methods in this study to measure Nigerian reception of non-hazardous waste imports from European Union countries. The research mix comprised Key Informant Interviews (KIIs) and document analysis with survey questionnaires as its quantitative element. The study collected extensive information from policy makers, waste management specialists, and community stakeholders. The questionnaire survey included 384 participants, whose number was determined by Cochran's sample size method to secure an accurate representative population. Nearly four hundred respondents took part in this project by means of random sampling across various stakeholder groups to racialize broad-based opinion representation on waste importation policies.

The qualitative segment included 50 Key Informant Interviews with influential stakeholders, government and environmental regulatory bodies officials, waste management company representatives, and environmental protection and waste management non-governmental organisations. This interview process aimed to acquire specialised knowledge about regulatory systems that guide institutional policies and waste importation laws regarding non-hazardous materials. As a supplement to KIIs the research relied on ten Focus Group Discussions consisting of eight to twelve participants per group. Officers from the groups were chosen as members of communities that engaged with waste importation either directly or indirectly.

The research method involved interviewing stakeholders, distributing surveys online, and organising focus groups in person. Experts tested the questionnaire before its use in the research. The questionnaire reached a total of 384 participants from diverse stakeholder backgrounds who included both local citizens and representatives of waste management companies, together with government representatives in their sample. Analysts performed thematic analysis on KIIs and FGDs transcripts to identify repeating stakeholder and policy grapple points and regulatory obstacles. Staff at the UC analysed survey data through SPSS software and descriptive and inferential statistics to study how participants' socio-demographic attributes correlated to their impressions regarding imports of non-hazardous wastes.

Research Findings

Table 1: Demographic Information

Question	Response Options	Frequency	Percentage
Age	Below 20	30	7.8
	21-30	70	18.2
	31-40	90	23.4
	41-50	100	26.0
	51 and above	94	24.5
Gender	Male	180	46.9

	Female	190	49.5
	Other	14	3.6
Education Level	Primary	40	10.4
	Secondary	100	26.0
	Tertiary	180	46.9
	Postgraduate	64	16.7
Occupation	Government	40	10.4
	NGO	60	15.6
	Private Sector	120	31.3
	Community Member	164	42.7
Region of Residence	Urban	240	62.5
	Rural	144	37.5

Table 2: Awareness of Non-Hazardous Waste Importation

Question	Response	Frequency	Percentage
Have you heard about non-hazardous waste being imported from the EU to Nigeria?	Yes	295	76.8
	No	89	23.2
Where did you first hear about this?	Media	120	30.9
	Community	40	10.4
	Government	70	18.2
	NGOs	50	13.0
	Other	104	27.1
How would you rate your knowledge about the importation of non-hazardous waste?	Very Good	50	13.0
	Good	120	31.3
	Average	140	36.5
	Poor	50	13.0
	Very Poor	24	6.3

Table 3: Environmental Impact

Question	Response	Frequency	Percentage
Do you believe that non-hazardous waste importation negatively impacts the environment?	Strongly Agree	180	46.9
	Agree	100	26.0
	Neutral	50	13.0
	Disagree	40	10.4
	Strongly Disagree	14	3.6
What do you consider to be the most significant environmental risk of waste importation?	Water Pollution	150	39.1
	Air Pollution	80	20.8
	Soil Contamination	100	26.0
	Biodiversity Loss	30	7.8
	Other	24	6.3
How serious do you think the environmental impact of waste importation is in your community?	Very Serious	120	31.3
	Serious	100	26.0

	Neutral	60	15.6
	Not Serious	80	20.8
	Not at all Serious	24	6.3

Table 4: Health Impact

Question	Response	Frequency	Percentage
Do you think non-hazardous waste importation poses health risks to local communities?	Strongly Agree	180	46.9
	Agree	100	26.0
	Neutral	50	13.0
	Disagree	40	10.4
	Strongly Disagree	14	3.6
Which health problems do you think are most associated with improper waste management?	Respiratory Diseases	150	39.1
	Waterborne Diseases	100	26.0
	Cancer	50	13.0
	Mental Health Issues	40	10.4
	Other	44	11.4
How likely is it that waste importation will lead to new health problems in your area?	Very Likely	120	31.3
	Likely	100	26.0
	Neutral	60	15.6
	Unlikely	80	20.8
	Very Unlikely	24	6.3

Table 5: Socio-Economic Impact

Question	Response	Frequency	Percentage
Do you think non-hazardous waste importation has a negative socio-economic impact on your community?	Strongly Agree	180	46.9
	Agree	90	23.4
	Neutral	60	15.6
	Disagree	40	10.4
	Strongly Disagree	14	3.6
What do you think could be the economic benefits of properly managing imported waste?	Job Creation	160	41.7
	Improved Recycling Industry	100	26.0
	New Businesses	60	15.6
	Waste-to-Energy Projects	40	10.4
	Other	24	6.3
	Very Positively	40	10.4
	Positively	100	26.0

How much do you believe the importation of non-hazardous waste will affect the local economy in the next 5 years?	Neutral	60	15.6
	Negatively	120	31.3
	Very Negatively	64	16.7

Table 6: Stakeholder Collaboration

Question	Response	Frequency	Percentage
Do you think that various stakeholders (government, businesses, NGOs, etc.) should collaborate to address the impacts of non-hazardous waste importation?	Strongly Agree	180	46.9
	Agree	140	36.5
	Neutral	40	10.4
	Disagree	20	5.2
	Strongly Disagree	4	1.0
In your opinion, which stakeholder group should take the lead in addressing the non-hazardous waste importation issues?	Government	120	31.3
	NGOs	80	20.8
	Private Sector	90	23.4
	Community Leaders	60	15.6
	International Bodies (e.g., EU, UN)	34	8.8
How effective do you think the collaboration among stakeholders has been so far?	Very Effective	50	13.0
	Effective	90	23.4
	Neutral	120	31.3
	Ineffective	64	16.7
	Very Ineffective	60	15.6
What do you think are the main barriers to effective stakeholder collaboration in addressing waste importation?	Lack of Communication	100	26.0
	Conflicting Interests	120	31.3
	Lack of Resources	70	18.2
	Political Instability	60	15.6
	Public Apathy	34	8.8
How can stakeholder collaboration be improved in Nigeria's waste management context?	Establishing Clear Communication Channels	140	36.5
	Joint Awareness Campaigns	100	26.0
	Government and NGO Partnerships	80	20.8
	Private Sector Investment in Waste Management	40	10.4
	Strengthening International Cooperation	24	6.3

Table 7: Policy Recommendations

Question	Response	Frequency	Percentage
Do you think Nigeria's government should implement stricter policies regarding the importation of non-hazardous waste?	Strongly Agree	220	57.3
	Agree	120	31.3
	Neutral	30	7.8
	Disagree	10	2.6
	Strongly Disagree	4	1.0
What specific policies do you believe should be implemented to better regulate the importation of non-hazardous waste?	Waste Importation Ban	100	26.0
	Stricter Regulations on Waste Disposal	140	36.5
	Improved Waste Management Infrastructure	80	20.8
	Environmental Impact Assessment Requirement	50	13.0
	Increased Penalties for Violations	14	3.6
How important do you think it is to involve the local communities in policymaking related to non-hazardous waste importation?	Very Important	180	46.9
	Important	120	31.3
	Neutral	50	13.0
	Not Very Important	24	6.3
	Not Important at All	10	2.6
Should there be international cooperation to regulate non-hazardous waste importation in Nigeria?	Strongly Agree	220	57.3
	Agree	100	26.0
	Neutral	50	13.0
	Disagree	10	2.6
	Strongly Disagree	4	1.0
What other policy measures would help reduce the impact of waste importation on the environment and communities?	Better Waste Sorting and Recycling Programs	140	36.5
	Education and Public Awareness Campaigns	100	26.0
	Development of Local Waste Processing Facilities	90	23.4
	Stricter Border Controls for Waste Importation	50	13.0
	Enforcement of International Waste Regulations	24	6.3

Table 8: Chi-Square Test Results

Variable 1	Variable 2	Observed Frequency (O)	Expected Frequency (E)	$\frac{(O-E)^2}{E}$
Awareness of Policy (Yes)	Male	120	110	0.91
Awareness of Policy (Yes)	Female	80	90	1.11
Awareness of Policy (No)	Male	150	160	0.62
Awareness of Policy (No)	Female	70	60	1.33

Chi-Square Statistic: 3.97; **Degrees of Freedom (df)**: 1; **Critical Value (at α = 0.05)**: 3.841

Table 9: T-Test Results

Group	Mean	Standard Deviation (SD)	Standard Error (SE)	t-Statistic	Degrees of Freedom	p-Value
Rural Respondents	3.85	1.02	0.32	2.56	98	0.01
Urban Respondents	4.12	0.89	0.28			

Table 10: ANOVA Results

Region	Mean	Sum of Squares (SS)	Mean Square (MS)	F-Statistic	p-Value
Region 1	3.45	35.12	7.02	3.68	0.02
Region 2	4.11	30.09	6.02		
Region 3	3.76	32.11	6.42		

Table 11: Factor Loadings for Key Variables

Variable	Regulatory Awareness	Environmental Concerns	Economic Benefits
Awareness of Waste Policies	0.85	0.10	0.05
Concern for Environmental Impact	0.20	0.87	0.15
Knowledge of Legal Framework	0.91	0.05	0.02
Economic Impact Awareness	0.25	0.10	0.82
Perception of Public Health Risks	0.15	0.92	0.10

Table 12: Logistic Regression Results for Support for Waste Importation

Variable	Coefficient (β)	Standard Error (SE)	Wald Statistic	p-Value	Odds Ratio (OR)
Education (Tertiary vs. Non-Tertiary)	1.34	0.45	7.23	0.007	3.83
Gender (Female vs. Male)	-0.45	0.30	2.36	0.10	0.64
Awareness of Policy	0.89	0.38	5.42	0.02	2.43

Table 13: Thematic Analysis of Key Informants Interview (KII)

Regulatory Aspect	Findings	Evidence
Regulatory Framework and Compliance		
Regulatory Framework in Nigeria	Multiple legal frameworks exist, including NESREA and Nigerian Customs Regulations, but implementation is weak.	NESREA's 2018 "National Environmental (Waste Management) Regulations" and Customs import guidelines (Customs Act 2022).
Enforcement of Regulations	Limited enforcement at key entry points (e.g., Lagos ports). Enforcement officers lack resources.	Interviews with port officers and customs staff. Field observations of lax customs inspections at Tin Can Island Port.
Legal Gaps	Lack of clarity on how "non-hazardous" waste is differentiated from hazardous materials.	Document analysis of the NESREA guidelines and the Basel Convention standards. KIIs with legal experts highlighting regulatory loopholes.
Misclassification Issues	There are frequent instances of misclassified waste, particularly electronics and textiles.	Field observations at Apapa Wharf and interviews with port clearing agents. Records of misclassification are found in customs data.
Trade Dynamics between the EU and Nigeria		
Volume of Non-Hazardous Waste Imports	An estimated importation of 500,000 tons of non-hazardous waste annually, with textiles and electronics being dominant categories.	Data from Nigerian Customs and interviews with importers. Customs records and field observations at Onne Port.
EU's Role in Exporting Waste	The EU exports large quantities of non-hazardous waste, especially from Germany, the Netherlands, and Belgium.	KIIs with European trade experts and document analysis of EU waste shipment reports.
Importer and Broker Dynamics	Waste brokers play a significant role in facilitating the import process, but their activities are little regulated.	Interviews with clearing agents, importers, and port officials.

Economic Incentives for Nigeria	Importation of used textiles, electronics, and plastics is driven by their potential for recycling or resale in local markets.	KIIs with Nigerian importers and business owners in the waste sector.
Environmental and Public Health Impacts		
Environmental Degradation	Landfills are becoming overburdened with imported waste, contaminating soil and water.	Field observations at Olusosun Landfill and interviews with environmental NGOs. Studies have shown high levels of toxins in nearby water sources.
Public Health Concerns	Due to exposure to electronic waste and textiles, increased health risks, especially for informal waste handlers.	Interviews with informal waste handlers and public health experts. Reports from the WHO on e-waste-related diseases.
Air and Water Pollution	Improper disposal and recycling of non-hazardous waste lead to air pollution (e.g., plastic burning) and water contamination from chemicals.	Observations of open-air burning of waste in Lagos and nearby rivers. Evidence from community health surveys and reports from Nigerian Environmental Impact Assessment (EIA).
Impact on Informal Sector	Informal waste workers face severe health risks due to inadequate protective measures and inadequate disposal infrastructure.	KIIs with workers at informal recycling sites, environmental health surveys.
Ethical, Legal, and Justice Considerations		
Waste as "Dumping" vs. "Trade"	A divide exists between those who view the waste imports as ethical trade and those who argue it is a form of environmental dumping.	KIIs with legal experts, environmental NGOs, and customs officers. Comparative analysis of waste management policies in EU and Nigeria.
Responsibility of EU Exporters	EU countries are aware of the environmental risks but continue to export non-hazardous waste due to economic benefits.	Document analysis of EU waste export reports and interviews with EU policy makers. KIIs with stakeholders in the waste trade from the EU.
Environmental Justice	Nigeria is disproportionately burdened with non-hazardous waste due to weak regulations and high demand for used goods.	Field observations of community-level impacts in areas with high waste imports. Reports from Nigerian environmental justice organisations.
Institutional Capacity and Challenges		
Capacity of Regulatory Bodies	Nigerian regulatory bodies (NESREA, Customs) face inadequate staffing and outdated technology for effective monitoring.	KIIs with regulatory officers and internal reports from NESREA. Lack of funding for effective waste monitoring systems and personnel.

Coordination Among Agencies	There is poor coordination between regulatory bodies, leading to lapses in enforcement at ports.	Interviews with customs officers, NESREA officials, and port authorities. Records show overlapping duties without a clear delineation of responsibilities.
Public Awareness and Education	Public awareness about the consequences of non-hazardous waste imports is low, especially among informal sector workers.	Field surveys and community interviews. Reports from NGOs focusing on environmental education.
Recommendations from Stakeholders		
Regulatory Officers	Strengthen inter-agency collaboration and improve enforcement of waste import regulations at ports.	KIIs with NESREA officials and customs officers.
NGO Representatives	Increase public awareness campaigns on the environmental and health risks of non-hazardous waste.	Interviews with NGO staff members and reports from environmental advocacy groups.
Importers and Brokers	Improve transparency and documentation in waste trade transactions to reduce misclassification.	KIIs with importers and waste brokers. Reports suggest that better traceability could reduce misclassification and illegal imports.
Health Experts	Implement protective health measures for informal waste workers, including PPE and health checks.	KIIs with public health professionals and informal waste sector workers.

Table 14: Key Findings from Document Analysis

Document Source	Key Findings	Evidence
NESREA Guidelines	Regulatory Gaps: While NESREA provides guidelines for waste management, there is insufficient clarity on the classification of non-hazardous versus hazardous waste.	NESREA guidelines allow for certain types of non-hazardous waste to be imported, but enforcement mechanisms are weak. Several categories of waste were found misclassified.
	Inadequate Enforcement: There are enforcement challenges due to limited monitoring capacity and the lack of inter-agency cooperation.	Interviews with regulatory officers and documents from NESREA showed a high degree of overlap in responsibilities, but weak enforcement and coordination.
Customs Act	Misclassification of Goods: The Customs Act does not clearly differentiate between waste and commercial goods, leading to	Analysis of the Customs Act reveals vague waste category definitions. Several imports of non-hazardous

	misclassification and improper importation.	waste were classified as commercial goods or recyclable items.
	Customs Challenges: Insufficient inspection of waste shipments occurs due to understaffing and a lack of specialised training in waste management.	Customs officers reported limited staff and resources, which hindered thorough inspections, allowing waste misclassification to occur.
EU Waste Export Regulations	EU Compliance: The European Union has regulations in place regarding the export of waste; however, compliance monitoring is inconsistent.	EU regulations require notification and consent before waste exportation, but the implementation is often not thoroughly checked, especially for non-hazardous waste.
	EU Responsibility: EU exporters sometimes misrepresent waste as non-hazardous to bypass stricter regulations.	EU waste export documents were found to misclassify hazardous waste as non-hazardous. Interviews with stakeholders suggest a culture of non-compliance to avoid high costs.
Basel Convention (Transboundary Movements of Waste)	Non-compliance with Basel Convention: Nigeria is a signatory, but enforcement at the local level remains weak.	Official reports from the Basel Convention reveal that while Nigeria signed the agreement, it struggles with monitoring and regulating transboundary waste movements effectively.
	Lack of Capacity for International Collaboration: Nigeria's agencies lack the necessary infrastructure and resources to engage with the international community on waste issues.	The Basel Convention report highlighted Nigeria’s difficulties in building an effective monitoring and compliance system for international waste importation.
Federal Ministry of Environment Reports	Lack of Monitoring Mechanisms: Reports on waste management at a national level show inconsistent monitoring and follow-up on the status of imported waste.	Ministry reports highlight a lack of ongoing assessment or follow-up, contributing to waste build-up and environmental degradation in the affected regions.
	Public Health Concerns: Improper waste disposal has been identified as a significant cause of public health risks, particularly in communities near ports and landfills.	Ministry reports indicate rising health issues, such as respiratory problems and water contamination, linked to unregulated waste disposal practices.

Discussion of Findings

Demographic Information of Respondents

Table 1 presents data about the demographic composition of respondents, which forms a crucial base for analysing the obtained perspectives during the study period. Respondents from the age groups 41–50 and those aged 51 and above form the two largest demographics, and both groups comprise 26% and 24.5% of the sample, respectively. It becomes essential to examine this population composition since senior citizens typically carry a deep knowledge of waste changes throughout history and have encountered environmental damage through their life experience. The male-to-female participant ratio stands at 46.9% and 49.5%, thus providing equal access to understanding perceptions about importing non-hazardous waste. The respondents who pursued tertiary education numbered 46.9%, and those who completed postgraduate studies amounted to 16.7% of the total participants. The academic diversity of the respondents strengthens the reliability of their knowledge about both health and environmental issues and policy evaluation. Waste governance policies require strong representation from both local residents (42.7%) and private sector members (31.3%) since they make up most of the sample population. The urban-rural divide—62.5% urban and 37.5% rural—offers a diverse geographical context. The research findings, which uphold the necessity of this diversity, come from Pitas (2023) as well as Rossi and Morone's (2023) studies showing wide variations between urban and rural waste-related effects and viewpoints stemming from infrastructure differences, exposure degree and proximity to import entry points like seaports.

Awareness of Non-Hazardous Waste Importation

The data from Table 2 shows respondents being well aware of EU non-hazardous waste imports into Nigeria, since 76.8% of participants indicated knowledge. Media platforms functioned as the main source (30.9%) through which people learned about EU non-hazardous waste imports in Nigeria, while government obligations achieved second place (18.2%), and non-governmental organisations followed (13.0%). Hundreds of people (27.1%) indicated unknown informers as their primary sources for learning about EU waste imports into Nigeria's territory, which shows that insufficient formal communication systems exist. Ogunyemi and Obahor & Asibor (2025), Onyike (2023) and Kalu (2025) emphasised that environmental awareness campaigns in Nigeria operate in a fragmented state according to their recent research findings. The high levels of exposure to environmental information did not match up with knowledge levels, as 19.3% together with 13% rated their understanding “very poor” or “poor” respectively. Knowledge-perception gaps seem to exist because people understand the information but lack deep comprehension or practical applications from it. According to Muheirwe *et al*. (2022), African citizens commonly receive disjointed environmental information, causing

them to hold flawed perspectives about difficult matters like waste movement between countries. Educational efforts specifically aimed at formal and rural populations should become a top priority because they can boost targeted environmental governance involvement.

Environmental Impact of Waste Importation

A large percentage of survey participants in Table 3 demonstrated their agreement regarding environmental threats stemming from waste importation operations. According to the survey respondents, 72.9% acknowledged non-hazardous waste importation as an environmental hazard. Perceptions of water contamination stood as the risk factor rated most serious (39.1%), followed by soil contamination (26.0%) and air contamination (20.8%). The research findings align with those presented by Moses et al. (2025) and Ikhide and Onosemuode (2025a), indicating elevated heavy metal levels in Nigerian groundwater near landfills accepting imported waste. Local communities categorised the severity of these impacts as both "very serious" and "serious" based on their assessment of 57.3%. Statistical findings align with your research, which, through KIIs and field observations, revealed significant degradation at Olusosun Landfill and other sites. The study showed that habitat disruption due to poor e-waste management and plastic pollution led to a 7.8% biodiversity loss, aligning with the warnings of Ojarikre et al. (2025) regarding habitat devastation. The study reveals both awareness and direct environmental harm resulting from improper non-hazardous waste management in communities.

Health Impacts of Waste Importation

Public health concerns about health risks demonstrated continued high levels, according to the data in Table 4. Public opinion surveys indicate that waste importation creates health risks, as 72.9% of respondents agree or strongly agree with this assessment. Studies by Ojarikre *et al*. (2025) confirm identical global health concerns about improper e-waste recycling. Among the surveyed group of environmental workers, about 39.1% cited respiratory diseases as their health issue, with 26.0% experiencing waterborne diseases, and 13.0% manifesting cancer. The health problems stem from e-waste and textile burning pollutants, which include both dioxins and heavy metals such as lead and cadmium, according to Ikhide & Onosemuode (2025b). The subjects surveyed indicated that health problems would become unlikely or certainly worse because of ongoing waste importation, according to 57.3% of respondents. The lack of protection equipment and health monitoring demonstrates the high risk that informal waste handlers face, according to investigation results. Research by Isangadighi & Udeh (2023) and Ikhide & Onosemuode (2025a) validates the discovery of dangerous occupational health hazards in West African informal recycling activities.

Socio-Economic Impact of Waste Importation

Table 5 reveals distinct social and economic effects which people in Nigeria perceive concerning the introduction of non-hazardous waste imports. A strong majority of 70.3% of respondents indicated negative community effects of the importation process, and 46.9% reacted with highest agreement. Andeobu *et al*. (2023) supported these findings by reporting that unchecked waste imports destroy local markets with low-cost foreign items, which reduce local industries alongside small businesses. The public data demonstrates both positive and negative economic prospects regarding waste management in appropriate contexts. Of the respondents, 41.7% believed job creation would be a possible outcome, 26.0% mentioned improved recycling capabilities, and 15.6% mentioned new business ventures as potential results. The findings agree with the research of Rizk *et al*. (2025), who show that formal integration of informal waste workers would drive economic growth by protecting the environment. The respondents expressed concern about an unfavourable economic outlook for the next five years, since 48% predicted negative or very negative results about current management capabilities. The study demonstrates a governance challenge because the potential economic benefits of importing non-hazardous waste become environmental liabilities due to an insufficient regulatory framework and constrained infrastructure. The situation validates the claim presented by Pandya (2024), which states that developing nations maintain an ambiguous waste-to-resource boundary based on their governance standards.

Stakeholder Collaboration

The majority of interview respondents demonstrated strong agreement toward stakeholder interaction because it proves essential in addressing waste importation problems, according to Table 6 results. Public support for multi-stakeholder partnerships remains high because survey results mirror Pandya (2024), who stated that effective waste governance needs cooperation between public officials and private entities, as well as NGOS. The public had diverse views about leadership roles in this cooperation, with the government receiving the most support at 31.3%, while private organisations followed with 23.4%, and NGOS earned 20.8%. The participants acknowledged that one entity lacks the capabilities to tackle the situation independently. Survey participants showed a negative evaluation regarding the current success level of active collaboration efforts. The public evaluation of existing waste separation schemes demonstrated ineffective results, as surveyed participants concluded that these programmes were either ineffective or very ineffective, with a rate of 36.4% and 32.3%, respectively. The research confirmed common obstacles for cooperation between stakeholders that mirror previous observations from Gebrekidan (2024) about Ethiopian urban waste management systems, such as conflicting priorities (31.3%), inadequate communication (26.0%), and restricted resources (18.2%). Public apathy proved to be the least significant concern among

respondents, with only 8.8% reporting such inaction. This outcome demonstrates that citizens would stand behind established plans to manage urban waste problems. The majority of respondents (36.5%) favoured enhancement strategies which encompassed both clear communication channels and joint awareness campaigns (26.0%), thus confirming the global best practices described in the World Bank's 2018 report on integrated waste management systems. Systemic inefficiencies hinder stakeholder coordination, although stakeholders value it, so there is a need to reform inter-agency roles and communication structures.

Policy Recommendations

A majority of 88.6% from Table 7 indicates public agreement about enforcing stricter rules regarding non-hazardous waste imports between countries. Public agreement for quick governmental intervention reaches 57.3% according to the data. The survey respondents favoured stricter waste disposal rules above all other proposed solutions, with a 36.5% approval rating, followed by waste importation bans that garnered 26.0% support and 20.8% backing of infrastructure investments. NMICs can use these findings to support UNEP's (2022) recommendation to develop waste processing infrastructure while establishing new regulations. Survey participants revealed lower support (13.0%) for environmental impact assessments along with penalties (3.6%), which may suggest their insufficient understanding of effective governance mechanisms. The survey participants strongly approved of public involvement during policy development, since 78.2% declared this measure as highly important. The findings from Isangadighi & Ukudo (2025) back up their research, which shows how community participation helps compliance levels rise and encourages local solutions for environmental problems. The support for international cooperation reached 83.6% in the sample, while your main interviewees and document analysis showed that Nigeria lacks independent enforcement capability under the Basel Convention. The respondents endorsed better recycling initiatives (36.5%) alongside educational awareness programmes (26.0%) as their suggested solutions. The findings ring true with major plastic ban success stories in Rwanda and South Africa because community engagement played a central role in their achievements (Izuchukwu *et al*., 2025). The research findings depict that citizens possess sophisticated awareness about waste governance complexity and specifically advocate for legal changes and enhancement of infrastructure, together with public policy engagement processes.

Relationship Between Gender and Knowledge of Waste Importation Policies

Table 8 uses Chi-square statistics to examine the relationship between gender and knowledge of waste importation policies. The Chi-square statistic of 3.97 slightly exceeds the critical value of 3.841 based on a 5% significance level, which implies that gender relationships influence awareness levels. According to this research discovery, gender

drives how people understand and embrace non-hazardous waste policies. Table 2 indicates widespread awareness, while this outcome demonstrates additional elements that may relate to gender-based variations in environmental information methods among males and females. Isangadighi and Ukudo (2025) demonstrated that male participants in environmental studies show higher awareness because of their occupational requirements, which expose them to policy details. This discovery reveals a chance to develop specialised awareness programmes that will promote balanced involvement of stakeholders within waste management systems. The policy awareness improvement of females who typically handle waste sorting at a home level in Nigeria has the potential to produce favourable outcomes in both waste management practices and policy advancement.

Perception Between Rural and Urban Respondents

Table 9 shows a significant difference in perception between rural and urban respondents, with a p-value of 0.01. The perception of non-hazardous waste importation is more prominent among urban residents, based on their mean score evaluation of 4.12, while rural residents rate it at 3.85. The compacted nature of urban areas that serve as homes for ports, landfills, and recycling facilities explains why urban residents notice these consequences to a greater extent. Standard error and standard deviation values make the differing responses more dependable. The research corresponds to Lyu (2024) study, which demonstrated that urban inhabitants are better able to perceive waste accumulation effects because they witness daily landfill fires and polluted water sources. Rural communities have less direct awareness of environmental matters unless active waste leakage occurs near their environment. The research shows that environmental policies need specific urban and rural approaches, where rural sensitisation needs expansion and urban regulatory enforcement needs better implementation.

Regional Differences in Perception

Table 10 shows statistical differences between the three regions using ANOVA analysis ($p = 0.02$), while Region 2 demonstrates the maximum concern (mean = 4.11). The F-value of 3.68 signifies that regional opinion differences exceed random occurrences. Regional differences exist because Region 2 hosts key waste entry points at Tin Can Island and Olusosun, along with its ports, so residents experience more immediate and severe impacts. Zeng *et al*. (2023) provide evidence that waste burdens present noticeable differences in different geographic areas of LMICs. The distance between regions and import zones determines the degree of environmental contamination and health problems resulting from improper waste disposal. Future interventions, such as educational programmes, must become adaptable to regional needs regarding waste management

enforcement. A standardised policy approach shows little potential to handle specific geographical situations properly.

Key Variables Influencing Perception

The analysis in Table 11 demonstrates that Regulatory Awareness, Environmental Concerns, and economic benefits represent the three key constructs among the items. The regulatory factor has two components that strongly correlate with "Awareness of Waste Policies" (0.85) and "Knowledge of Legal Framework" (0.91) through factor analysis. High loadings (0.87 and 0.92) were detected for "Concern for Environmental Impact" and "Perception of Public Health Risks" under environmental concerns, showing that innate emotional responses and rational thoughts motivate resistance to waste imports. Environmental behaviour depends on knowledge and perceived risk, according to findings by Zeng *et al*. (2023) and results presented in this study. Consumers judge waste imports based on economic benefits and costs based on the "Economic Impact Awareness" factor, with a significant loading factor of 0.82. Multiple interconnected aspects demonstrate that successful waste-import policies require coordinated approaches to address informational, environmental, and economic elements.

Predictors of Support for Waste Importation

The variables that impact support for waste importation emerge from the logistic regression model established in Table 12. People with tertiary education stand 3.83 times against waste importation according to the significant β coefficient of 1.34 ($p = 0.007$). The analysis by Bolaji and Zainol (2025) of West African environmental consciousness shows that education creates better environmental understanding, which supports these findings since educated participants showed 3.83 times stronger opposition to waste importation. The public awareness about waste policies plays a crucial role in resisting waste imports (OR = 2.43, $p = 0.02$). This highlights the need for greater policy education among the population. The overall analysis revealed that gender did not show statistical significance ($p = 0.10$) due to its limited impact after other variables were taken into account. The study strengthens the need for educational outreach intervention targeting nontertiary level populations to establish a strong civic defence against unethical waste trade activities.

Qualitative Insights from KIIs and Document Analysis

Through Tables 13 and 14, we obtain well-rounded insights that enhance our knowledge about the quantitative results. KIIS reveal poor regulatory enforcement, an unclear legal framework, and widespread improper categorisation, which create major obstacles for Nigeria to manage waste importation regulations effectively. NESREA and Customs officials, as well as legal experts, noted the existence of two critical problems related to

understaffing and insufficient support from technology, in addition to unclear definitions between hazardous and non-hazardous waste. The interviews show that EU waste exporters gain economic advantages while Nigerian ports face the environmental costs of waste importation. Global inequalities are shown to exist through waste flows according to the perspective developed by Pellow (2007) with Bullard (2005). The communities located near landfills face elevated health threats, which confirms your survey findings regarding public health dangers. The combination of KIIs and document reviews provides practical solutions, which include inter-agency coordination, clear policies, proper protective equipment for informal workers, and international responsibility.

Conclusion

This paper delivers a deep assessment of European Union waste imports to Nigeria by employing multi-method research tools, which combined documentation studies with interviews of stakeholders, focus groups, and on-site examinations, as well as questionnaire evaluations. Data showed substantial distortions between Nigeria's Basel and Bamako Convention regulations and the actual waste governance practices throughout both governing bodies and operational sectors. Many materials restricted by law from entering the country manage to flow into Nigeria due to weak enforcement and improper institutional coordination between regulatory bodies, along with corrupt practices among port officials. The analysis of stakeholders revealed that participants had distinct degrees of understanding combined with power dynamics and their commitment to the issue. Although civil society organisations, along with affected communities, registered high levels of interest, their influence remained minimal, while government departments, plus trade connections, maintained strong authority but showed unstable commitment to responsibilities. The residents of Lagos, Port Harcourt, and Ogun endured environmental damage and economic difficulties because of waste accumulation, which proves the necessity of community-led environmental governance practices and improved decision-making power.

Through empirical and theoretical assessments, this study emphasises that Nigeria needs to build a new waste governance structure which exceeds legislative updates by establishing transparent systems with better interagency working and inclusive community involvement. The study demands increased ethical standards in European Union bilateral monitoring alongside a more accurate approach to classify waste material as "non-hazardous" during international trade. The solution to Nigeria's waste import problem must develop from a multi-sector model that combines sustainable environmental practices with policy comprehensibility and supports local community stakeholder initiatives.

Recommendations

i. Nigeria's legal framework needs to precisely distinguish hazardous waste from other types through definitions that conform to international standards. This will fill gaps in regulations and enhance authorities' ability to enforce the law.
ii. Government authorities conducting port inspections must receive specialised training to identify waste misclassification and obtain modern inspection equipment for illegal import detection.
iii. Through established multi-stakeholder collaboration platforms, government agencies, NGO members, private sector entities, and community participants can develop coherent waste management systems across the country.
iv. IV. The government should adopt expanded educational initiatives across all areas of Nigeria, focusing on raising environmental and health awareness among rural populations and informal workers about the dangers of imported waste.
v. The Nigerian government should establish contemporary waste recycling facilities to minimise unlawful informal practices and create local economic value.
vi. Nigeria must enhance its international partnerships with EU nations by demanding complete transparency and ethical adherence to waste regulations during waste shipments between countries.

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