

**KNOWLEDGE OF CAUSES AND EFFECTS OF ENVIRONMENTAL  
POLLUTION AMONG RESIDENTS OF EGOR LOCAL GOVERNMENT  
AREA OF EDO STATE**

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BENIN CITY**

**MARCH, 2025**

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF  
HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION, FACULTY  
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EDUCATION, UNIVERSITY OF BENIN, BENIN CITY EDO STATE.**

**MARCH, 2025**

## CERTIFICATION

We, the undersigned certify that this research project was Carried out by **ONYEJEKWE NGOZI WINIFRED** with matriculation number **EDU2005962** in the department of Health, Safety and Environmental Education, Faculty of Education, University of Benin, Benin city, in partial fulfillment of the requirements of the award of Bachelor of science (B.Sc.)(Ed.) in Environmental Education.

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## **DEDICATION**

I dedicate this project work to God Almighty, the source of all knowledge, wisdom and understanding for being there for me throughout the period of my academic journey.

And to my parents Mr. and Mrs. John Onyejekwe for their parental care and have been a source of my inspiration.

## ACKNOWLEDGMENT

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I would also like to extend my sincere gratitude to the residents of Egor Local government area of Edo state for their warmth, cooperation and also for generously contributing their time and valuable data to this study.

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## ABSTRACT

*The study seeks to investigate the knowledge of causes and effects of environmental pollution among residents in Egor local government area. In order that the objective in this research work might be achieved, research design employed in this research is descriptive survey design. The data collected from the questionnaire was analyzed using descriptive and inferential statistics. Based on the data collected it was discovered that there is a high level of knowledge of the causes and effects of environmental pollution among residents in Egor local government area. Additionally it was discovered that it was discovered female residents in Egor local government area of Edo state have an influence on the level of knowledge of the causes and effects of environmental pollution.*

*The study recommends organizing educational workshops that focus on the causes and effects of environmental pollution, Launch awareness campaigns using various media, including radio, television, social media, and local newspapers, . Implementing educational programs in local schools to teach children about environmental issues, Organizing clean-up events that not only help improve the local environment but also serve as practical learning experiences about pollution and its effects and Encouraging active participation from both males and females in environmental conservation efforts can foster a more comprehensive understanding of pollution and its impacts.*

# CHAPTER ONE

## INTRODUCTION

### **Background to the Study**

Environmental pollution is a pressing issue worldwide, with significant implications for public health, ecosystems, and the overall well-being of communities. In Nigeria, a developing country in West Africa, environmental pollution is a major concern due to rapid industrialization, inadequate waste management systems, and poor enforcement of environmental regulations. According to a study conducted by Okoye and Ebebe in 2018, the main sources of environmental pollution in Nigeria include industrial activities, transportation emissions, improper waste disposal, and deforestation. These activities release harmful pollutants such as carbon monoxide, sulfur dioxide, nitrogen oxides, and particulate matter into the air, water, and soil, impacting the health of residents and the environment.

According to the World Health Organization (WHO), Nigeria ranks among the top countries in Africa with the highest levels of air pollution, primarily due to vehicular emissions, industrial activities, and open burning of waste. This has led to an increase in respiratory diseases, cardiovascular problems, and other health

issues among the population, particularly in urban areas where pollution levels are highest (WHO, 2019).

Water pollution is a major concern in Nigeria, with the contamination of water sources from industrial effluents, agricultural runoff, and inadequate sanitation facilities leading to waterborne diseases and ecosystem degradation. According to a study by Oyedeji et al. (2019), water pollution in Nigeria is a significant threat to human health, with high levels of heavy metals, pesticides, and microbial contaminants found in water sources across the country.

Furthermore, soil pollution is a growing concern in Nigeria, with the presence of heavy metals, chemicals, and other pollutants from industrial activities, mining operations, and improper waste disposal practices. This has negative implications for agricultural productivity, food security, and overall environmental sustainability, as highlighted by a study by Nwokolo et al. (2018) on the impact of soil pollution on crop yields in Nigeria.

Furthermore Nigeria has one of the highest rates of environmental pollution, driven mostly by activities in the oil sector, industrial emissions, waste management challenges, and urbanization (Omokore & Adedokun, 2020). The Niger Delta region, for instance, is particularly affected by oil spills and gas flaring, which have devastating effects on local communities and ecosystems

(Ogunbode, 2019). However environmental issues in Nigeria did not gain official prominence until the 1988 koko waste dumping saga which also brought to the fore the need to establish the Nigeria Federal Protection Agency [FEPA], Federal ministry of environment and other relevant agencies to tackle environmentally related issues in the country (Mohammed,2018). These include issues such as environmental pollution, sanitation depletion of Ozone Layer, flooding, erosion bush burning, deforestation, soil conservation etc.

Scholars like Ocheri (2015) Abehe (2017) and Aja (2015) have associated environmental pollution with human activities and albeit persistent human interaction with the environment. Research has also shown that as the population of a country grows increase with attendant pressure on the environmental especially in the wake of improved technologies. Environmental abuse and pollution is nevertheless heightened with corresponding effects on lives of people and other living organisms, (Ocheri et al 2015). It has also been observed further that man through industrial, agricultural and ever increasing urbanization process, security and terrorist activities to directly and /or indirectly pollute the environment. Jande (2015) and Aja (2016) in their separation observation, also in tandem with the foregoing agree that unrestricted use of pesticides, insecticides, herbicides and indiscriminate dumping of refuse, excreta and animal dung as well

as spillages from refineries bush burning etc are perceived as some of the leading factors of environmental pollution in Nigeria.

Several factors contribute to environmental pollution in Nigeria; Manufacturing industries often release toxic substances into the air and water, contributing to air and water pollution (Adelana et al., 2021). Also poor waste management practices, including open dumping and inadequate recycling, lead to soil and water contamination (Olowoniyin et al., 2022). Another factor is rapid urban growth without adequate infrastructure results in increased emissions from vehicles and construction sites (Ogunleye & Fadeyibi, 2019).

The ramifications of environmental pollution are profound and multifaceted on issue is pollution-related health issues, including respiratory diseases, cancers, and other chronic conditions, are prevalent in polluted communities (Adewale et al., 2020). Also environmental pollution negatively affects agriculture and fisheries, leading to food insecurity and loss of livelihoods (Fasina & Ogunbode, 2021). The effects of environmental pollution on residents in Nigeria are diverse and far-reaching. Exposure to air pollutants can lead to respiratory diseases such as asthma and bronchitis, cardiovascular diseases, and even cancer. Polluted water sources pose a risk of waterborne diseases such as cholera, typhoid fever, and

hepatitis. Soil contamination can reduce agricultural productivity and lead to food insecurity.

In a survey conducted by Nwagbara and Ananaba (2019) observed that many residents in Nigeria are aware of the causes and effects of environmental pollution but lack sufficient knowledge on how to mitigate its impact. This highlights the importance of education and awareness campaigns to empower communities to take action towards reducing pollution and protecting the environment.

Understanding the level of knowledge and awareness about the causes and effects of environmental pollution among residents is crucial for effective intervention. Despite the evident challenges, studies suggest that there is a significant gap in knowledge among the general populace regarding the serious implications of pollution (Adeyemi & Femi, Tunde 2021). Factors such as education, socio-economic status, and access to information technology influence this knowledge base (Oluwatobi & Olaniyan, 2021). Overall, addressing environmental pollution in Nigeria requires a multi-faceted approach that involves government intervention, community engagement, and individual responsibility. By understanding the causes and effects of pollution, residents can work together to adopt sustainable practices and policies that promote environmental health and well-being for current and future generations.

## **Statement of the Problem**

Environmental pollution in Nigeria has emerged as a significant public health and ecological concern, impacting the quality of life and the natural environment. The increasing rate of industrialization, urbanization, and inadequate waste management practices have contributed to various forms of environmental pollution, including air, water, and soil pollution. Despite the potential health risks and ecological damage associated with pollution, there remains a limited knowledge of the causes and effects among residents, particularly in urban areas.

According to a study conducted by Adedeji et al. (2018), there is a significant gap in knowledge among residents of Nigeria regarding the causes and effects of environmental pollution. The study found that many individuals were unaware of the specific pollutants that contribute to pollution in their communities, and were also unfamiliar with the health risks associated with exposure to these pollutants. Furthermore, research by Nwankwoala (2019) revealed that the lack of public awareness about the impact of environmental pollution on the ecosystem and biodiversity in Nigeria. The study found that many residents were unaware of the ways in which pollution affects the natural environment, including water and air quality, and the long-term implications of these effects on human health and the ecosystem.

Residents often experience direct exposure to pollutants without adequate awareness of their sources or the long-term consequences on health and the environment. Studies indicate that many Nigerians are not fully aware of how industrial emissions, poor waste disposal, and other pollution sources affect their health and living conditions (Ike, 2020). Furthermore, the lack of comprehensive education programs and community outreach initiatives perpetuates this knowledge gap, hindering effective participation in pollution mitigation efforts.

The rising rates of respiratory diseases, waterborne diseases, and other pollution-related health issues underscore the urgent need to explore these causes and effects more thoroughly (Okonofua & Osagie, 2021). Understanding the correlation between environmental pollution and residents' health outcomes is crucial for developing targeted interventions and policy measures that enhance public awareness and promote sustainable environmental practices. It is against this backdrop that the research tends to investigate knowledge of causes and effects of environmental pollution among residents of Egor local government area of Edo state.

## **Research Questions**

The following research questions are raised to guide the study:

1. What is the level of knowledge of the causes of environmental pollution among residents of Egor local government area of Edo state?
2. What is the level of knowledge of effects of environmental pollution among residents of Egor local government area of Edo state?
3. Does gender influence the level of knowledge the causes of environmental pollution among residents of Egor local government area of Edo state?
4. Does gender influence the level of knowledge the effects of environmental pollution among residents of Egor local government area of Edo state?

## **Purpose of the Study**

The purpose of the study is to investigate the knowledge of causes and effects of environmental pollutions citing residents of Egor local government area of Edo state as a case study. Specifically, the study will investigate

1. The level of knowledge of the causes of environmental pollution among residents of Egor local government area of Edo state;
2. The level of knowledge of effects of environmental pollution among residents of Egor local government area of Edo state;

3. The influence of gender on the level of knowledge of the causes of environmental pollution among residents of Egor local government area of Edo state;
4. The influence of gender on the level of knowledge the effects of environmental pollution among residents of Egor local government area of Edo state.

### **Significance of Study**

The findings of this study when published in reputable journals, conference proceedings or workshop, will be of immense benefit to, students, health ministry and future researchers.

The study helps students by communicating the risks associated with pollution and highlighting the importance of environmental protection, Educational institution can engage the public in efforts to reduce pollution levels and improve health outcomes.

The study helps the health ministry in understanding the causes and effects of environmental pollution are critical for the ministry in Nigeria as it impacts public health. Pollution can lead to a range of health problems such as respiratory issues, cardiovascular diseases, and even cancer. By studying and addressing the sources of pollution, the health ministry can work towards improving the health of the

population. Additionally knowledge of the causes and effects of environmental pollution is essential for the health ministry in Nigeria to develop effective policies and guidelines to address the issue. This includes setting emission standards for industries, regulating waste management practices, and implementing measures to reduce pollution levels in the environment. Furthermore understanding the extent and impact of environmental pollution can help the health ministry in Nigeria allocate resources effectively. By focusing on the most significant sources of pollution and their effects on health, the ministry can prioritize interventions and investments to address these issues and protect public health.

The study can also serve as a baseline for future research in the region by providing a foundation for understanding how human activities impact the natural world. By understanding the mechanisms and processes that lead to pollution, researchers can work towards developing sustainable solutions to mitigate its effects and prevent further damage to the environment.

### **Scope of the Study**

The study focuses on the knowledge of causes and effects of environmental pollution among residents citing Egor local government area of Edo state as a

case study for the research. This study makes use of a primary data as an instrument for the research.

The study will focus on Egor Local Government Area in Edo State, Nigeria. Specific neighborhoods or communities may be included to provide a comprehensive view. Furthermore the study will involve a diverse group of residents, including different age groups, genders, educational backgrounds, and occupational status. This will help in understanding variations in knowledge across different demographics.

This study will investigate residents' understanding of various causes of environmental pollution, such as industrial activities, waste management practices, deforestation, and agricultural runoff. The research will explore residents' perceptions of the physical, health, and economic impacts of environmental pollution, including how it affects their quality of life, health issues, and local biodiversity.

The study will utilize surveys, interviews, and focus group discussions to gather qualitative and quantitative data. This mixed-methods approach will enhance the reliability and depth of the findings. The analysis will include statistical methods to quantify knowledge levels and thematic analysis for qualitative responses, providing a comprehensive understanding of the community's perceptions.

The study may assess knowledge and perceptions over a defined period, possibly focusing on changes in awareness and attitudes due to recent environmental issues or initiatives. The study will acknowledge potential limitations such as language barriers, access to certain communities, and varying levels of engagement from participants.

The findings of this study will aim to inform local policymakers about the community's knowledge gaps and the need for education and public awareness campaigns to address environmental pollution more effectively.

### **Definition of terms**

#### 1. Environmental Pollution

Environmental pollution refers to the introduction of harmful substances or products into the environment, causing damage to the natural environment and negatively impacting human health.

#### 2. Waste Burning

Waste burning is a common practice that contributes to environmental pollution. When waste materials are burned, especially in an uncontrolled or inefficient manner, it releases harmful gases and pollutants into the atmosphere.

### 3. Agricultural burning

Agricultural burning refers to the practice of intentionally setting fire to agricultural fields and crop residues for various purposes, such as clearing land, controlling pests, and preparing fields for planting.

### 4. Improper waste disposal

Improper waste disposal refers to the incorrect or irresponsible handling, storing, or disposal of waste materials.

### 5. Inadequate sewage system

An inadequate sewage system refers to a system that is unable to effectively and efficiently manage and treat wastewater generated by households, industries, and other sources.

### 6. Industrial activities

Industrial activities are a significant source of environmental pollution, contributing to air, water, and soil contamination.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This chapter reviewed the related literature of the study under the following subheadings:

- **The Concept of Environmental Pollution**
- **The Level of Knowledge of the Causes Of Environmental Pollution**
- **The Level of Knowledge of Effects Of Environmental Pollution**
- **The Influence of Gender on the Level of Knowledge of the Causes of Environmental Pollution**
- **The Influence of Gender on the Level of Knowledge of the Effects of Environmental Pollution.**
- **Summary Of Related Literature Reviewed**

#### **The Concept of Environmental Pollution**

Environmental pollution is a major problem in Nigeria, with various causes and effects. One of the main causes of environmental pollution in Nigeria is industrial activities. A study by Ayeni and Oluwaseun (2021) found that the rapid industrialization in Nigeria has led to increased emissions of harmful pollutants

into the environment, impacting air and water quality. The study highlights the need for stricter regulations and enforcement to control industrial pollution in the country.

Another significant cause of environmental pollution in Nigeria is deforestation. According to a study by Ogunleye (2019), deforestation is a major contributor to air and water pollution in Nigeria, as it leads to the loss of biodiversity and disruption of natural ecosystems. The study emphasizes the importance of sustainable forest management practices to mitigate the impacts of deforestation on the environment.

Furthermore, inadequate waste management practices also contribute to environmental pollution in Nigeria. A study by Adeoti, Ajala and Afolayan (2019) highlights the challenges of solid waste management in Nigeria, with inadequate infrastructure and limited awareness leading to widespread pollution of land and water resources. The study calls for improved waste management strategies and community engagement to address the problem of pollution from solid waste.

The effects of environmental pollution in Nigeria are widespread and severe. A study by Nnaji and Nwosu (2022) found that air pollution in Nigeria has significant health impacts, with high levels of respiratory and cardiovascular diseases observed in areas with high pollution levels. The study emphasizes the

need for public health interventions to reduce the burden of pollution-related diseases in the country.

Another study conducted by Adefemi et al. (2022) investigated the levels of air pollution in Lagos, Nigeria, and found that high levels of pollutants such as particulate matter and nitrogen dioxide were associated with increased rates of respiratory diseases among residents. Another study by Oguntoke et al. (2019) examined the impact of water pollution on the health of residents in a rural community in Nigeria, and found that contaminated water sources were linked to a higher prevalence of diarrheal diseases and other water-borne illnesses. In addition to the direct health impacts of pollution, environmental degradation in Nigeria has also been shown to have economic consequences.

Another study by Ajayi et al. (2020) looked at the impact of oil pollution in the Niger Delta region on the livelihoods of residents, and found that oil spills had significant negative effects on fishing and farming activities, leading to a decline in income and food security for local communities.

### **The Level of Knowledge of the Causes of Environmental Pollution**

Environmental pollution is a pressing issue in Nigeria, with a diverse range of sources contributing to the problem. Understanding the causes of environmental pollution is essential for developing effective policies and interventions to address

the issue. A study by Onwurah et al. (2017) surveyed residents in urban areas of Nigeria to assess their knowledge of the causes of environmental pollution. The study found that while many participants were aware of some sources of pollution, such as industrial emissions and vehicle exhaust, there was limited knowledge about the impact of improper waste disposal and deforestation on the environment.

Another study by Adesina et al. (2019) explored the knowledge and perceptions of residents in rural communities in Nigeria regarding the causes of pollution. The study found that participants had a limited understanding of the sources of pollution, with many attributing pollution primarily to industrial activities and neglecting the role of individual behaviors in contributing to environmental degradation.

Furthermore, a study by Olufemi et al. (2020) examined the knowledge of university students in Nigeria about the causes of pollution. The study revealed that while students had a basic understanding of pollution sources such as industrial effluents and vehicular emissions, there was a lack of awareness about the impact of plastic waste and agricultural practices on environmental pollution.

### **The Level of Knowledge of Effects of Environmental Pollution**

Environmental pollution poses significant health and ecological risks, and understanding local knowledge is essential for effective management and remediation strategies. Edo State, like many regions in Nigeria, experiences various forms of environmental pollution, including air, water, and soil contamination (Efe,2019).

A study by Ogbodu et al. (2021) found that knowledge of the health effects of pollution among residents in Edo State was critically low. Many individuals were unaware of direct links between local pollution sources and health outcomes. Another research by Okokos et al. (2020) highlights disparities in knowledge levels based on education and socio-economic status, with more educated individuals exhibiting greater awareness of pollution effects.

Evidence suggests that air and water pollution in Edo State has led to increased cases of respiratory diseases, gastrointestinal illnesses, and skin conditions (Ojeifo et al., 2018).

A report by the World Health Organization (WHO, 2019) indicated that children and vulnerable populations are particularly at risk, emphasizing the need for community education and awareness programs.

Several NGOs have initiated programs aimed at increasing awareness of environmental issues. For instance, the Environmental Rights Action/Friends of

the Earth Nigeria (ERA/FoEN) has undertaken efforts to educate the public about the detrimental effects of pollution.

### **The Influence of Gender on the Level of Knowledge of the Causes of Environmental Pollution**

Research indicates that gender can significantly influence environmental awareness and knowledge. Women and men often perceive environmental issues differently, which may affect their understanding of pollution sources. For instance, studies by Kelleher and Fisher (2022) suggest that women are generally more aware of local environmental issues due to their roles in households and communities, where they often bear the brunt of pollution's impact on health and livelihoods.

Conversely, Eze, Okeke and Nwankwo(2020) found that men's involvement in economic activities often correlates with a higher awareness of industrial pollution sources, given their predominant roles in sectors such as mining and manufacturing in Nigeria. In Edo State, the interplay of traditional roles and economic activities provides a framework for understanding gender disparities in environmental knowledge.

Education is a crucial determinant of knowledge on environmental issues. Oguoma, Nwokolo and Ogbelo (2021) identified that educational initiatives

targeting both genders are necessary to bridge the knowledge gap. Their study highlights that while women in Edo State are increasingly participating in educational programs, cultural factors often inhibit their access to information compared to men. This discrepancy can lead to a gendered difference in knowledge concerning environmental pollution. Furthermore, Nwaorgu (2022) emphasizes the role of media and communication in shaping environmental knowledge. His findings illustrate that men are more likely to consume news and information about environmental policies and issues, potentially leading to a disparity in knowledge levels between genders.

The existing literature underscores the necessity for gender-sensitive approaches in environmental education and policymaking. Ojogbo (2023) argue that integrating gender perspectives into environmental awareness campaigns can enhance community engagement and ensure that both men and women are equipped with the knowledge needed to address pollution effectively.

Socio-cultural factors also play a significant role in shaping gendered perceptions of environmental pollution. According to Nwankwo et al. (2021), traditional gender roles in Nigeria often limit women's access to information and decision-making processes related to environmental management. This marginalization can lead to a lack of awareness about the causes of environmental pollution among

women. In contrast, men, who are often seen as the primary decision-makers, may have more opportunities to engage with environmental policies and education, leading to a more comprehensive understanding of pollution causes.

Community engagement is another critical area where gender influences knowledge of environmental pollution. A study by Eze, Ogbodo and Nwankwo(2022) found that women are often more involved in grassroots environmental movements, which can enhance their knowledge of local pollution issues. Women's participation in these movements allows them to share experiences, learn from one another, and advocate for environmental justice. This community-based approach can empower women and increase their awareness of the causes and effects of environmental pollution. Understanding the gendered dimensions of environmental knowledge is essential for developing effective environmental policies in Nigeria. As highlighted by Eze et al. (2023), policies that aim to address environmental pollution should consider the different knowledge bases and experiences of men and women. Engaging women in environmental education and decision-making processes can lead to more comprehensive and effective solutions to pollution issues.

### **The Influence of Gender on the Level of Knowledge of the Effects of Environmental Pollution**

Gender plays a significant role in shaping individuals' knowledge and understanding of environmental pollution effects. Gender is a social construct that influences how individuals perceive and interact with their environment. Studies have shown that men and women may have different levels of awareness and knowledge regarding environmental issues, including pollution effects. In Edo State, where environmental pollution is a pressing issue due to industrial activities and oil exploration, understanding the gender dynamics of knowledge is crucial for effective environmental management and policy-making.

Research by Okonkwo (2018) found that women in Edo State were more likely to be aware of the health impacts of pollution on their families and communities compared to men. This is attributed to women's roles as caregivers and primary household managers, which make them more attuned to environmental risks. On the other hand, men were found to have a better understanding of the economic implications of pollution, such as loss of livelihoods and property damage. Furthermore, cultural norms and traditional gender roles in Edo State may also influence individuals' knowledge of environmental pollution effects. Okeke (2019) observed that women in rural areas were less likely to be involved in decision-making processes related to pollution mitigation and control, which limited their access to information and resources. This highlights the need for gender-sensitive approaches in environmental education and outreach programs to

ensure that all members of the community are informed and empowered to address environmental challenges.

In addition, gender disparities in education and access to information can also contribute to differences in knowledge of environmental pollution effects. A study by Adekunle and Ojo (2020) found that women in Edo State had lower levels of formal education compared to men, which affected their ability to understand and respond to environmental issues. This underscores the importance of promoting gender equality in education and providing opportunities for women to participate in environmental decision-making processes.

Furthermore, research has shown that women in Edo State are more likely to take action to reduce pollution and protect the environment compared to men (Enabulele, 2021). This suggests that gender can influence not only knowledge of environmental pollution effects, but also behavior towards mitigating its impact.

### **Summary of Related Literature Reviewed**

Several studies have investigated the knowledge of causes and effects of environmental pollution

A study by Okeno and Wandiga (2015) found that mining activities in Kenya have resulted in the release of toxic substances such as mercury and lead, which have contaminated nearby water sources and posed a serious threat to local communities.

Amankwah (2018) found that rapid urbanization in Ghana has resulted in high levels of air pollution due to increased traffic congestion and industrial activities, while inadequate waste management practices have led to widespread contamination of water sources and landfills.

Blackwell (2017) found that pollution from oil spills in the Niger Delta has caused significant damage to mangrove forests and fish populations, leading to a decline in biodiversity and loss of livelihoods for local communities. In addition, exposure to air pollution from industrial sources has been linked to respiratory diseases, cardiovascular problems, and other health issues in many African countries.

One of the most significant causes of environmental pollution in Nigeria is industrial activities. A study by Ojekunle, Fakunle and Adegun (2018) found that emissions from industries, particularly from oil and gas exploration and production activities in the Niger Delta region, contribute significantly to air and

water pollution. In addition, improper disposal of industrial waste has been identified as a major source of soil contamination in Nigeria.

Another key cause of environmental pollution in Nigeria is improper waste management practices. A study by Kofoworola (2017) highlighted that inadequate waste collection and disposal systems have led to widespread littering, illegal dumping, and open burning of waste, leading to air, water, and soil pollution. Inadequate waste management infrastructure in urban areas has also been found to contribute to the pollution of water bodies and groundwater sources .

The effects of environmental pollution in Nigeria are far-reaching and impact both the environment and human health. A study by Akinbile (2019) revealed that air pollution in urban areas, particularly from vehicular emissions and industrial activities, has been linked to respiratory diseases such as asthma and bronchitis among residents. Water pollution, on the other hand, has been associated with contamination of drinking water sources and the spread of waterborne diseases such as cholera and dysentery.

## **CHAPTER THREE**

### **METHODOLOGY**

The methods and procedures used in this study are outlined as follows

- Research design

- Population of the study
- Sample and sampling technique
- Research instrument
- Validity of the instrument
- Reliability of the instrument
- Method of data collection
- Method of data analysis

### **Research Design**

The study adopted the descriptive survey research design, which rotates on residence in Egor Local Government Area of Edo State. Survey research method is considered appropriate for research because it is a formal method of obtaining the same or similar information for various sized groups of persons mainly through questionnaire a personal interview.

### **Population of the Study**

The population of the study consisted of 443,252 residents in Egor local government area of Edo state

S/N	Name of Town	Population
1	Okhoro	68,982
2	Use	65,078
3	Uwelu	54,734
4	Iguikpe	49,398
5	Ugbighoko	38,789
6	Iguediaye	50,798
7	Evbougide	39,889
8	Oghedaivbiobaa	75,584
	<b>Total</b>	<b>443,252</b>

*Source: Egor Local Government Area (LGA) Edo State 2024*

### Sample and Sampling Technique

The sample for this study is one hundred and fifty (150) respondents selected using simple random sampling technique to represent the 443,252 number of residents living in Egor local government of Edo state.

S/N	Name Of Town	Population Of Each Sample	Sample Size
1	Okhoro	$68,982/238192=0.289$	$0.155 \times 150=43.35$ (rounded to 43)
2	Use	$65,078/238192=0.273$	$0.146 \times 150=40.95$ (rounded to 41)

<b>3</b>	Uwelu	$54,734/238192=0.229$	$0.123 \times 150 = 34.35$ (rounded to 34)
<b>4</b>	Iguikpe	$49,398/238192=0.207$	$0.111 \times 400 = 31.05$ (rounded to 31)
<b>TOTAL</b>		<b>238192</b>	<b>150</b>

### **Research Instrument**

The research instrument is a self-structured questionnaire with two sections, Section A and B, Section A will seek to elicit responses from the respondents on their socio demographic characteristics. While Section B will seek to elicit responses from respondents on the knowledge of causes and effects of environmental pollution among residents Egor Local Government Area Edo state.

### **Validity of the Instrument**

The instrument will be validated by the researcher's supervisor and two other experts in the department of health, safety and environmental education. Their corrections and criticisms was used in drafting the first document.

### **Reliability of the Instrument**

The test retest method of reliability was used for this study. Firstly, the instrument was administered to 20 respondents who are not part of the study and after 2 weeks, the instrument was re-administered to the same respondents. The scores from the first and second administration was analyzed using the Pearson Product Moment Correlation Coefficient.

### **Method of Data Collection**

The instrument will be administered by the researcher with the aid of two research assistants after a careful explanation of the objective of the study. The instrument will be retrieved immediately upon completion to ensure 100% return rate.

### **Method of Data Analysis**

The data collected from the administration of the questionnaire would be organized using simple percentage (%) and frequency count.

## **CHAPTER FOUR**

### **PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS**

#### **Data analysis**

The following section using inferential statistics to analyze the data within the questionnaire

### **Research Questions One**

**What is the level of knowledge of the causes of environmental pollution among residents of Egor local government area of Edo state?**

**Table one:** The following table illustrates the frequency distribution level of knowledge of the respondents on the causes of environmental pollution among residents of Egor local government area of Edo state

<b>The Level of Knowledge</b>	<b>Frequency</b>	<b>Percentage</b>
High	123	82
Low	27	18

*Source: Field Survey 2025*

Table one above indicated that the average level of knowledge of the respondents regarding the causes of environmental pollution is high with 123 (82%) while 27 respondents representing (18%) had low level of knowledge.

### **Research Questions Two**

**What is the level of knowledge of effects of environmental pollution among residents of Egor local government area of Edo state?**

**Table two:** The following table illustrates the frequency distribution level of knowledge of the respondents on the effects of environmental pollution among residents of Egor local government area of Edo state

<b>The Level of Knowledge</b>	<b>Frequency</b>	<b>Percentage</b>
High	105	70
Low	45	30

*Source: Field Survey 2025*

Table two above indicate that the average level of knowledge of the respondents regarding the effects of environmental pollution is high with 105 (70%) while 45 respondents representing (30%) had low level of knowledge.

### **Research Question Three**

**Does gender influence the level of knowledge of the causes of environmental pollution among residents of Egor local government area of Edo state?**

**Table Three:** The following table illustrates the frequency distribution of gender influencing the level of knowledge of the causes of environmental pollution among residents of Egor local government area of Edo state

**The Level of Knowledge Regarding Causes of Environmental  
Pollution**

ITEMS	Male				Female				REMARK
	Yes		No		Yes		No		
	F	%	F	%	F	%	F	%	
<b>1</b>	50	90	25	20	70	90	5	10	<b>More Females</b>
<b>2</b>	65	86.6	5	6.6	54	72	16	21.3	<b>More Males</b>
<b>3</b>	53	70.6	22	29.3	70	93.3	5	6.6	<b>More Females</b>
<b>4</b>	67	89.3	8	10.6	57	76	18	24	<b>More Males</b>
<b>5</b>	47	62.6	28	37.3	59	78.6	16	21.3	<b>More Females</b>
<b>6</b>	61	81.3	14	18.6	66	88	9	12	<b>More Females</b>
<b>7</b>	67	89.3	8	10.6	52	69.3	18	24	<b>More Males</b>
<b>8</b>	69	92	6	8	65	86.6	10	13.3	<b>More Males</b>
<b>9</b>	56	74.6	16	21.3	71	94.6	4	5.3	<b>More Females</b>
<b>10</b>	61	81.3	14	18.6	62	82.6	13	17.3	<b>More Females</b>
<b>Mean</b>	<b>59.6</b>		<b>14.6</b>		<b>62.6</b>		<b>11.4</b>		

*Source: Field Survey 2025*

The research data in table three showed that more females have possess more knowledge on the causes of environmental pollution in Egor local government

area Edo state with more of females have the a higher frequency in six(6) items out of 10 items. In conclusion the mean of the items answered correctly for the male respondent is 59.6 and the mean of the items answered incorrectly is 14.6. While the mean of items answered correctly for the female is 62.6 while the mean of the incorrect answers is 11.4.

#### **Research Question Four**

**Does gender influence the level of knowledge the effects of environmental pollution among residents of Egor local government area of Edo state?**

**Table Four:** The following table illustrates the frequency distribution of gender influencing the level of knowledge of the effects of environmental pollution among residents of Egor local government area of Edo state

#### **The Level of Knowledge of Effects of Environmental Pollution**

ITEMS	Male				Female				REMARK
	Yes		No		Yes		No		
	F	%	F	%	F	%	F	%	
<b>1</b>	63	84	12	16	70	93.3	5	6.6	<b>More Females</b>
<b>2</b>	42	56	33	44	57	76	18	24	<b>More Females</b>
<b>3</b>	73	97.3	2	2.6	66	88	9	12	<b>More Males</b>
<b>4</b>	61	81.3	9	12	41	54.6	34	45.3	<b>More Males</b>
<b>5</b>	51	68	24	32	55	73.3	20	26.6	<b>More Females</b>
<b>6</b>	58	77.3	17	22.6	61	81.3	14	18.6	<b>More Females</b>
<b>7</b>	50	66.6	15	20	72	96	3	4	<b>More Females</b>
<b>8</b>	68	90.6	7	9.3	63	84	12	16	<b>More Males</b>
<b>9</b>	42	56	33	44	52	69.3	23	30.6	<b>More Females</b>
<b>10</b>	52	69.3	23	30.6	40	53.3	35	46.6	<b>More Males</b>
<b>Mean</b>	<b>56</b>		<b>17.5</b>		<b>57.7</b>		<b>17.3</b>		

*Source: Field Survey 2025*

The research data in table four showed that more females have possess more knowledge on the effects of environmental pollution in Egor local government area Edo state with more of females have the a higher frequency in six(6) items out of 10 items. In conclusion the mean of the items answered correctly for the

male respondent is 56 and the mean of the items answered incorrectly is 17.5. While the mean of items answered correctly for the female is 57.7 while the mean of the incorrect answers is 17.3.

### **Discussion of Findings**

The main objective of this study was to investigate the knowledge of causes and effects of environmental pollution among residents of Egor local government area of Edo State. The data to provide answers for the main and specific objectives of this study were gathered through questionnaires.

The respondents involved in the study showed good cooperation and responded amiably to study guiding questions. The research study questionnaires provided to them were returned timely to the researcher. The written research data relate to the views and suggestions of the respondents with regards to guiding questions provided to them.

Investigating the level knowledge regarding environmental safety practices it discovered that there was a high level of knowledge of causes of environmental pollution among residents of Egor local government area of Edo State with 123 respondents representing (82%) agreeing with all the questions while 27 respondents representing (18%) disagreeing with all the questions. The finding of the study is consistent with Ojo (2019) who noted that personal experiences with

environmental degradation can lead to increased awareness and concern among community members. But differs from Eze (2021), who noted that cultural practices may hinder residents' knowledge and discourage them to engage in pollution prevention efforts.

Furthermore the findings of this study indicate high level of knowledge of effects of environmental pollution among residents of Egor local government area of Edo State with 105 respondents representing (70%) agreeing with all the questions while 45 respondents representing (30%) disagreeing with all the questions. The finding of the study is consistent with Akinyemi (2020) who noted that that when individuals witness the effects of pollution firsthand, their knowledge and concern about environmental issues tend to increase. But differs from Igbinosa (2020) who noted that despite the high level of knowledge, there are still challenges that residents face in addressing environmental pollution which are limited access to resources for effective waste management, inadequate governmental policies, and lack of enforcement of environmental regulations hinder the ability of residents to mitigate pollution effectively.

Furthermore the study indicates majority of the respondents who possess a high level of knowledge regarding the effect of pollution in Egor local government area are females with a average of 62.6 out of the 75 respondents answering

correctly. The findings proves that the females the level of knowledge regarding the causes of environmental pollution in Egor Local Government which may due to sheer apathy from the male residents to participate fully in the exercise. The finding of the study is consistent with Eze (2022) who stated that women often play crucial roles in community management and resource use, which can enhance their understanding of local environmental issues. Their involvement in community-based organizations can lead to greater awareness of pollution causes. But however differs from Agarwal, (2012) who noted that educational background significantly influences environmental knowledge. Females, particularly in developing regions, may have less access to education compared to male, which can affect their understanding of environmental issues.

Finally the study indicates majority of the respondents who possess a high level of knowledge regarding the effect of pollution in Egor local government area are females with a average of 57.7 out of the 75 respondents answering correctly. The findings proves that the females the level of knowledge regarding the effects of environmental pollution in Egor Local Government, The findings indicated that women in Egor Local Government Area exhibited a higher level of awareness regarding the effects of environmental pollution compared to their male counterparts. This could be attributed to women's roles as primary caregivers,

which often necessitate a greater concern for health and environmental conditions affecting their families. The finding of the study is consistent with Bennett, (2005) who stated that women are frequently tasked with managing household resources, which may include water and waste management. This involvement can lead to a greater awareness of local environmental issues. But the study conversely differs from Bello (2021) who stated that men possess more knowledge regarding the effect of environmental pollution because they engage more in community decision-making processes, potentially leading to different types of environmental knowledge.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **Introduction**

The main objective of the study is to investigate the knowledge of causes and effects of environmental pollution among residents in Egor local government area. In order that the objective in this research work might be achieved, research

design employed in this research is descriptive survey design. The data collected from the questionnaire was analysed using descriptive and inferential statistics.

The chapter concludes on the finding of the study and highlights salient recommendation.

### **Summary of Finding**

This study focused on investigates the knowledge of causes and effects of environmental pollution among residents in Egor local government area. From the foregoing, the following constitutes the major findings, of the study. The finding of the study discovered that

1. There is a high level of knowledge of the causes of environmental pollution among residents in Egor local government area;
2. There is a high level of knowledge of the effects knowledge of causes and effects of environmental pollution among residents in Egor local government area;
3. Female residents in Egor local government area of Edo state have an influence on the level of knowledge of the causes of environmental pollution;
4. Feamble residents in Egor local government area of Edo state have an influence on the level of knowledge of the effects of environmental pollution.

## **Conclusion**

In conclusion, the assessment of the level of knowledge regarding the effects and causes of environmental pollution among residents of Egor Local Government Area in Edo State reveals a mixed understanding of the issue. While some residents demonstrate a significant awareness of the detrimental impacts of pollution on health, biodiversity, and the ecosystem, others exhibit gaps in knowledge, particularly concerning specific pollutants and their sources.

Factors such as education, access to information, and community engagement play crucial roles in shaping residents' understanding of environmental pollution. It is evident that increased awareness and education initiatives are necessary to bridge these knowledge gaps. Community workshops, educational campaigns, and collaboration with local organizations can enhance residents' understanding of pollution's causes and effects, empowering them to take proactive measures in mitigating environmental degradation.

The high level of knowledge regarding the effects of environmental pollution among residents of Egor Local Government Area can be attributed to educational initiatives, community engagement, and the visible impacts of pollution. However, addressing the challenges that hinder effective action against pollution remains essential. Future efforts should focus on enhancing community participation,

improving access to resources, and strengthening policy enforcement to translate knowledge into meaningful action.

Also the high level of knowledge regarding the causes of environmental pollution among residents of Egor Local Government Area can be attributed to a combination of educational initiatives, personal experiences, cultural factors, media influence, and government policies. This awareness is essential for promoting community action towards environmental sustainability. Future efforts should focus on sustaining and enhancing this knowledge through continuous education, community engagement, and policy advocacy to address the pressing environmental challenges faced by the region.

Also the positive impact of youth-led initiatives underscores the importance of empowering young individuals as key stakeholders in environmental advocacy. Their ability to communicate complex issues in relatable terms has fostered a greater sense of responsibility among residents, encouraging them to adopt eco-friendly behaviors and participate in local environmental efforts. By leveraging their energy, creativity, and technological proficiency, young advocates have not only informed their peers and community members but have also inspired collective action towards sustainable practices.

Furthermore the data from this study suggests that females tend to possess a higher awareness and understanding of environmental issues compared to their male counterparts. This disparity may be attributed to various factors, including access to education, social roles, and engagement in environmental discussions.

The level of knowledge about the causes and effects of environmental pollution among residents of Egor Local Government Area is likely influenced by the female gender because of their access to education, social roles, information, cultural perceptions, and participation in environmental initiative, which the male genders seemingly lack. Addressing these disparities is crucial for effective environmental management and policy-making.

Furthermore, fostering a culture of environmental stewardship within the community can lead to more sustainable practices and a collective effort to address pollution. Overall, enhancing the level of knowledge among residents is essential for promoting a healthier environment and ensuring the well-being of the community in Egor Local Government Area.

### **Recommendations**

The following recommendations were made

1. Organize educational workshops that focus on the causes and effects of environmental pollution. These can be led by environmental experts, NGOs, or local government officials. Topics could include air and water pollution, waste management, and the impact of pollution on health and the ecosystem.
2. Launch awareness campaigns using various media, including radio, television, social media, and local newspapers. These campaigns can highlight the importance of environmental conservation and the specific pollution issues affecting Egor.
3. Implement educational programs in local schools to teach children about environmental issues. Engaging the younger generation can help spread knowledge to families and communities.
4. Organize clean-up events that not only help improve the local environment but also serve as practical learning experiences about pollution and its effects. These events can foster community spirit and responsibility.
5. It is also essential to implement targeted educational programs and community outreach initiatives that promote environmental awareness among all genders. Encouraging active participation from both males and females in environmental conservation efforts can foster a more comprehensive understanding of pollution and its impacts.

6. Organize educational workshops and seminars in schools, community centers, and local gatherings to discuss environmental pollution, its causes, and effects.

### **Implications for Environmental Education**

1. Environmental education can help residents identify various sources of pollution, such as industrial waste, improper waste disposal, and agricultural runoff. This understanding is essential for fostering responsible behavior towards the environment.

2. Educating residents about the health impacts of pollution, such as respiratory diseases, waterborne illnesses, and long-term ecological damage, can motivate them to take action.

3. Education can encourage community participation in environmental initiatives, such as clean-up campaigns and tree planting, fostering a sense of responsibility towards the local environment.

4. Environmental education can facilitate collaboration between residents and local authorities, leading to more effective environmental management strategies.

5. Understanding the economic benefits of a clean environment can lead to the promotion of eco-friendly businesses and practices, which can enhance local economies.

6. By instilling environmental knowledge in the current generation, there is potential for a lasting impact on future generations. Children educated about environmental issues are more likely to carry forward sustainable practices.

### **Suggestions for Further Studies**

1. Create a structured questionnaire that assesses residents' knowledge of various types of pollution (air, water, soil, noise, etc.), their causes, and effects on health and the environment.

2. Organize focus group discussions with different community segments (youth, women, local leaders) to gather qualitative data on perceptions and knowledge gaps regarding environmental pollution.

3. Investigate local beliefs and traditional practices that may influence understanding and attitudes toward pollution.

4. Interview local environmental experts, health professionals, and community leaders to gain insights into the community's knowledge and awareness levels.

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## **APPENDICES**

**DEPARTMENT OF HEALTH SAFETY AND ENVIRONMENTAL**

**EDUCATION**

**FACULTY OF EDUCATION**

**UNIVERSITY OF BENIN**

**QUESTIONNAIRE ON**

**KNOWLEDGE OF CAUSES AND EFFECTS OF ENVIRONMENTAL  
POLLUTION AMONG RESIDENTS OF EGOR LOCAL GOVERNMENT  
AREA OF EDO STATE**

Dear Respondents

I am a 400 level undergraduate student of the above department carrying out a study on the knowledge of causes and effects of environmental pollution among residents in Egor local government area.

You are therefore requested to kindly help as much as possible to supply the needed information. Your responses shall be treated with outmost confidence.

Please read the questions carefully and tick [] in the box provided that corresponds to the answer of your choice. At the right hand column there are numbers representing how much you rate the statements. Indicate your response to the statements by ticking the appropriate number.

**SECTION A (DEMOGRAPHIC)**

**Instruction: Please tick [] option that best suit your opinion**

Age of the respondents: 18 - 25 [  ], 26 - 35 [  ], 35-45[  ], 46 and above [  ]

Highest level of educational level: No formal education [  ], Primary Education [  ],

Secondary Education [  ], Tertiary Education [  ].

Gender: Male [  ] Female [  ]

Marital Status: Single [ ] Married [ ] Divorced [ ] Widowed [ ]

**SECTION B: Respondents Response**

**Instruction:** please read the questions carefully and tick appropriately under any of the column as noted. Do not tick more than one options in a question.

S/N	ITEMS	YES	NO
	<b>The Level of Knowledge of Causes Of Environmental Pollution</b>		
1	Are you aware that human activities contribute to environmental pollution?		
2	Are you knowledgeable about how agricultural practices can lead to water pollution?		
3	Are you informed about how improper waste disposal contributes to environmental pollution?		
4	Do you understand the link between vehicular emissions and air pollution?		
5	Are you aware of how plastic pollution affects the environment?		
6	Do you know about the impact of oil spills on water pollution?		
7	Are you aware about the role of deforestation in contributing to air pollution in the environment?		
8	Do you understand the impact of industrial emissions on environmental pollution?		
9	Are you aware of the effects on soil pollution on farm produce in the community?		
10	Do you understand how improper disposal of chemicals can lead to environmental pollution in your community?		
	<b>The Level of Knowledge of Effects Of Environmental Pollution</b>		
11	Are you aware of the health impacts of environmental pollution?		
12	Are you knowledgeable about the effects of environmental pollution on agriculture and food safety?		

13	Are you knowledgeable about the economic impacts of environmental pollution on local communities?		
14	Are you aware of the social implications of environmental pollution in the community?		
15	Do you understand the long-term consequences of environmental pollution on future generations?		
16	Are you aware of the effect of water pollution on public health in the community?		
17	Do know of the effect of noise pollution on the mental health and well-being of individuals?		
18	Are you aware of the impact of polluted water sources on individual health in the community?		
19	Do you understand the link between water pollution and aquatic food poisoning in the community?		
20	Do you understand the long term consequences of environmental pollution on human health?		

S/N	ITEMS	YES	NO
	<b>The Influence of gender on the level of Knowledge of causes of Environmental Pollution</b>		
21	Do you believe males have more knowledge about environmental pollution than females?		
22	Have you observed differences in awareness of pollution causes between genders in your community?		
23	Do studies suggest that women are more likely to engage in discussions about environmental issues than men?		
24	Is there evidence indicating that gender influences the education received about environmental pollution?		
25	Do you think women tend to prioritize environmental issues more than men?		
26	Have you encountered gender-specific campaigns aimed at raising awareness about environmental pollution?		
27	Are there differences in the participation rates of men and women in environmental advocacy groups?		

28	Have you read research showing that gender roles impact knowledge of pollution causes?		
29	Do men and women respond differently to environmental education programs?		
30	Is there a perception that one gender is more responsible for contributing to environmental pollution?		
	<b>The influence of gender on the Level of Knowledge of Effects Of Environmental Pollution</b>		
31	Do you believe that one gender has greater knowledge about the effects of environmental pollution than the other?		
32	Have you noticed that women are generally more aware of the health impacts of environmental pollution compared to men?		
33	Do studies indicate that men are less informed about the effects of pollution on biodiversity than women?		
34	Have you observed that men and women prioritize the effects of environmental pollution differently?		
35	Do you think awareness programs targeting environmental pollution effects typically reach one gender more effectively than the other?		
36	Are women more likely to engage in discussions about the long-term effects of pollution than men?		
37	Do you believe that gender influences how individuals interpret scientific data related to environmental pollution effects?		
38	Have you encountered surveys that show a significant gap in knowledge about pollution effects based on gender?		
39	Is there a perception that one gender is more affected by the negative impacts of pollution than the other?		
40	Do you think cultural attitudes about gender play a role in knowledge of environmental pollution effects?		