



The Causes of Environmental Degradation and their Effects on the People Living in the Atiba Local Government Area in Oyo State

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Abstract

The Atiba Local Government Area in Oyo State, Nigeria, faces numerous challenges stemming from environmental degradation, driven by a combination of human activities and natural processes. The study investigated the causes and effects of environmental degradation in Atiba Local Government Area, Oyo State, using descriptive statistics to analyze data from 100 questionnaires administered to respondents, identify degradation areas, and identify potential solutions. The study found that environmental degradation causes are widely agreed upon, except for literacy levels. It also revealed widespread soil fertility loss and health hazards. However, 20% of respondents are unaware of existing conservation programmes, while 70% believe there is enough awareness and education about the causes and effects of environmental degradation. Therefore, reducing these causes is crucial for maintaining soil quality. Finally, the results on awareness of environmental issues in specific areas revealed that awareness levels vary across different environmental issues and specific areas; some areas show higher awareness of certain issues, while others may have lower awareness. It was therefore concluded that the Atiba Local Government Area of Oyo Township in Nigeria is facing severe environmental degradation due to deforestation, pollution, soil erosion, climate change, overgrazing, and urbanization. A comprehensive strategy involving community-based activities, policy interventions, and stakeholder involvement is needed. The study suggests that government authorities should effectively implement environmental protection policies, monitor emissions, enforce waste management, and penalise violators while engaging local communities through awareness campaigns and educational programmes.

Keywords: Deforestation, Environmental degradation, Overgrazing, Pollution, Soil erosion

Introduction

Environmental degradation is a serious issue that affects both human well-being and sustainable development in Oyo State, Nigeria's Atiba Local Government Area (LGA) in Oyo Township. Pollution, unsustainable farming methods, and deforestation are the main causes of the degradation. The livelihoods of local populations and socioeconomic disparities are at risk due to factors such as soil erosion, biodiversity loss, and increased susceptibility to climate-related disasters. To address environmental concerns, a comprehensive strategy involving waste management, afforestation, sustainable land management, and tighter environmental restrictions is needed, involving collaboration between civil society, government, and local stakeholders. Environmental degradation, a global issue involving pollution, biodiversity loss, deforestation, desertification, and global warming, is driven by human activity. In India, agriculture fertilizer use is causing soil degradation, erosion, and crop loss, while overexploitation of water sources threatens human health and longevity (Somma et al., 2023). Environmental factors, including climate change, human activities, and household environments, significantly impact human health and well-being. Analyzing these factors helps public health practitioners identify potential health gains by modifying environmental aspects (Pitkänen et al., 2020).

Environmental pollution, caused by human activities like deforestation, pesticide overuse, and industrialization, harms living beings and reduces the earth's capacity to meet social and environmental needs (Wang et al., 2023).

Techniques to prevent environmental degradation include environmental resource protection and general protection efforts. Environmental issues can have long-term ecological effects, potentially demolishing entire environments. An environment is a unique unit encompassing all living and non-living components, including plants, streams, lakes, and soil (Criminal Law Protection Based on Green Ecological Environment Protection, 2022).

The environment, encompassing both natural and man-made elements, influences all living things, including humans, and ecosystems are shaped by natural factors like climate and landforms (Maxhuni et al., 2023). All living things are a part of the biological environment, whereas constructed environments and human activity that affect the environment are part of the human environment. Cultural, economic, and sociological elements that influence how people interact with their surroundings are all included in the social environment (Lee, 2021).

Environmental degradation, caused by human activities like industrialization, urbanization, mining, agriculture, and infrastructure development, leads to pollution, deforestation, habitat destruction, soil erosion, biodiversity loss, and climate change, causing negative social, economic, and health effects (Yang et al., 2020). Habitat degradation, biodiversity loss, and climate change threaten plant and animal species, ecosystem resilience, human livelihoods, health issues, infrastructure damage, agricultural production decline, healthcare costs, and livelihood loss (Sobirov & Eshonqulov, 2023). The effects of climate change include social unrest, cultural heritage loss, and changes in livelihoods. Addressing these issues requires stronger environmental regulations, clean technologies, sustainable resource management, ecosystem protection, and public awareness (Yaman, 2020).

There are substantial effects of environmental degradation on human health, biodiversity, ecosystems, and socioeconomic well-being. The main effects are the reduction of ecosystem services vital to human well-being and the loss of biodiversity as a result of pollution, habitat destruction, and climate change, which upsets ecological equilibrium (Suárez et al., 2017). Degradation of ecosystems, such as wetlands, coral reefs, and forests, reduces their ability to support human livelihoods and sustainable development and increases their susceptibility to environmental risks (Torquebiau, 2017). Global warming and climate change are exacerbated by greenhouse gas emissions from human activity, which also affect water resources, agriculture, human health, and socioeconomic systems globally. Risks to human health include poisoning, pollution exposure, and infectious infections. Loss of employment makes social inequity, food insecurity, and poverty worse. Migration and displacement are made worse by climate change (Roy, 2019).

Environmental degradation negatively impacts human health, biodiversity, ecosystems, and socioeconomic well-being by causing pollution, habitat destruction, and climate change. It disrupts ecosystem balance, reduces vital services, and increases vulnerability to environmental risks (Suárez-Alonso et al., 2017). Human activities like deforestation and fossil fuel burning exacerbate global warming and climate change, leading to higher temperatures, climate change, and health risks. Losing income worsens poverty, food insecurity, and social inequality (Sadegh & Alizadeh, 2021). Environmental or climate-induced migration burdens resources hinders sustainable development and impacts livelihoods. It leads to damaged infrastructure, ecosystem services, lower agricultural production, higher medical bills, and financial costs (Suárez-Alonso et al., 2017). Action is needed at local, national, and international levels to combat environmental degradation, including resource management, climate change resilience, global collaboration, and raising public awareness (Cartwright, 2024).

Environmental degradation has severe impacts on ecosystems, biodiversity, human health, and socio-economic well-being. It leads to habitat destruction, fragmentation, and the loss of species diversity, disrupting ecosystem resilience and reducing ecosystem services. Pollution from degradation contaminates air and water, causing respiratory and waterborne diseases (Himes *et al.*, 2020). Soil erosion and desertification degrade soil quality, affecting agricultural productivity and food security (The effects of soil erosion and degradation on agricultural productivity, 2023). Deforestation contributes to climate change, causing shifts in ecosystems and species distribution (Rodríguez-Mega, 2019). Degradation undermines livelihoods reliant on natural resources, increasing vulnerability to natural disasters. It disproportionately affects marginalized communities, perpetuating social and economic inequities. Cultural heritage sites and indigenous livelihoods are threatened, reducing cultural diversity and social cohesion (Konsa, 2016). Addressing environmental degradation requires a multifaceted approach involving various stakeholders, including environmentally friendly land use techniques, pollution prevention, natural resource preservation, climate change mitigation, environmental education, integrated water resource management, green infrastructure, and international collaboration. Remediation for ecosystem resilience, soil erosion, and land repair can be achieved

through cleaner production, pollution control systems, conserving resources, reducing emissions, and promoting environmental education (Duarte, 2022). While green infrastructure can reduce the effects of urban heat islands and enhance air quality, integrated water resource management solutions guarantee the sustainable use of freshwater resources (Gulliver & Weiss, 2021). Transboundary environmental challenges can be addressed, and sustainable development can be promoted by enhancing international collaboration and policy convergence (Basu & Das, 2021).

Concerns regarding the causes and consequences of environmental degradation are urgent given the current situation of the world ecosystem. The purpose of this study is to look into the causes of environmental degradation and how it affects the residents of Oyo City. Examining the underlying diversity of soil degradation and explaining the implications for ecosystem biodiversity and human health. Because of this, we have a stronger grasp of the underlying mechanisms, which makes it possible to formulate policies for mitigation and sustainable resource management that are well-informed. Anthropogenic factors, or human actions that are thought to be responsible for environmental degradation, include urbanisation, deforestation, industrial pollution, overuse of natural resources, and climate change. Degradation effects on soil temperatures, water quality, air pollution, and habitat damage are also included in this. This research therefore poses the following research questions:

- i. what are the causes of environmental degradation in the study area?
- ii. to what extent are the effects of environmental degradation on people's livelihoods in the study area?
- iii. what is the awareness of environmental issues in specific areas?
- iv. in what ways are the possible solutions to environmental degradation in the study area?

Aim and Objectives of the Study

This study aims to examine the causes and effects of environmental degradation on people in the Atiba Local Government Area of Oyo State. The specific objectives are to:

- i. examine the causes of environmental degradation in the study area;
- ii. investigate the effects of environmental degradation on people's livelihoods in the study area;
- iii. create awareness of environmental issues in specific areas; and
- iv. highlight possible solutions to environmental degradation in the study area.

Methodology

This research work is a descriptive survey study that seeks to utilize questionnaires in gathering data, which was obtained from both primary and secondary data sources. The population of the study comprises the residents of Atiba Local Government. This study was carried out among the ten (10) political wards in the Atiba Local Government Area of Oyo State. The sample size of the study was 100 residents in the Atiba Local Government Area of Oyo State. The researcher used random sampling techniques to select ten (10) adult members from each of the ten (10) wards. The area includes Oke-Afin I, Oke-Afin II, Aremo, Bashorun, Agunpopo I, Agunpopo II, Agunpopo III, Ashipa I, Ashipa II, and Ashipa III, respectively. This was sourced from the Department of Administrative and General Services, Atiba Local Government. In answering the research question posed, the information obtained from the sampled population was analysed using the mean rating and percentage used to answer the research questions.

The research is carried out in Oyo Township within Atiba Local Government. Atiba Local Government Area (LGA) is part of the four local government areas in Oyo town, which is rich in culture and tenacious in the tradition of Yoruba (see Figure 1). The LGA has its headquarters in Ofa-Meta, located at latitude 7°50'30N and longitude 3°57'00E of the Greenwich Meridian. It covers a total land area of 2,197.53 sq km. It is surrounded in the north by the Orelope and Olorunsogo Local Government areas and the Orire local government area in the east. It is bounded in the south by Oyo West and Oyo East local government territories, while Saki East and Atisbo local government areas mark its western margin. The population of Atiba LGA during the 2006 census was 168,246. The local government is predominantly rural, with few towns but more than 200 villages and hamlets. The inhabitants are predominantly Yorubas, with migrants from other parts of Nigeria as well as those that came from other countries in the west of Nigeria (Oladehinde et al., 2018).

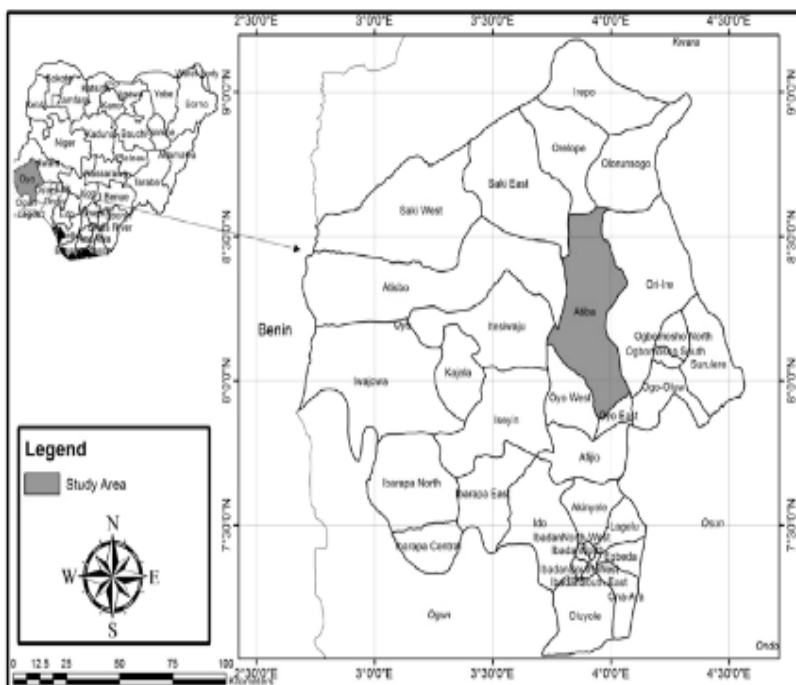


Figure 1: Map Oyo State Showing Atiba Local Government
Source: Oyo State Ministry of Physical Planning and Urban Development.

Results

Research question 1: what are the causes of environmental degradation in the study area?

The study found that 79% of respondents believe overgrazing leads to environmental degradation, while 21% do not. The level of literacy also had varying opinions, with 45% believing it influences the right use of the environment. Waste generation was deemed a significant cause while converting agricultural farmland to residential or industrial areas was considered a minor issue. Flooding was the most significant contributor, followed by waste generation. However, the level of literacy's influence on environmental use was less agreed upon. The study suggests that environmental causes should be minimized, regardless of education level.

Table 1: Causes of Environmental Degradation in Atiba Local Government Area

S/N	Causes of Environmental Degradation	Yes	No	Total
1.	Overgrazing	79	21	100
2	Literacy / right use of the environment	47	53	100
3	Waste generation	81	19	100
4	Converting agricultural farmland	61	39	100
5	Flooding	86	14	100

Source: Author's Survey, 2024

Research question 2: to what extent are the effects of environmental degradation on people's livelihoods in the study area?

The majority of respondents in Atiba Local Government perceive significant impacts of environmental degradation on health, livelihood, and social dynamics. They believe that specific natural resources or ecosystems are affected by degradation, with 66% believing these are significant. The majority also agrees that environmental degradation usually leads to the destruction of access roads, soil fertility loss, and health hazards.

Table 2: Effect of Environmental Degradation

S/N	Effect of Environmental Degradation	Yes	No
6.	Have you noticed any impacts of environmental degradation on health, livelihood and social dynamics	77	23
7.	Are there any specific natural resources or ecosystems in Atiba Local Government that have been significantly affected by environmental degradation?	66	34
8.	Environmental degradation usually leads to the destruction of access roads.	79	21
9.	Environmental degradation can lead to loss of soil fertility	91	09
10.	Environmental degradation can lead to health hazards.	87	13

Source: Author's Survey, 2024

Research question 3: what is the awareness of environmental issues in specific areas?

Table 3 revealed that Isale-Oyo and Agunpopo have the highest awareness of overgrazing (30% and 25%, respectively), while Oroki and Okeebo have the lowest awareness of overgrazing (15% each). Also, Akesan and Sabo show the highest awareness of noise pollution (30% and 35%, respectively), while Ilaka and Okeebo have the lowest awareness of noise pollution (12% each). Agunpopo and Isale-Oyo have the highest awareness of bad odour (30% each), while Oroki and Akesan have the lowest awareness of bad odour (10% each). More so, Sabo and Ilaka have the highest awareness of cassava processing factories (18% and 20%, respectively), while Roki and Isale-Oyo have the lowest awareness of cassava processing factories (8% each). Sabo and Okeebo have the highest awareness of indiscriminate tree cutting (15% each), while Ilaka and Akesan have the lowest awareness of indiscriminate tree cutting (8% each). This implies that awareness levels vary across different environmental issues and specific areas, some areas show higher awareness of certain issues, while others may have lower awareness. These percentages provide an overview of the respondents' awareness of environmental issues in specific areas within Atiba Local Government.

Table 3: Awareness of Environmental Issues in Specific Areas

S/N	Environmental issue awareness	Isale-oyo	Agunpopo	Oroki	Akesan	Sabo	Basorun	Ilaka	Okeebo	Total
1	Overgrazing	30	20	15	10	5	8	6	6	100
2	Noise Pollution	15	25	20	30	35	18	25	12	100
3	Bad Odour	25	30	10	15	20	22	18	12	100
4	Cassava Processing Odour	10	15	8	12	18	10	20	15	100
5	Indiscriminate Tree Cutting	20	25	15	10	8	15	10	20	100

Source: Author's Survey, 2024

Research question 4: In what ways are the possible solutions to environmental degradation in the study area?

The study shows that 56% of respondents are aware of local initiatives to mitigate environmental degradation, while 39% believe government policies are sufficient. 50% know of success stories, while 50% do not. 21% are aware of existing environmental conservation programmes, while 79% are not. 71% believe there is enough awareness and education about environmental degradation, while 30% do not. There is a lack of consensus on the effectiveness of government policies.

Table 4 shows the solution to environmental degradation in the study area

S/N	The solution to Environmental Degradation	Yes	No
1	Are there any Local initiatives or community-based efforts aimed at mitigating environmental degradation in Atiba Local Government?	56	44
2	Do you think that government policies adequately address the issue of environmental degradation?	39	61
3	Are there any success stories or examples of positive changes in Atiba Local Government that have helped to mitigate environmental degradation?	50	50
4	Are there any existing environmental conservation programs or initiatives in place in Atiba Local Government?	21	79
5	Do you feel that enough awareness and education are being provided to the public about the causes and effects of environmental degradation in Atiba Local Government?	71	29

Source: Author's Survey, 2024

Discussion

This result from research question 1 shows that inadequate monitoring of the environment has aggravated some challenges beyond their thresholds. For example, environmental challenges like flooding, pollution, and erosion are caused mainly by poor drainage systems, building along river channels, the breakdown of dams and embankments, and poor urban planning, which are major drivers of environmental degradation in the Atiba Local Government Area. This finding is in line with the work of Wilken et al. (2017), The study explores the factors driving environmental degradation in Uganda's agricultural landscapes, including soil erosion, deforestation, biodiversity loss, land-use change, population growth, and agricultural intensification. Also, the work of Kreta et al. (2018) examines industrial pollution's effects on air and water quality in urban China, revealing its significant contribution to environmental degradation and emphasizing the need for regulatory measures.

This result revealed that human health might be at the receiving end as a result of environmental degradation. Areas exposed to toxic air pollutants can cause respiratory problems like pneumonia and asthma. Millions of people are known to have died due to the indirect effects of air pollution. According to Rochmayanto et al. (2023), this study examines how deforestation affects indigenous communities in Peru's Amazon rainforest and highlights the necessity of preserving forest ecosystems to safeguard these populations' means of subsistence. The work of Sowman and Sunde (2018) evaluated the socio-economic impacts of coastal erosion on Bangladeshi fishing communities, highlighting the need for integrated coastal management strategies to mitigate the loss of property and reduced access to fishing grounds.

These imply that awareness levels vary across different environmental issues and specific areas; some areas show higher awareness of certain issues, while others may have lower awareness. These percentages provide an overview of the respondents' awareness of environmental issues in specific areas within Atiba Local Government. this study supports the work effectiveness of an awareness programme on mothers' knowledge towards household accidents among their children (AL-Abedi et al., 2023), which assessed the effectiveness of a community-based environmental education programme in Ghana and found, through surveys and interviews, that there had been a significant improvement in environmental awareness. This also agreed with the work of Mazlan et al. (2019), which evaluated the impact of environmental awareness campaigns conducted in urban areas of Kuala Lumpur, Malaysia. It employed surveys to assess residents' knowledge and attitudes towards environmental issues before and after the campaigns.

The results of research question four reveal that addressing environmental degradation requires collaboration among individuals, communities, governments, and businesses. By adopting renewable energy, promoting sustainable land use, enforcing regulations, raising public awareness, investing in green infrastructure, supporting restoration projects, fostering international cooperation, encouraging innovation, providing incentives, and promoting corporate responsibility, we can create a healthier, more resilient environment. This is in line with the renewable energy transition of Jacobson (2021), which worked on 100% clean and renewable wind, water, and sunlight all-sector energy roadmaps for 139 countries in the world" and analysed the feasibility and benefits of transitioning to 100% renewable energy globally. Also, Taylor and Marconi's (2020) work, advocates that afforestation and reforestation can help mitigate environmental degradation by sequestering carbon dioxide and restoring ecosystems, "global restoration opportunities in forest landscapes.

Conclusion

This paper concluded that environmental degradation in Atiba Local Government Area, Oyo State, is a complex issue influenced by deforestation, unsustainable agriculture, industrial pollution, urbanization, and climate change. It leads to health impacts, livelihood loss, food insecurity, displacement, migration, and economic losses. Addressing this requires sustainable land use practices, effective waste management, and climate change adaptation measures. Collaboration among stakeholders is crucial for a sustainable future.

Recommendations

This study recommends the following to address environmental degradation in Atiba Local Government Area of Oyo State and mitigate its impacts on the population, the following recommendations are proposed:

- i. Promote sustainable land use practices and encourage community participation and education in sustainable forestry management, agroforestry, and reforestation initiatives to restore degraded lands, preserve biodiversity, and mitigate soil erosion;
- ii. Enhance agricultural sustainability and support alternative livelihoods should be provided in training and support to farmers on sustainable farming techniques, including organic farming, integrated pest management, and soil conservation practices to improve soil health, crop yields, and resilience to climate change;
- iii. Strengthening environmental regulations and encouraging sustainable urban planning should be strictly enforced in the existing environmental laws and regulations to prevent pollution from industries, agricultural activities, and urban development. Implement monitoring systems to ensure compliance and impose penalties for non-compliance; and
- iv. Invest in waste management infrastructure and foster climate change. Adaptation should be taken as a first priority by the government in improving waste collection, recycling, and disposal systems to reduce littering, pollution, and environmental contamination. Promote community-based waste management initiatives and incentivize recycling and composting practices.

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