Prevalence of Environmental Abuse among Market Women in Obio/Akpor Local Government Area, Rivers State, Nigeria

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ABSTRACT

This study investigated Environmental abuse among market women in Obio/Akpor Local Government Area (LGA) of Rivers State. Three research questions formulated to guide this study. The study adopted descriptive survey research design, the population of the study was two thousand three hundred and eighty-one (2,381) market women. The population was stratified by the four selected markets (Rumuosi, Rumuekini, Rumuokoro and Oil Mill Markets). A simple random sampling techniques was adopted to select 50 women each from the stratums, to make up a sample size of two hundred (200) women for this study. The Pearson Product Correlation Coefficient was used to compute instrument reliability at an index of 0.88. Mean and standard deviation were used to answer the research questions. The findings revealed a high extent of environmental abuse among market women such as waste disposal practice and plastic pollution among market women. The study also unveiled a high extent of lack of environmental awareness among market women in Obio/Akpor LGA, Rivers State. Based on the findings, it was recommended among others that Rivers State governments, in alliance with the market women association should focus on providing waste management infrastructure to the market women; mount constant awareness campaigns, environmental education, introduction of recycling initiatives, and the promotion of eco-friendly alternatives, such as reusable bags, plastic containers for mitigating environmental abuse among market women.

Key words: Environmental Abuse, Waste Disposal, Market Women and Obio/Akpor LGA

INTRODUCTION

The growing environmental abuse among market women in Obio/Akpor Local Government Area (LGA) of Rivers State, Nigeria, has become a concerning issue. These market women, who play a vital role in the local economy by selling food and goods, are increasingly contributing to environmental abuse through practices such as improper waste disposal and]pollution. Open dumping of waste in the streets, rivers, and nearby areas is a common sight, creating health hazards and posing serious risks to the community's well-being. The use of non-biodegradable materials, particularly plastics, adds to the mounting environmental burden, as these items often end up clogging drainage systems and causing flooding.

Despite their crucial economic contributions, the lack of environmental awareness, combined with limited waste management infrastructure and enforcement, has led to this growing environmental crisis. Addressing this issue requires a multifaceted approach that incorporates education, stricter regulations, and better waste management systems to ensure sustainable practices in the marketplace while safeguarding the environment from abuse.

Environmental abuse refers to the degradation, destruction, or mismanagement of natural resources and ecosystems due to human activities. It encompasses a wide range of harmful practices, including pollution, deforestation, unsustainable resource extraction, and habitat destruction. The United Nations Environment Programme (UNEP, 2019) defines environmental abuse as actions that lead to resource depletion, ecosystem pollution, and irreversible damage to biodiversity. These abuses are primarily driven by economic growth, overconsumption, and unsustainable practices, particularly in developing countries.

The World Wildlife Fund (WWF, 2020) further defines environmental abuse as the overexploitation and mismanagement of natural resources, resulting in severe ecological damage. Human activities such as deforestation, poaching, overfishing, and pollution destabilise ecosystems, reduce biodiversity, and contribute to climate change. WWF advocates for the adoption of sustainable practices to prevent further harm to the environment and to preserve the planet's natural resources. According to UNEP (2021), environmental abuse includes human activities that cause pollution, resource depletion, climate change, and loss of biodiversity threatening ecosystems, human health, and the global climate. Suzuki (2010) in his book *The Legacy*, describes environmental abuse as the irresponsible treatment of the Earth, leading to irreversible damage to ecosystems, human health, and the planet's ability to sustain life.

The core components of environmental abuse, based on these definitions include: pollution, which is one of the most damaging forms of environmental abuse, affecting air, water, soil, and even noise levels. Air pollution from industrial emissions, vehicle exhaust, and deforestation releases harmful gases such as carbon dioxide (CO_2) and sulfur dioxide (SO_2), contributing to climate change and respiratory diseases (WHO, 2020). Water pollution, from industrial waste, sewage, and plastic waste, contaminates water bodies, threatening drinking water supplies and marine ecosystems (Nathanson, 2025). Excessive use of pesticides, fertilizers, and improper waste disposal degrade soil quality, reducing agricultural productivity. Noise pollution from industrial activity and urban expansion disrupts human well-being and interferes with wildlife communication (Ambrose, 2022).

Improper waste disposal, including open dumping and burning, releases toxic substances into the air, soil, and water, posing serious risks to human health and wildlife. The widespread use of single-use plastics further clogs waterways and contributes to ocean pollution, endangering marine life (Tchokossa et al., 2015). Market women are crucial to local economies, providing goods and services that support community livelihoods. However, certain activities they engage in contribute to environmental degradation, negatively affecting public health, sanitation, and environmental sustainability.

Environmental abuse concerns improper waste disposal. Many market women discard vegetable peels, plastic bags, and packaging materials carelessly, leading to clogged drains, flooding, and unsanitary conditions (Tchokossa et al., 2015). Some vendors also resort to burning plastic, paper, and other waste materials, releasing toxic gases that contribute to air pollution and respiratory diseases. The excessive use of plastic and non-biodegradable materials is another significant issue. Duro et al. (2020) identify plastic bags, wrappers, and bottles as major contributors to market and waterway pollution. Styrofoam packaging, commonly used by vendors to store food, is non-biodegradable and harmful to the environment. Some market women wash produce, utensils, and clothing in nearby streams or discard wastewater into open drains, contaminating local water sources (Denchak, 2023). These practices pollute water bodies, negatively impacting aquatic life. Food waste and organic pollution also present environmental hazards such as rotten fruits, vegetables, and expired goods are often discarded in open areas, creating foul odors and attracting pests that spread diseases (FAO, 2021). Rather than reusing organic waste for compost or animal feed, many market women contribute to landfill overflow and methane emissions (Aminu, 2024).

Plastic packaging is widely used, sustainable alternatives like biodegradable bags, paper packaging, and reusable containers are often overlooked due to their higher cost and limited availability. Ogunjimi (2022) notes that, despite growing global efforts to reduce plastic use, market women in Nigeria, including those in Obio/Akpor, continue to rely on plastic due to budget constraints and a lack of accessible alternatives. This reliance on unsustainable packaging perpetuates a cycle of pollution and waste that could be mitigated with increased investment in eco-friendly solutions. Without incentives or subsidies to make sustainable packaging more affordable, market women are unlikely to adopt more environmentally friendly practices.

The absence of recycling practices is another contributor to environmental abuse in Obio/Akpor's markets. Market women rarely engage in waste separation or recycling due to a lack of awareness and infrastructure to support these activities. Plastics, glass, and other recyclable materials are often discarded with general waste instead of being sorted for recycling. According to Nwachukwu and Ibeh (2020), the lack of accessible recycling facilities in Nigerian markets prevents market women from adopting recycling practices, leading to the accumulation of recyclable materials in landfills or public spaces and further contributing to pollution.

The widespread use of plastic bags and other non-biodegradable materials further exacerbates the problem. Improper disposal of these materials blocks drainage systems and contributes to pollution. Research has examined the sources of plastic waste in Obio/Akpor and its long-term impact on environmental sustainability (Ajoku, 2020).

Another challenge is the limited environmental education among market women. This lack of awareness leads to practices that harm the environment. Promoting sustainability through education is crucial. A study on environmental education strategies in Obio/Akpor emphasised the need for increased awareness to improve waste management (Oladunloye, 2024). A major barrier to sustainable environmental management is the lack of proper waste management infrastructure. Many markets do not have waste bins, recycling facilities, or efficient waste collection services. Eze et al. (2021) note that this lack of infrastructure forced market women to dispose of waste in informal ways, such as dumping it in open drains or streets.

Financial limitations is another major barrier for market women to operate on tight budgets, which makes it difficult for them to invest in sustainable alternatives, such as biodegradable packaging or waste management tools. Plastic bags, for example, are cheap and easily accessible, making them the preferred choice despite their environmental impact. Nwachukwu and Ibeh (2020) highlighted the affordability of plastic as a significant factor driving its widespread use.

Akinyemi and Aremu (2017) pointed out that waste management policies are often poorly implemented due to a lack of resources, weak government oversight, and insufficient penalties for non-compliance. Eze et al. (2021) affirm that some market women view waste management as a task for the government or waste collection agencies, not something they need to priorities.

Limited collaboration between market women and environmentalist is a major challenge that play a crucial role in promoting sustainable practices by offering training, resources, and support. However, many market women in Obio/Akpor do not have access to these programmes, as NGOs are often more active in larger urban centres. Uche et al. (2021) found that the absence of NGOs in smaller urban markets limits the exposure of market women to sustainable solutions and waste management strategies which may lead to environmental abuse. In a study conducted by Adebayo and Akinbile (2018), it was revealed that 74% of urban market women in Southwestern Nigeria dispose of waste improperly by throwing it on the roadside, water bodies, or open fields. Similarly, Nwachukwu et al. (2020) documented the prevalent use of open dumpsites around market areas, leading to contamination of water sources and surrounding neighborhoods. The study found that market women often lack access to waste collection services, forcing them to resort to unsanitary disposal methods.

In addition, a study by Mbah and Obasi (2018) state the lack of waste management infrastructure in many African informal markets, such as those in Lagos, Nigeria, contributes to improper waste disposal. Market women reported that they were unaware of the appropriate waste disposal practices and often lacked the necessary facilities to manage waste.

Ukwuoma (2019) found that plastic materials, particularly plastic bags, are the most commonly used packaging material in informal markets across Africa. Despite the increasing awareness of the harmful effects of plastics, market women continue to rely heavily on plastic bags to package and transport goods. Akinmoladun and Okunola (2021) corroborated these findings in their research on plastic waste generated in Nigerian markets. They reported that market women accounted for nearly 50% of plastic waste produced in some urban markets, primarily due to their widespread use of plastic bags and containers. In Abdulrahman and Otieno's (2017) study of environmental degradation in Kenyan markets, it was found that market women often used single-use plastic bags to package vegetables, fish, and other perishables. These bags were not recycled and ended up as litter, clogging drains and creating local health hazards.

Akinbile and Adebayo (2019) found that a significant number of market women in Southwestern Nigeria had minimal knowledge of waste management practices. Their study showed that over 60% of the respondents were unaware of the environmental risks posed by plastic waste and improper disposal. This lack of awareness contributes to the persistence of harmful practices.

In a similar study by Olumide et al. (2020) in Uganda, market women expressed a lack of understanding of waste segregation and recycling processes. The study emphasised that many market women were unaware of how their waste disposal practices could harm local ecosystems, particularly in urban areas where water contamination and flooding are common due to blocked drainage systems. Many market women are unaware of the environmental and health impacts of improper waste disposal or the benefits of reducing waste. Ogunjimi (2022) found that many market women prioritise their immediate business needs over environmental concerns because they do not fully understand the long-term consequences of pollution. The Nigerian Environmental Society (NES) (2022) reports that many urban areas, including Obio/Akpor, lack sufficient training on waste management. Studies have noted the visible presence of waste along major roads and the overall environmental degradation caused by these practices (Ikechukwu, 2015).

Base on the report by Ikechukwu (2015) and the Nigerian Environmental Society (NES) (2022), that this study was carried out by the researchers to find out the extent of environmental abuse such as waste disposal practices, plastic pollution and lack of environmental awareness by market women in Obio/Akpor LGA, of Rivers State.

Research Questions

The following research questions guided the study:

1. What is the extent of waste disposal practices among market women in Obio/Akpor LGA of Rivers State?
2. What is the extent of plastic pollution among market women in Obio/Akpor LGA of Rivers State?
3. What is the extent of environmental awareness education among market women in Obio/Akpor LGA, Rivers State?

METHODOLOGY

The study employed a descriptive survey design to assess the current practices, behaviours, and perceptions of market women regarding environmental management, allowing for the collection of both qualitative and quantitative data. It was conducted in Obio/Akpor Local Government Area of Rivers State, Nigeria, an area characterised by high commercial activity and notable environmental challenges, particularly in markets like Rumuokoro, Rumuosi, Oil Mill, Rumuekini, and Choba. The study targeted market women engaged in trading across these selected markets, as they play a significant role in waste generation and disposal. A population of 2,381 women was used for the study. The population was drawn from the Market Women Association registers maintained by the association's executives. Table 1.0 presented the population distribution across the four markets

Table 1.0: Market Women Population Distribution

S/N	Markets	Population
1	Rumuosi	456
2	Rumuekini	493
3	Rumuokoro	586
4	Oil Mill	846
	Total	**2,381**

Source: Field Survey derived from Market Women Association Registers

A sample size of 200 market women was selected from four major markets in Obio/Akpor LGA. The study used a stratified random sampling technique, stratifying the population by market to ensure that the sample reflected

similar environmental characteristics. From each market stratum, 50 participants were randomly selected using a simple random sampling method, as shown in Table 2.0

Table 2.0: Study Sample size

S/N	Markets	Population	Sample
1	Rumuosi	456	50
2	Rumuekini	493	50
3	Rumuokoro	586	50
4	Oil Mill	846	50
	Total	**2,381**	**200**

Source: Field Survey

A 15-item questionnaire was developed by the researcher to collect data from market women in Obio/Akpor LGA, Rivers State. The questionnaire, based on three research questions with five items each, was constructed using modified 4-point Likert scale: Very High Extent (4), High Extent (3), Low Extent (2), and Very Low Extent (1). A criterion mean of 2.50 was set, where values above indicated a high extent and values below indicated a low extent. The instrument's reliability was confirmed using the Pearson Product Moment Correlation Coefficient, yielding an index of 0.88. Mean and standard deviation were employed to analyse the research questions.

RESULTS

Research question 1: What is the extent of waste disposal practices among market women in Obio/Akpor LGA of Rivers State?

Table 3.0: Mean and standard deviation of extent of waste disposal practices among market women in Obio/Akpor LGA of Rivers State

S/N	Items	Responses				Mean	Standard deviation	Decision
		VHE	HE	LE	VLE			
1	To what extent do you use waste bins or containers for disposal?	140	30	20	10	3.5	1.18	VHE
2	To what extent are the designated waste disposal areas in the market?	70	10	30	90	2.3	1.14	LE
3	To what extent have you experience any challenges in disposing of waste?	142	28	19	11	3.505	1.12	VHE
4	To what extent have you received any training or guidance on proper waste disposal?	40	11	8	141	1.75	0.85	VLE
5	To what extent are you aware of the environmental impact of improper waste disposal?	72	18	22	88	2.37	1.01	LE
	Grand Mean					**2.69**	**1.06**	**HE**

Table 3.0 shows that items (2,4 and 5) have means which were less than the criterion mean (2.5), except 1 and 3 that were more than the criterion mean (2.5). Moreover, the grand mean (**2.69**) was greater than the criterion

means. This established a high extent (HE) of waste disposal practices among market women in Obio/Akpor LGA of Rivers State.

Research question 2: What is the extent of plastic pollution among market women in Obio/Akpor LGA of Rivers State?

Table 4.0: Mean and standard deviation of extent of plastic pollution among market women in Obio/Akpor LGA of Rivers State

S/N	Items	Responses				Mean	Standard deviation	Decision
		VHE	HE	LE	VLE			
1	To what extent do you use plastic bags, containers, or packaging in your market activities?	120	33	25	22	3.25	1.18	HE
2	To what extent do you often use single-use plastics?	40	6	11	143	1.71	1.14	VLE
3	To what extent do you currently dispose of plastic waste?	70	20	20	90	2.35	1.12	LE
4	To what extent do you recycle or reuse any plastics?	141	22	16	21	3.41	0.85	HE
5	To what extent are you aware of the environmental impact of plastic pollution?	44	7	17	132	1.81	1.3	LE
	Grand Mean					**2.51**	**1.11**	**HE**

Table 4.0: shows that items (2,3 and 5) have means which were less than the criterion mean (2.5), except 1 and 4 that were more than the criterion mean (2.5). Moreover, the grand mean (**2.51**) was greater than the criterion means. This revealed a high extent (HE) of plastic pollution among market women in Obio/Akpor LGA of Rivers State.

Research question 3: What is the extent of lack of environmental awareness among market women in Obio/Akpor LGA, Rivers State?

Table 5.0: Mean and standard deviation of extent of lack of environmental awareness among market women in Obio/Akpor LGA, Rivers State

S/N	Items	Responses				Mean	Standard deviation	Decision
		VHE	HE	LE	VLE			
1	To what extent can you identify common environmental hazards in the market (e.g., pollution, waste)?	135	31	13	21	3.4	1.18	HE
2	To what extent are you aware of the impact of market activities on the environment?	142	23	16	19	3.44	1.14	HE
3	To what extent have you received any training or education on environmental issues?	38	6	5	151	1.65	1.12	VLE
4	To what extent do you know about proper waste disposal practices?	43	10	8	139	1.78	0.85	LE
5	To what extent do you currently implement any environmentally friendly practices in your market activities?	120	31	15	34	3.18	1.3	HE
	Grand Mean					**2.69**	1.11	**HE**

Table 5.0 shows that the mean scores for items 3 and 4 were less than the criterion mean of 2.5, whereas items 1, 2, and 5 recorded mean scores higher than the criterion mean. Additionally, the grand mean of 2.69 exceeded

the criterion mean. This suggests a high extent (HE) of lack of environmental awareness among market women in Obio/Akpor LGA, Rivers State.

DISCUSSION OF FINDINGS

The finding of Research Question One, as presented in Table 3.0, indicated a high extent (HE) of poor waste disposal practices among market women in Obio/Akpor Local Government Area (LGA) of Rivers State. This observation aligns with the study by Adebayo and Akinbile (2018), which reported that 74% of urban market women in Southwestern Nigeria disposed of waste improperly often along roadsides, in open fields, or into nearby water bodies.

Similarly, the result of Research Question Two as shown in table 4.0, revealed a high extent (HE) of plastic pollution associated with market activities in the area. This finding corroborated those of Akinmoladun and Okunola (2021), who noted that market women contributed to nearly 50% of plastic waste generated in selected urban markets. This was largely attributed to the prevalent use of plastic bags and containers in daily commercial activities.

Furthermore, the analysis of Research Question Three, detailed in Table 5.0, indicated a high extent (HE) of lack of environmental awareness among market women in Obio/Akpor LGA. This finding is consistent with that of Akinbile and Adebayo (2019), whose study revealed that over 60% of market women in Southwestern Nigeria lacked adequate knowledge of proper waste management and were unaware of the environmental implications of improper waste disposal and plastic pollution. Their limited awareness continues to contribute to environmentally harmful practices.

CONCLUSION

This study investigated environmental abuse among market women in Obio/Akpor Local Government Area (LGA) of Rivers State. The findings revealed a high extent of environmental abuse, characterised by widespread poor waste disposal practices, significant plastic pollution, and a general lack of environmental awareness among market women in the area.

RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations are proposed:

1. Provision of Waste Management Infrastructure:

   The Rivers State government and Market Women Association should prioritise adequate provision of waste management facilities for market women. The local government should enforce strict regulations mandating proper waste disposal practices, including waste segregation, reducing plastic use, and penalising non-compliance.

2. Promotion of Sustainable Alternatives:

   Market unions should encourage the use of sustainable options, such as reusable cloth or jute bags, instead of single-use plastics. The introduction and promotion of biodegradable packaging materials should also be supported within the markets.

3. Regular Environmental Awareness Campaigns:

   The State Government and Obio/Akpor LGA authorities should organise frequent environmental sensitisation campaigns to educate market women on the importance and use of available waste management facilities and methods to improvise environmentally friendly waste disposal practices.

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