

**THE KNOWLEDGE AND PERCEPTION OF THE EFFECTS OF
DEFORESTATION AMONG RURAL DWELLERS IN EKOSODIN
COMMUNITY**

BY

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF HEALTH,
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CERTIFICATION

We, the undersigned, certify that this project was carried out by **Jessica Oseuguemien UJADUGHELE**, with **Mat No. EDU2203534**, in the Department of Health, Safety and Environmental Education, Faculty of Education, University of Benin, Benin City, in partial fulfilment of the requirements for the Award of Bachelor of Science (B.Sc. Ed) Degree in Environmental Education.

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DEDICATION

This research work is dedicated to God Almighty who in His infinite Mercy and Grace saw me through this work, granted me understanding, insight and speed. It is also dedicated to my extraordinary parents, Rev. Dr. and Rev. Mrs. Innocent Ujadughele, and also to my dearly beloved friend Sir Excel Akashili, for their support and advice throughout this journey. Thank you so much, and I pray that the Lord continually keep you all.

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The researcher wishes to acknowledge her parents, Rev. Dr. and Rev. Mrs. Innocent Ujadughele, for their immense support during her studies: financially, morally, spiritually, and through their prayers and words of encouragement. May God continue to bless you. It is an honour to be a part of this lovely family. To her siblings, Sister Benedicta and Little Miss Charis, may God richly bless you all for your care, assistance, discipline, support, love, and words of encouragement during the course of her study.

Finally, the researcher appreciates her dearly beloved friend Sir Excel Akashili. God bless you massively for your words of advice, encouragement, and prayers. Thank you for being a good friend indeed; God bless you.

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ABSTRACT

This study was conducted to investigate the knowledge and perception of the effects of deforestation among rural dwellers in Ekosodin Community, Benin City, Edo State. The study sought to determine the level of knowledge of residents regarding deforestation, ascertain the perceived causes and consequences of deforestation, and investigate rural residents' perceptions of environmental degradation brought on by deforestation. Three research questions were developed to guide the investigation and relevant literatures related to deforestation were clearly discussed.

The study adopted a descriptive survey research design. The population of the study consisted of 10,150 residents of Ekosodin Community. A sample size of 255 respondents was selected using a multi-stage sampling procedure. Data were collected using a self-structured questionnaire titled 'Questionnaire on the Knowledge and Perception of the Effects of Deforestation among Residents of Ekosodin Community'. The project supervisor and experts in the Department of Health, Safety and Environmental Education validated the instrument. The Cronbach's Alpha reliability method was used to determine the instrument's reliability. Frequency counts and percentages were used to analyze the data, and chi-square statistics were employed to test the hypotheses at a significance level of 0.05.

The findings revealed that the majority of rural dwellers in Ekosodin Community possessed high knowledge of deforestation and were aware of its causes and environmental consequences. The respondents identified agricultural activities, indiscriminate tree felling, urban expansion, construction activities, fuelwood harvesting, and industrial development as major causes of deforestation in the community. Based on the findings, the study concludes that even though rural residents of Ekosodin Community are well-informed about deforestation and its consequences, ongoing environmental awareness campaigns and community involvement in forest conservation initiatives are still necessary. The study recommends that government agencies, environmental organizations, and community leaders intensify public education campaigns about the risks of deforestation, enforce environmental protection laws, support sustainable land-use practices, encourage tree planting programmes, and promote alternative energy sources to ensure environmental sustainability and ecological balance in the community.

CHAPTER ONE

INTRODUCTION

Background of the Study

Deforestation can be defined comprehensively to incorporate the change or the conversion of a natural forest to a non- forest for purposes of agricultural services and developments (Gimah and Bodo,2019). Deforestation results from the removal of trees without sufficient replacement, which lead to reduction in habitat, biodiversity as well as wood and quality life. Deforestation remains one of the most pressing environmental challenges globally, particularly in developing countries like Nigeria where rural livelihoods are closely tied to forest resources. Globally, the rate of deforestation has been estimated at approximately 10–13 million hectares per year, with a significant proportion occurring in tropical regions (FAO, 2022; Bodo, Gimah, & Seomoni, 2021). This persistent loss of forest cover has far-reaching implications for biodiversity conservation, climate regulation, and the socio-economic well-being of rural populations. Forests provide essential goods such as fuelwood, timber, food, and medicinal plants, making them central to the socio-economic survival of rural communities. However, increasing population pressure, agricultural expansion, logging, and urbanization have significantly accelerated forest loss in recent years.

Recent studies show that deforestation is occurring at an alarming rate, especially in developing regions, with millions of hectares of forest lost annually. This trend is largely driven by human activities Ukaegbu, Iwuji, Uyo, Onuegbu, and Acholonu (2022). In Nigeria, rapid land-use and land-cover changes have been linked to population growth

and economic activities such as farming, logging, and infrastructure development, which place increasing pressure on forest ecosystems. These changes are particularly evident in rural areas where dependence on natural resources is highest.

A study conducted in Mbieri community in Imo State revealed the extent and impact of deforestation on rural livelihoods. Using multi-temporal satellite imagery and participatory rural appraisal methods, six major land use/cover types were identified, including farmland, bare soil, built-up areas, water bodies, secondary forest, and primary forest (Iwuji, Okpara, Ukaegbu, Iwuji, Uyo, Onuegbu, & Acholonu, 2022). The findings showed a significant increase in built-up areas and farmland from 13.92% and 11.47% in 1986 to 32.86% and 21.97% in 2016, respectively, while primary forest declined drastically from 35.94% to 10.78% within the same period (Iwuji et al., 2022).

Furthermore, population growth and agricultural expansion were identified as the major drivers of deforestation in the area (Iwuji et al., 2022). The impacts of these changes on rural dwellers include loss of valuable species of flora and fauna, decreased earnings from forest resources, and increased exposure of farmland to erosion due to vegetation removal (Iwuji et al., 2022). These effects highlight the strong link between environmental degradation and declining rural livelihoods. Rural dwellers play a dual role in deforestation: they are both contributors to and victims of forest degradation. On one hand, they rely on forests for subsistence activities such as fuelwood collection, farming, and hunting. On the other hand, they experience the negative consequences of deforestation, including soil degradation, reduced agricultural productivity, loss of

biodiversity, and climate variability. A study conducted in rural communities in the Niger Delta revealed that local people possess varying levels of knowledge about deforestation, including its causes and effects, largely shaped by their daily interaction with the environment. Forest is known as habitat and shelters to millions of species. However, the trees on our planet is being depleted at every fast rate. According to some estimates, more than 50 percent of the cover has disappeared due to human activity. Deforestation occurs because of many reasons. Trees or derived charcoal are used as fuel or sold as commodity. Forest provide a wide variety of highly valuable ecological, economic and social benefits such as carbon storage, soil and water conservation, provision of employment, enrichment of systems and improvement of urban and rural living condition.

In Nigeria, the effects of deforestation are increase visible, with extreme weather events such as floods and droughts becoming more frequent and intense. Numerous studies have explored the knowledge, awareness, and perceptions of deforestation among different groups in Nigeria, such as farmers and healthcare professionals. However, there is a lack of research focused on the knowledge, awareness, and perceptions of deforestation among resident in Nigeria. Studies show that many people have limited knowledge, misconceptions and misunderstandings about the causes and effects of deforestation. People's knowledge and perception of deforestation vary, but many are aware of its impact on the environment. In a study conducted in Apa Local Government Area, Benue State, Nigeria, majority of respondents perceived extinction of indigenous trees as the most noticeable effect of deforestation. Logging was identified as the primary cause of

deforestation, while awareness of environmental education was seen as a key strategy to curb deforestation practices. In local communities, people view deforestation as a significant issue affecting their livelihoods and environment.

Studies in West Africa (e.g., Ghana, Nigeria) show that while many residents are aware that forests are declining, understanding of less tangible impacts (like climate change) is often limited. In Ghana's Sissala West District, population growth, poverty, and reliance on farming and charcoal burning were perceived as key drivers of deforestation, evidencing that structural socio-economic conditions shape local explanations for forest loss. Small-scale farmers in Kenya perceived deforestation's effects on livelihoods such as soil erosion and reduced rainfall but the extent of knowledge depended on access to education and information. Education and exposure to environmental information (e.g., media, formal schooling) are linked to greater knowledge of deforestation and its impacts. Community members dependent on forests for livelihoods may perceive forest loss both as a problem and as an economic opportunity, revealing ambivalence in local perceptions. Age and experience can also influence perception; younger versus older respondents may differ in environmental memory and awareness of long-term changes. Nature Community perceptions and knowledge play a crucial role in understanding the drivers, impacts, and potential solutions to deforestation, particularly in regions where agriculture is a significant economic activity. Several studies have explored this aspect in different parts of the world. Overall, having the knowledge that the environment is important and that it is part of existence will go a long way in curbing the impact of deforestation and

maintaining sustainable logging practices. Understanding the positive and negative ways that humans interact with ecosystems, and the benefits of using renewable energy sources can make a difference. Therefore, every human should take it as a responsibility to work and protect the planet by seeking new knowledge and staying informed. These findings highlight the need to understand the knowledge and perception of the effect of deforestation among people in Ekosodin Community.

Statement of the Problem

Generally, the indiscriminate falling down of forest trees has incurred many problems on the environment. Deforestation has a negative impact on the environment in terms of loss of biodiversity, soil degradation, loss of wildlife, increased desertification, and soil erosion among other reasons. The Food and Agriculture Organization (FAO) of the United Nations lists the requirements of sustainable forest management as; protective function of forest resources, forest health and vitality, extent of forest resources, biological diversity, and institutional framework. Some people are aware of the effect deforestation has on the environment while others are not. Those aware take it casually though they're seeing the effect but because of what they're gaining from the environment, they don't really care about it. Some other persons are not knowledgeable about the severity of deforestation, they see the environment and ecosystem as a free gift that should be exploited without considering replacing it or understanding the side effects of their actions.

Studies suggest that poverty, ignorance, and limited access to alternative livelihoods contribute to deforestation in Ekosodin. To address this, community-led initiatives, awareness campaigns, and sustainable forest management practices are to be implemented. Deforestation is a significant issue in Ekosodin community Nigeria, with severe environmental and social impacts. The forest in Ekosodin plays a crucial role in providing economic, social, and ecological benefits, including forest products and services for the local population. However, the area has experienced significant deforestation, with possible causes including: Population growth and settlement expansion, Subsistence farming and agricultural activities, Illegal logging and fuelwood extraction, Lack of effective forest management and conservation practices etc. The effects of deforestation are far-reaching, including: Loss of biodiversity and habitat destruction, Climate change and soil degradation, Decreased agricultural productivity and food security, Impacts on indigenous communities and traditional ways of life. Understanding the knowledge and perception of deforestation is crucial for developing effective conservation strategies and promoting sustainable forest management.

Research Questions

The following research questions were raised in guiding this study:

1. What is the level of knowledge of rural dwellers in Ekosodin community about the effects of deforestation?
2. What are the perceptions of rural dwellers in Ekosodin community regarding the effects of deforestation on their environment and livelihoods?

3. Is there a relationship between the knowledge of rural dwellers and their perception of the effects of deforestation in Ekosodin community?

Null Hypothesis

H₀: There is no significant relationship between the knowledge of rural dwellers and their perception of the effects of deforestation in Ekosodin community.

Purpose of the Study

The purpose of this study is to determine the knowledge and perception of the effects of deforestation among rural dwellers in Ekosodin community. The aim of the study are;

- To determine the level of knowledge of rural dwellers in Ekosodin community about the effects of deforestation.
- To determine the perceptions of rural dwellers in Ekosodin community regarding the effects of deforestation on their environment and livelihood.
- To determine the relationship between the knowledge of rural dwellers and their perception of the effects of deforestation in Ekosodin Community.

Significance of the Study

This study will be beneficial to different groups in society.

First, it will benefit the rural dwellers in Ekosodin by helping them understand the effects of deforestation on their environment, farming activities, and daily lives. The

findings will increase their awareness and encourage them to adopt better environmental practices that can help protect forest resources.

Second, community leaders and traditional rulers in Ekosodin will benefit from the study as it will provide useful information that can help them promote environmental awareness and support community efforts to reduce deforestation.

Third, government agencies and environmental organizations will benefit from the findings of this study by gaining insight into the level of knowledge and perception of deforestation among rural dwellers. This information will help them design effective environmental education programs and policies that are suitable for rural communities.

Finally, the study will be useful to students and future researchers as it will add to existing knowledge on deforestation and serve as a reference for further studies on environmental issues in rural areas. Understanding the knowledge and perception of deforestation is crucial for developing effective conservation strategies and promoting sustainable forest management.

Scope and Delimitation of the Study

The scope of this study is to assess the knowledge and perception of the effects of deforestation among rural dwellers in Ekosodin Community as well as possible strategies of reducing deforestation. The study was delimited to the residents in the community of study. Respondents include students, teachers, farmers, civil servants, business men and women, drivers.

Definition of Terms

Knowledge: refers to the level of awareness, understanding, and information that rural people possess about deforestation, its causes, processes, and consequences on the environment and human livelihoods. Knowledge serves as the cognitive foundation that shapes rural dwellers' perceptions, attitudes, and behaviors toward deforestation and its effects.

Perception: This refers to how rural dwellers view, interpret and make sense of deforestation impacts on their environment, livelihood and community.

Deforestation: This is the cutting down of trees and clearing of bush for farming, firewood, timber, and housing, which causes the land to become open and weak, streams to dry up, weather to change, crops to perform poorly, and life to become harder for the people who depend on the forest.

Rural dwellers: This refer to people who live permanently in the community and depend mainly on farming, forest resources, hunting, fishing, and other land-based activities for their livelihood, whose daily experiences with the forest and environment shape their understanding and perception of deforestation and its effects.

Biodiversity: refers to the variety of trees, crops, animals, birds, insects, and other living things found in the forest, farms, and surrounding land, which support farming, provide food, medicine, firewood, and maintain balance in nature, and whose loss is noticed when deforestation causes animals to disappear, useful plants to reduce, and the land to stop producing well.

Ecosystem: This refers to the way trees, crops, animals, soil, water, and people live and work together in the bush, farms, and streams, where each one supports the other, and when deforestation occurs, this natural balance is disturbed, leading to poor harvest, drying of water sources, loss of animals, and hardship in daily living.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter was discussed under the following subu headings:

- Theoretical Framework
- Conceptual Framework
- Knowledge of the effects of Deforestation
- Perception of the effects of Deforestation
- Causes of Deforestation
- Effects of Deforestation
- Relationship between the Knowledge of rural dwellers and their perception on the effect of Deforestation
- Summary of Reviewed Literature

Theoretical Framework

Theory of Planned Behavior (TPB)

This study is grounded in the Theory of Planned Behavior (TPB) proposed by Ajzen (1991). The theory explains how human behaviour is influenced by knowledge, beliefs, attitudes, and perceptions. It is widely applied in environmental and social science research to understand how individuals and communities perceive environmental problems and how such perceptions influence their responses. It is also possible for

external factors to directly force or prevent behaviors, regardless of the intention, depending on the degree to which a behavior is actually controlled by the individual, and the degree to which perceived behavioral control is an accurate measure of actual behaviour control. TPB extends the earlier Theory of Reasoned Action by incorporating the element of perceived behavioral control, making it particularly relevant for understanding complex behaviors influenced by external constraints or opportunities.

According to the Theory of Planned Behavior, behaviour is shaped by three key components:

1. Attitude towards the behaviour: the individual's positive or negative evaluation of performing the behaviour;
2. Subjective norms: perceived social pressures or expectations from others regarding the behavior;
3. Perceived behavioral control: the perceived ease or difficulty of performing the behaviour, which reflects past experiences and anticipated barriers.

In the context of environmental issues such as deforestation, the theory provides a useful framework for explaining how people's knowledge and perceptions influence their attitudes and responses to environmental degradation. Several studies have applied TPB to environmental behaviour, including recycling, energy conservation, and pro environmental activism. In this study, TPB helps explain how awareness of deforestation (knowledge) interacts with perceptions, social influence and personal confidence to determine whether a people adopts adaptation strategies such as reducing the use of forest

resources, maintaining sustainable practices, or advocating for deforestation policies. Understanding these behavioral dynamics is critical to designing more effective interventions that not only raise awareness but also address motivational and contextual factors influencing people's behaviour.

Assumption and Limitations

The theory of Planned Behavior assumes that individuals act rationally, according to their attis, subjective norms, and perceived behavioral control. These factors are not necessarily actively or consciously considered during decision making, but form the backbone for the decision making process. In other words, people may not articulate a particular attitude, but it may nonetheless influence their decision making. Research in this area aims to uncover these hidden values and ideas that affect decision making. There is some controversy about the assumption of rationality because sometimes humans act emotionally, not rationally.

Application of Theories in Deforestation Research

The Theory of Planned Behavior (TPB), developed by Icek Ajzen in 1991, has been widely applied in Deforestation Research due to its ability to explain how knowledge and psychological factors influence individual action. TPB stated that an individual's behavior is primarily driven by behavioral intention, which in turn is shaped by three key constructs: attitude toward the behavior, subjective norms, and perceived behavioral control. In this study, knowledge of deforestation refers to the level of knowledge rural dwellers have regarding the causes and effects of deforestation. Such knowledge may be

acquired through various sources, including radio, social media, extension services, non-governmental organizations, and personal experiences.

This knowledge significantly influences perception, which describes how rural dwellers interpret and understand the effects of deforestation on the environment, climate, biodiversity, agricultural productivity, and livelihoods. Rural dwellers with adequate knowledge are more likely to perceive deforestation as a serious environmental problem, while those with limited knowledge may underestimate its impacts. Rural dwellers who perceive deforestation as harmful may develop favourable attitudes toward forest conservation and sustainable resource management. Conversely, negative or weak perceptions may contribute to continued practices that encourage deforestation. In this context, this theory helps explain how people translate their understanding of deforestation into practical responses, such as altering daily habits, joining environmental campaigns, or advocating for policy changes. By focusing on TPB, this study provides a structured psychological lens to understand the relationship between knowledge and perception among rural dwellers in Ekosodin Community.

Relevance of the Theory to the Study

The Theory of Planned Behavior is relevant to this study because it provides a logical explanation for the relationship between knowledge, perception, and responses to deforestation among rural dwellers. By applying this theory, the study is able to explain variations in perception based on differences in knowledge levels and social influences within rural communities.

The framework also justifies the focus of the study on assessing knowledge and perception as key factors in understanding rural dwellers' views on deforestation and its environmental effects. This theoretical grounding enhances the scientific credibility of the study and supports the interpretation of the research findings.

Conceptual Framework

Concept of Deforestation

Deforestation is a known development change. Deforestation is broadly defined as the transformation of a natural forest into non forest area for agricultural or developmental purposes (Bodo, Gimah, & Seomoni, 2021).Deforestation has significant impacts on ecosystem, biodiversity, and the Earth's climate. It's a serious environmental issue with far reaching consequences. To better understand deforestation, scholars have created a classification system that categories the causes into two groups: the proximate and the direct factors, and the underlying and indirect factors (Indarto et al, 2016). When it comes s to changes in tree cover, they identify some direct causes like clearing land, ranching, logging, and collecting fuel wood. On the other hand, the underlying factors could include population growth, economic development, and social or technological changes (Indarto, Murti, Khusaini, & Prasetyo, 2016).Deforestation also plays a major role in increase greenhouse gas emissions, which worsens climate change (Derouin, 2023). Globally, deforestation is a pressing issue, with the IPCC estimating that over 420 million hectares of forest were lost between 1990 and 2020, threatening biodiversity, environmental services, and livelihoods. Overall, having the knowledge that the

environment is important and that it is part of existence will go a long way in curbing the impact of deforestation and maintaining sustainable logging practices. Understanding the positive and negative ways that humans interact with ecosystems, and the benefits of using renewable energy sources can make a difference. Therefore, every human should take it as a responsibility to work and protect the planet by seeking new knowledge and staying informed. These findings highlight the need to understand the knowledge and perception of the effect of deforestation among people in Ekosodin Community

A study in Apa Local Government Area, Benue State, Nigeria, found that majority of respondent's perceived extinction of indigenous trees as the most noticeable effect of deforestation. Logging was identified as the primary cause, followed by agricultural expansion and fuelwood extraction. They also observed that deforestation has caused more harm than good to them leading to loss of biodiversity; Decreased biodiversity and habitat loss were major concerns, with 48% of respondents highlighting this issue. Climate change was ranked second, with 39% of respondents experiencing low agricultural productivity and soil fertility decline. Soil erosion and desertification were also significant concerns, affecting agricultural productivity and food security. It was also seen that 77% of respondents were aware of deforestation's effects, citing radio (30%), social media (22%), and extension officers (13%) as primary information sources. In essence mitigation strategies were also discovered which included; Provision of alternative energy sources (30%), Afforestation programs, Sustainable agricultural practices, and Community-led forest management initiatives.

Knowledge of the Effects of Deforestation

Rural dwellers are often in close contact with forest environments and depend on them for farming, fuelwood, timber, and other livelihood activities. This close interaction exposes them to both the benefits of forests and the negative consequences associated with deforestation. Studies have shown that many rural dwellers possess basic or moderate knowledge of deforestation effects, particularly those that directly affect their daily lives. Commonly recognized effects include soil erosion, reduced soil fertility, flooding, and declining agricultural productivity. Trees remove carbon dioxide from the atmosphere through photosynthesis, cutting down forests will cause a decline in photosynthetic activity which result in the atmosphere retaining higher levels of carbon dioxide. Deforestation contribute to global warming and ocean acidification. Global warming is not all about temperature, it directly affects humans because everything about human life is tied to the climate such as food production, water supplies, health and wellbeing. Deforestation inhibits water cycling and converts inland forest to dry land and potential waste kind. Severe flooding is a result of deforestation because removal of the forest leaves little vegetative cover to hold heavy rains. These effects are easily observed in rural communities where farming is the primary occupation and land deforestation, they may not fully understand the underlying causes or long-term implications.

The level of knowledge among rural dwellers is strongly influenced by sources of information such as radio programs, community meetings, extension services, and, to a lesser extent, social media. Radio remains the most accessible medium in rural areas due

to its affordability and wide coverage. Extension officers and non-governmental organizations also play a significant role in educating rural populations about sustainable land use and forest conservation. Socio-demographic factors such as education, age, occupation, and length of residence in the community further shape knowledge levels. Rural dwellers with higher educational attainment or frequent contact with agricultural or environmental extension services tend to demonstrate better understanding of deforestation and its effects while rural dwellers generally have experiential knowledge of the immediate effects of deforestation, their understanding of its long-term environmental and global consequences remains inadequate. Improving environmental education and strengthening information dissemination at the rural level are therefore essential for enhancing knowledge and promoting sustainable forest management practices.

Several empirical studies have examined the level of knowledge people possess regarding the effects of deforestation and how such knowledge influences environmental behaviour and perception.

A study conducted by Ayanlade, Adeoye, and Babatimehin (2017) among rural dwellers in South-West Nigeria revealed that a large proportion of respondents were aware that deforestation contributes to soil erosion, declining soil fertility, and reduced agricultural productivity. The study found that respondents who had higher levels of education demonstrated better understanding of the long-term environmental consequences of forest destruction compared to those with little or no formal education. The researchers

concluded that environmental education significantly improves knowledge of deforestation effects and promotes positive conservation attitudes.

Ayanwuyi, Oyetoro, and Olorunfemi (2011) also investigated rural women's knowledge and perception of deforestation in Oyo State, Nigeria. The study revealed that many respondents possessed practical knowledge of deforestation because of their daily dependence on forest resources. The women observed that deforestation had resulted in reduced availability of fuelwood, declining crop yields, and increased hardship in meeting household needs. The findings further indicated that experiential knowledge gained through interaction with the environment strongly shapes environmental understanding among rural populations.

Beyond Nigeria, a study conducted in Kenya among small-scale farmers found that respondents with greater access to education and environmental information had better understanding of the relationship between deforestation, reduced rainfall, and soil degradation. The study concluded that environmental knowledge plays a major role in influencing rural communities' perception of environmental sustainability and conservation practices.

Likewise, a study in Liberia showed that about 90% of respondents believed that deforestation contributes significantly to climate change and environmental degradation. The findings further revealed that respondents who had access to environmental awareness programmes demonstrated better understanding of forest conservation

practices than those without such exposure. The researchers recommended continuous public sensitization and environmental education at the community level.

These studies collectively show that rural dwellers generally possess moderate knowledge of the immediate and visible effects of deforestation, especially those affecting agriculture and livelihood. However, knowledge of the long-term ecological and climatic consequences remains limited in many communities. The reviewed studies also indicate that education, environmental awareness programmes, media exposure, and interaction with extension services significantly influence people's knowledge of deforestation and its effects. These empirical findings therefore provide a basis for examining the level of knowledge among rural dwellers in Ekosodin Community and will also serve as reference points in the discussion of findings in Chapter Four.

Perception of the Effects of Deforestation

Perceptions about forest degradation are varied and depend on the causes and the temporal scale considered. Farmers' perceptions on the effect of deforestation differ, from conceptual, practical, and information barriers all acting as limitations to pro-environmental behavior to assess the farmers' perception of deforestation and its effect on the community. A study in Suakoko District revealed that 75% of respondents believed that deforestation and human activities are the main drivers of climate change while 23% of the respondents had no idea about the drivers of climate change. About 90 % of the respondents in the study area indicated that deforestation is a cause of climate change. The respondents were asked if deforestation could be tackled and 73% of them perceived

that it was possible to do something to halt it, while 22% of the respondents didn't know if it was possible to stop it. Therefore, it is recommended that the government create more awareness on the effect of deforestation and has to put some measures in place to mitigate or stop it.

Studies across Nigeria and other developing countries show that rural dwellers generally have a fair awareness of deforestation and its immediate effects, largely because they depend directly on forest resources for their livelihoods. In Oyo State, Nigeria, rural women perceived deforestation as a major factor responsible for declining soil fertility, reduced availability of fuelwood, loss of wild foods, and increased hardship in daily economic activities. Their perceptions were shaped by lived experiences rather than formal environmental education, indicating that awareness is often practical rather than scientific (Ayanwuyi, Oyetoro, & Olorunfemi, 2011). Similarly research conducted in Taraba State (Muhammad, Gano, Umar, Jauro, & Auwalu, 2025) revealed that most rural respondents perceived deforestation activities as high in their communities and identified logging, farming expansion, and fuelwood collection as major causes. The respondents associated deforestation with environmental degradation, including loss of wildlife, soil erosion, and reduced forest cover. However, while awareness of visible environmental changes was high, detailed understanding of long-term ecological consequences was limited.

In Ogun State, rural households perceived deforestation as negatively affecting their income and standard of living. Respondents reported reduced access to non-timber forest

products such as fruits, herbs, and firewood, which previously supplemented household income. This perception highlights the strong link between deforestation and rural poverty, as forest loss directly undermines livelihood opportunities for rural dwellers who rely on natural resources for survival (Sunday, & Oso, 2025). Beyond Nigeria, similar patterns have been observed in other African countries. In Liberia, rural farmers perceived deforestation as a key driver of climate change and declining crop yields, though some lacked adequate knowledge of how forest loss influences climate systems. In Zimbabwe, rural dwellers identified deforestation as responsible for scarcity of firewood, loss of medicinal plants, soil degradation, and increased distance traveled to collect forest products, all of which increased household labor and vulnerability (Gitau, 2006; ISCA, 2023).

Overall, rural dwellers' perceptions of deforestation are largely shaped by direct interaction with the environment and its resources. While awareness of immediate socio-economic and environmental effects is relatively high, deeper understanding of long-term ecological and global impacts remains limited. This gap underscores the need for targeted environmental education and extension services that build on existing local knowledge to promote sustainable forest management practices among rural communities.

Causes of Deforestation

In recent years, there have been increased concern for forests by environmentalists as forest resources are depleting and some species being endangered. There are studies that shed light on the knowledge of Nigerians concerning forest resources. Olanrewaju et al

(2018) implied that the causes of deforestation in Nigeria is regarded as normal human activities and that many are unaware about the existence of this problem.

Agricultural Expansion

Agricultural Expansion is one of the key drivers of deforestation especially in tropical forests: Conversion of forests into cropland and pastures for food production and export commodities; Beef cattle ranching (especially in the Amazon) is one of the single biggest contributors to forest clearing; Soy and oil palm plantations for food, livestock feed, and biofuel production accelerate forest loss, especially in South America and Southeast Asia. About 60 per cent of the clearing of the tropical moist forests is for agricultural settlement with shifting agriculture practices like under rushing, felling, and slash- and-burn methods leading to the permanent destruction of rainforests (Ogundele & Adebisi, 2016). According to the UN Food and Agriculture Organization, agriculture causes at least 50% of global deforestation, mainly for oil palm and soybean production. Livestock grazing is responsible for almost 40% of global deforestation. In Europe, converting to cropland represents about 15% of deforestation and 20% is due to livestock grazing. Millions of people live on the tropical forest with less than a dollar a day where a third of a billion are estimated to be foreign settlers. Deforestation is measured by the expansion of agricultural land. This is because agricultural land expansion is greatly viewed as the actual source of deforestation contributing about 60 per cent of total tropical deforestation. Agriculture can account for about 50–80 % of deforestation worldwide in tropical regions.

In many rural areas, especially in developing countries, farmers practice shifting cultivation. Forests are cleared and burned to farm the land for a few years. When soil fertility declines, farmers move to new forest areas, leading to continuous forest loss. Mostly all reports shows shifting agriculture as the cause of about one and half of tropical deforestation and some put it up to two thirds. The expansion of agriculture also involves the construction of roads, storage facilities, irrigation systems, and processing plants. These developments open up previously inaccessible forest areas, encouraging further clearing.

Logging and Wood Extraction

According to DGB group in 2023, logging is a significant cause of deforestation in Nigeria, contributing to both legal and illegal activities that drive forest loss. Commercial and often unsustainable logging for timber, furniture, paper, and construction clears forests and degrades ecosystems. Logging in Southeast Asia is more rapid and can be destructive. However, logging provides access roads to follow on settlers and log scales can help finance the cost of clearing remaining trees and preparing land for planting of crops or pasture. Wood fuel is not majorly the cause of deforestation in the humid tropic though it can be in some populated regions with little forest area such as in the Philippines, Thailand and parts of Central America. In some areas that is drier in the tropics, Wood fuel gathering can be a real cause of deforestation and degradation. In many parts of Africa, Asia, and Latin America, a large proportion of households rely on wood fuel because it is: Cheap and readily available, More accessible than electricity or

gas, culturally accepted for cooking. Charcoal production is particularly destructive because large quantities of wood are burned to produce a small amount of charcoal. According to the World Bank (2019), over 70% of Nigerian households rely on firewood or charcoal for cooking which has caused more harm than good. Trees are often cut from natural forests without replacement, accelerating forest loss.

Urban Expansion and Infrastructure Development

Another key driver of deforestation in Nigeria is urban expansion and infrastructure development. Urban expansion is a significant cause of deforestation in Nigeria, accounting for approximately 12% of tree cover loss between 2001 (Oyetunji et al., 2020). While infrastructure development is essential for national growth, it is a major driver of deforestation, especially in developing countries. Clearing of Forest Land for Construction; the construction of infrastructure often requires large areas of land, which are commonly obtained by clearing forests. Roads, housing estates, schools, hospitals, and industrial zones are frequently sited in forested areas because the land is cheaper and less regulated. This leads to the direct removal of trees and vegetation, reducing forest cover.

Road Construction and Forest Fragmentation. Road building, dams, urban expansion, and mining access roads open up forests to settlement and extraction activities. Once infrastructure such as roads or railways is built, previously inaccessible forest areas become easily reachable. This encourages: Illegal logging, Expansion of agriculture, Mining activities, Growth of rural and urban settlements. As population increases around

infrastructure corridors, forest land is converted into farmlands and residential areas. In addition Dam and Hydropower Projects cause deforestation by: Clearing forests for dam sites, reservoirs, and transmission lines. The submerged forests are permanently lost, and the surrounding ecosystem is altered, affecting biodiversity and local livelihoods. Infrastructure often has indirect effects by making previously remote forests accessible for agriculture and illegal exploitation.

Mining and Resource Extraction

When it comes to deforestation, the extraction of oil and gas has a big impact. Mining operations often require clearing large areas of forest to access mineral deposits. This includes both: Large-scale industrial mining (e.g., for iron ore, bauxite, copper, coal). Artisanal and small-scale mining (e.g., gold, precious stones). Both types remove vegetation and soil, preventing natural forest regeneration. Mining is a lucrative activity promoting development booms which may attract population growth with consequent deforestation. In Nigeria, the oil and gas industry plays a major role in the country's GDP. However, the adherence to the few policies to regulate human activities in forests and protect this valuable resources results in deforestation.

According to Crowder, various actors engage in oil and gas extraction in Nigeria and play various roles in deforestation, including the World Trade Organization (WTO), multilateral banks, international financial institutions, transnational and national businesses, development agencies, and governments. Studies found out that Mining directly caused the loss of 3,264 km² of forest globally between 2000 and 2019, with

80 % of that in Indonesia, Brazil, Ghana, and Suriname. In two-thirds of the countries studied, mining also caused indirect forest loss beyond the mine sites themselves. The construction of roads, railways, bridges, and airports opens up the land to development and brings increasing numbers of people to the forest frontier.

Forest Fire

Forest Fire is an important cause of deforestation in Nigeria, particularly in the Akure Ofosu Forest Reserve, which is home to many endangered species (Sunday, 2023). The Akure Ofosu forest reserve has lost 44% of its primary forest cover in just two decades, with preliminary data indicating that deforestation may be increasing further in 2022 (Erickson Davis 2022). Satellite data from NASA show a spike in fire activity in the reserve in late January 2023, burning around 5,000 hectares of land (Erickson David, 2022). Forest Fire are often used to clear land for agriculture, and the burden of fire is crucial in driving deforestation in Nigeria (Cavallito, 2022). The impact of deforestation is particularly severe in Nigeria, where the rapidly growing population and increasing demand for agricultural land have led to widespread forest loss (Erikson Davis, 2022)

Land Tenure Insecurity

When people are uncertain about their long-term access to land, they are less motivated to manage it sustainably, which often leads to deforestation. When land users are unsure whether they will retain access to a piece of land, they tend to prioritize immediate benefits over long-term conservation. Forests are cleared quickly for farming, logging, or fuelwood to extract as much value as possible before the land is taken away. This “use it

before you lose it” mentality encourages unsustainable forest clearing. In many developing countries, forests with unclear ownership effectively become open-access resources. Since no single group has full authority to protect them, illegal loggers, charcoal producers, and farmers exploit these forests without fear of accountability. The absence of secure tenure weakens forest governance and accelerates deforestation. In areas with insecure tenure, clearing forest land is often used as a means of asserting ownership or occupancy. Farmers may believe that cultivating land especially through slash-and-burn agriculture strengthens their claim to it. As a result, forests are cleared not only for food production but also to establish land rights. Secure land tenure encourages investment in long-term land management practices such as agroforestry, reforestation, and soil conservation. In contrast, tenure insecurity discourages such investments because land users fear they may not benefit from their efforts in the future. This leads to continuous forest degradation and eventual deforestation. Land tenure insecurity often results in conflicts between communities, governments, and private investors. These conflicts weaken enforcement of forest protection laws. During disputes, forests are frequently cleared indiscriminately as different parties rush to exploit resources before legal decisions are made. In some countries, governments claim ownership of forest land without recognizing traditional or customary land rights. This marginalizes local communities who have historically managed forests sustainably. When communities are excluded, they lose the motivation to protect forests, leading to increased deforestation due to uncontrolled exploitations.

Effects of Deforestation

Environmental and Ecological Effect

a. Loss of Habitat

One of the most dangerous and unsettling effects of deforestation is the loss of animal and plant species due to their loss of habitat. 70% of land animals and plant species live in forests. Not only does deforestation threaten species known to us, but also those unknown. The trees of the rainforest that provide shelter for some species also provide the canopy that regulates the temperature. Deforestation results in a more drastic temperature variation from day to night, much like a desert, which could prove fatal for many inhabitants. Many species lose breeding grounds and food sources, resulting in reduced species diversity and the disruption of ecosystems. Tropical rainforests, in particular, suffer irreversible biodiversity loss when cleared.

b. Increased Greenhouse Gases

In addition to the loss of habitat, the lack of trees also allows a greater amount of greenhouse gases to be released into the atmosphere. Healthy forests absorb carbon dioxide from the atmosphere, acting as valuable carbon sinks. Deforested areas lose that ability and release more carbon. Deforestation contributed to global warming which happens from increased atmospheric concentrations of greenhouse gases (GHG) leading to net increase in the global mean temperature as the forests are primary terrestrial sink of carbon. Tropical deforestation is responsible for the emission of roughly two billion tonnes of carbon (as CO₂ to the atmosphere per year (Houghton, 2005). Release of the

carbon dioxide due to global deforestation is equivalent to an estimated 25 per cent of emissions from combustion of fossil fuels (Asdrasko, 1990).

c. Water in the Atmosphere

Trees also help to control the level of water in the atmosphere by helping to regulate the water cycle. One of the most important forests for regulating water cycles across the planet is the Amazon rainforest. Its millions of trees work together to release moisture into the air, creating atmospheric "rivers" that regulate Earth's weather patterns. In deforested areas, there is less water in the air to be returned to the soil. This then causes dryer soil and the inability to grow crops.

d. Soil Erosion and Flooding

Further effects of deforestation include soil erosion and coastal flooding. Trees help the land to retain water and topsoil, which provides the rich nutrients to sustain additional forest life without forests, the soil erodes and washes away, causing farmers to move on and perpetuate the cycle. The barren land which is left behind in the wake of these unsustainable agricultural practices is then more susceptible to flooding, specifically in coastal regions. As large amounts of forests are cleared away, allowing exposed land to deteriorate and the habitats of innumerable species to be destroyed, the Indigenous communities who live there and depend on the forest to sustain their way of life are also under threat. The loss of forests has an immediate and direct effect on their lifestyle. Many Indigenous communities depend on what the forest has to offer for food, medicine, building materials, and cultural resources. Because many of these communities are

located in remote areas in dense forests, the loss of these resources poses many challenges to their health and wellbeing. Deforestation has human rights implications, particularly for the many Indigenous groups who are frontline communities.

2. Economic Effects

a. Decline in Forest-Based Livelihoods

Millions of people depend directly on forests for timber, fuelwood, medicinal plants, and non-timber forest products. Deforestation reduces these resources, leading to unemployment, loss of income, and increased poverty, especially among rural communities.

b. Reduced Agricultural Sustainability

Although deforestation may initially create land for farming, long-term agricultural productivity often declines due to soil nutrient depletion and erosion. This results in lower crop yields and increased reliance on fertilizers, raising production costs.

c. Increased Cost of Environmental Management

Governments face rising costs related to flood control, erosion management, climate adaptation, and disaster relief as a result of deforestation-induced environmental problems.

3. Social and Human Effects

a. Impact on Indigenous and Local Communities

Indigenous peoples and forest-dependent communities often lose their ancestral lands, cultural heritage, and traditional knowledge due to deforestation. This can lead to displacement, social conflict, and loss of identity.

b. Increased Natural Disasters

Deforestation increases the frequency and severity of floods, landslides, and mudflows because forests no longer act as natural buffers. These disasters result in loss of lives, destruction of property, and displacement of communities.

c. Health Implications

Forest loss can contribute to the spread of diseases. Changes in ecosystems may increase human exposure to disease vectors such as mosquitoes, leading to higher incidences of malaria and other vector-borne diseases. Smoke from forest fires also causes respiratory illness.

Relationship between the Knowledge of rural dwellers and their perception on the effect of Deforestation

Knowledge significantly shapes how rural dwellers perceive environmental degradation and forest loss. Studies in Nigeria show that rural dwellers with higher environmental knowledge demonstrate stronger perceptions of deforestation impacts such as soil erosion, reduced rainfall, and biodiversity loss (Ayanlade, Adeoye, & Babatimehin, 2017; Ojo & Adebayo, 2020). When rural dwellers understand what deforestation is and how it operates, they are better equipped to recognize its effects on their environment. For example, many rural respondents in Nigeria knew the causes of deforestation (like tree

cutting and bush burning) but lacked in-depth understanding of its broader consequences because they did not fully comprehend ecological processes. In contrast, where knowledge is high, rural communities are more likely to acknowledge a wider range of effects, such as biodiversity loss and altered climate patterns, because they can connect observable changes to underlying causes. Knowledge allows rural people to interpret environmental signals correctly. In studies of rural forest ecosystem perceptions, people who had more information about forests tended to perceive their value and degradation more clearly, including water scarcity, soil fertility loss, and species decline. Likewise, in global forest user research, residents' awareness of forest roles was directly linked to stronger perceptions of forest conservation as important—suggesting that knowledge shapes how people see effects. In multiple studies, educational attainment and access to information resources were positively correlated with both environmental knowledge and perceptions of conservation and deforestation impacts. Variables like age and social roles impact how information is acquired and valued, demonstrating that knowledge alone is shaped by social context, which in turn influences perception.

In a study of deforestation impacts in Adamawa State, most respondents (92.7%) were aware of what deforestation is and its primary causes but did not have a deep understanding of its consequences beyond direct resource loss. This led to limited perception of less obvious effects like soil degradation and hydrological changes. Research in the Western Region of Kogi State found that people's perceptions of deforestation's effects such as reduced soil fertility and water scarcity were significantly

related to their sociodemographic characteristics, which are often proxies for access to knowledge (e.g., education level). A study in Southern Ecuador stressed that local ecological knowledge directly influences how rural populations perceive forest degradation and what they deem sustainable forest utilization, because knowledge informs people's ability to link changes in forest composition to broader ecosystem services.

Again, Research in rural Borneo revealed that villagers' perceptions of forest importance and deforestation's impacts varied with how much they understood forest benefits and differentiated between small-scale versus large-scale clearing. Frameworks like the information deficit model argue that increased information leads to improved environmental awareness and positive perceptions of conservation needs. This means that rural dwellers who learn about deforestation's environmental and socioeconomic impacts are more likely to perceive it as harmful and support conservation. Traditional and local ecological knowledge helps rural dwellers interpret environmental conditions through lived experience, often making them more sensitive to subtle environmental changes that outsiders might overlook. Integrating this local knowledge with formal education can strengthen how rural communities perceive forest dynamics and ecosystem impacts.

While knowledge often improves perception, there can be a gap between knowing and action. Even when rural dwellers understand deforestation's effects, socioeconomic constraints can limit their ability to change behavior (e.g., continued reliance on forest resources for livelihood). This is consistent with broader environmental psychology

insights on the value action gap. Some studies show that knowing only the causes of deforestation (e.g., logging) doesn't always translate into recognizing all impacts (e.g., climate change effects), which limits the depth of perception and hence the urgency assigned to conservation by rural groups. Programs that increase rural knowledge about forest ecosystems, impacts of deforestation, and ecosystem services can enhance perceptions, which is a precursor to adoption of sustainable practices and support for conservation policies. Engaging rural communities through participatory activities that blend traditional ecological knowledge with scientific insights tends to create deeper understanding and more nuanced perceptions of deforestation effects. Knowledge initiatives must consider local cultures, languages, and livelihood realities because knowledge acquisition and interpretation are shaped by social and cultural contexts.

Gaps in Literature on Socio-Economic Factors Influencing Knowledge and Perception of Deforestation Effects

Despite the growing body of literature on deforestation and its impacts, several gaps remain in understanding how socio-economic factors shape knowledge and perception of the effects of deforestation across different communities.

Firstly, although poverty is widely recognized as a driver of deforestation, many studies focus more on its role in forest exploitation than on how poverty influences people's awareness and perception of deforestation effects. There is limited empirical evidence examining whether poor households possess lower, equal, or context-specific knowledge

of long-term environmental consequences compared to less vulnerable groups. This creates a gap in understanding how economic constraints affect environmental awareness and perception.

Secondly, while education level is often mentioned as a determinant of environmental knowledge, few studies systematically assess how formal and informal education influence perception of deforestation effects among rural dwellers. Existing research tends to assume that higher education automatically leads to better environmental perception, without adequately examining the quality, relevance, and accessibility of environmental education in different communities.

Thirdly, cultural beliefs and traditional practices are frequently acknowledged in the literature, yet they are rarely explored in depth as factors shaping perception of deforestation effects. Many studies treat culture as a background variable rather than actively examining how beliefs, norms, and traditional land-use practices influence community understanding of forest conservation and environmental change. This limits insight into culturally appropriate conservation strategies.

Fourthly, livelihood dependence on forest resources has been extensively discussed as a cause of deforestation, but there is insufficient focus on how such dependence affects perception of forest degradation. Many studies fail to distinguish between communities that recognize the negative effects of deforestation but continue harmful practices due to survival needs, and those that genuinely perceive deforestation as non-threatening. This gap hinders the design of interventions that balance conservation with livelihood security.

Additionally, most existing studies adopt generalized or regional approaches, with limited comparative analysis across communities with different socio-economic characteristics. This limits understanding of how context-specific factors influence knowledge and perception of deforestation effects. There is also a lack of mixed-method studies that combine quantitative assessment of socio-economic variables with qualitative insights into local perceptions and experiences.

Causes of the Gap in Understanding Socio-Economic Influences on Knowledge and Perception of Deforestation Effects

Several factors contribute to the existing gap in understanding how socio-economic variables such as poverty, education level, cultural beliefs, and livelihood dependence influence knowledge and perception of the effects of deforestation across different communities.

Many deforestation studies adopt a sectoral and problem-focused approach, emphasizing the physical drivers and environmental impacts of deforestation rather than social and perceptual dimensions. As a result, socio-economic factors are often treated as background variables instead of being analyzed as central determinants of knowledge and perception. There is a strong reliance on macro-level and secondary data in deforestation research. National or regional datasets are useful for identifying deforestation trends but are inadequate for capturing community-level differences in awareness, beliefs, and perceptions. This limits insight into how poverty, education, and livelihood dependence shape environmental understanding at the local level. Again methodological limitations

contribute significantly to the gap. Many studies use quantitative methods alone, which may measure income or education levels but fail to capture cultural beliefs, values, and perceptions in depth. The lack of mixed-method approaches reduces the ability to explain how socio-economic factors interact to influence perception and behaviour. Cultural and indigenous knowledge systems are often underrepresented in academic research. Researchers frequently prioritize scientific explanations of deforestation while overlooking traditional belief systems that influence how communities interpret environmental change. This marginalization of local perspectives creates an incomplete understanding of perception dynamics.

In addition limited funding and time constraints often push researchers toward short-term or easily measurable indicators, such as forest cover loss, rather than long-term social processes like learning, attitude formation, and perception change. Consequently, the influence of education quality, informal learning, and intergenerational knowledge transfer remains poorly explored. Also policy-driven research agendas tend to focus on immediate solutions and enforcement mechanisms, such as forest laws and monitoring systems. This focus diverts attention from studying how socio-economic realities affect people's understanding of deforestation and their willingness to adopt conservation practices. Lastly, contextual diversity among communities makes comparative analysis challenging. Differences in culture, livelihood systems, and socio-economic conditions discourage researchers from conducting cross-community studies, resulting in fragmented findings that are difficult to generalize.

Strategies to Reduce Deforestation

Reducing deforestation must go hand in hand with improving the welfare of cultivators at the forest frontier. Any policy that does one without the other is unacceptable. There are no specific solutions and strategies since these will vary with region and will change over time. All strategies need cooperation and goodwill. Reducing deforestation requires not only strong policies and enforcement but also improved knowledge and perception of the effects of deforestation among individuals and communities. When people understand how deforestation affects their environment, livelihoods, and future generations, they are more likely to support conservation efforts and adopt sustainable practices. The following strategies emphasize the role of knowledge and perception in reducing deforestation.

1. Environmental Education and Awareness Campaigns

Environmental education is one of the most effective strategies for reducing deforestation. Educating rural dwellers about the environmental, economic, and health effects of deforestation such as soil erosion, climate change, reduced rainfall, loss of biodiversity, and declining agricultural productivity can positively influence their perception and behavior. Awareness campaigns through schools, community meetings, radio programs, and local languages help people understand the long-term consequences of forest destruction and the benefits of forest conservation. Increasing awareness of deforestation impacts through education and communication enhances support for conservation initiatives and sustainable land-use practices (International Journal of Geography and Regional Planning Research, 2025).

2. Community-Based Forest Management (CBFM)

Involving local communities in forest management enhances their sense of ownership and responsibility toward forest resources. When rural dwellers are informed about the ecological importance of forests and are allowed to participate in decision-making, their perception shifts from seeing forests as unlimited resources to valuable assets that must be protected. Community-based forest management encourages sustainable harvesting, monitoring of illegal activities, and collective action against deforestation.

3. Integration of Indigenous Knowledge with Scientific Knowledge

Local and indigenous knowledge systems often contain sustainable forest management practices developed over generations. Integrating this traditional knowledge with modern scientific understanding improves community perception of conservation strategies and increases acceptance. When people recognize that their indigenous practices align with environmental protection, they are more willing to adopt conservation measures and reduce deforestation.

4. Promotion of Sustainable Livelihood Alternatives

Poverty and livelihood dependence on forests often shape negative perceptions that forests must be cleared for survival. Providing alternative income-generating activities such as agroforestry, beekeeping, ecotourism, and sustainable agriculture helps change this perception. When communities understand that forests can provide long-term economic benefits without being destroyed, pressure on forest resources is reduced.

5. Inclusion of Environmental Studies in Formal and Informal Education

Introducing environmental studies at all levels of education helps build long-term awareness and positive perceptions of forest conservation. School curricula that emphasize the causes and effects of deforestation encourage young people to become environmental stewards. Informal education programs for adults, such as workshops and extension services, also help reshape perceptions and promote sustainable forest use.

6. Participatory Policy Formulation and Local Governance

When communities are involved in formulating forest policies and regulations, they are more likely to understand and accept conservation measures. Participatory governance improves trust and perception of forest policies as supportive rather than restrictive. This encourages compliance with forest laws and reduces illegal logging and land clearing. Studies have shown that local knowledge and perception strongly shape community responses to deforestation and conservation policies (Traoré et al., 2025; Lopes et al., 2025). Participatory forest management, which relies on community awareness and involvement, has been found to reduce deforestation and improve forest cover (Lemma et al., 2024).

7. Strengthening Environmental Communication and Media Engagement

Effective communication through mass media and local communication channels plays a critical role in shaping perception. Radio programs, documentaries, posters, and storytelling can highlight the visible effects of deforestation on local communities, such as flooding, loss of fertile land, and water scarcity. Positive messaging that links forest conservation to

improved livelihoods and environmental stability can influence attitudes and reduce destructive practices.

8. Capacity Building and Training Programs

Training programs for farmers, forest users, and community leaders increase knowledge about sustainable land-use practices. Capacity building improves understanding of techniques such as agroforestry, selective logging, and soil conservation. As knowledge increases, perceptions about deforestation shift toward recognizing the importance of sustainable practices, thereby reducing forest degradation.

9. Demonstration Projects and Success Stories

Demonstration farms and community forest projects help translate knowledge into practice. Seeing successful examples of forest conservation and sustainable land use improves perception and motivates others to adopt similar practices. Practical evidence reinforces the understanding that deforestation has negative consequences and that conservation brings tangible benefits.

Summary of Literature Reviewed

The scientific reviewed indicates discussions on the knowledge and perception of deforestation. The literature reveals that deforestation is a major environmental challenge with far-reaching environmental, social, and economic consequences. Scholars consistently highlight that deforestation leads to biodiversity loss, soil erosion, climate

change, disruption of hydrological cycles, reduced agricultural productivity, and declining rural livelihoods. These effects are particularly pronounced in developing countries where rural populations depend heavily on forest resources for survival. Studies on knowledge of deforestation effects indicate varying levels of awareness among rural dwellers. While some communities possess basic knowledge of visible effects such as reduced rainfall, flooding, and declining soil fertility, awareness of long-term and indirect impacts such as climate change and ecosystem imbalance remains limited. Several researchers emphasize that inadequate environmental education and limited access to information contribute significantly to low levels of knowledge, thereby encouraging unsustainable forest exploitation. Literature on perception of deforestation effects shows that people's attitudes and beliefs strongly influence their interaction with forest resources. In many rural communities, deforestation is often perceived as a necessary activity for agricultural expansion, fuelwood collection, and income generation. However, studies also demonstrate that when individuals perceive clear negative consequences of deforestation on their livelihoods, health, and environment, they are more likely to support conservation initiatives and sustainable land-use practices.

The literature further establishes a strong relationship between knowledge and perception, suggesting that increased knowledge leads to more positive environmental perceptions and pro-conservation behaviour. Research on community-based forest management and participatory conservation approaches indicates that when local people are informed and actively involved in forest governance, their perception of forest resources shifts from

short-term exploitation to long-term sustainability. Additionally, empirical studies stress the importance of environmental education, awareness campaigns, and media communication in shaping public perception of deforestation effects. Education through formal schooling, extension services, and community outreach has been found to improve understanding of deforestation impacts and encourage responsible forest use. The integration of indigenous knowledge with scientific information also enhances local acceptance of conservation strategies. Despite extensive research on deforestation and its impacts, gaps remain in understanding how socio-economic factors such as poverty, education level, cultural beliefs, and livelihood dependence influence knowledge and perception across different communities. Many studies call for location-specific research to better capture local realities and inform effective policy interventions.

In summary, the literature underscores that improving knowledge and shaping positive perceptions of the effects of deforestation are critical to reducing forest degradation. Effective deforestation control strategies must therefore go beyond enforcement and address awareness, attitudes, and community participation to achieve sustainable forest management.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter deals with the research procedures undertaken in carrying out the study. It is organized under the following sub-headings:

- 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

This study employed a descriptive survey research design. According to Omorogiuwa (2019), a descriptive survey research design enables the collection of data from a population of study and the use of such data to explain the characteristic features and facts about the population. This design is considered most suitable for this study as it

allows the researcher to collect data from respondents on their opinions concerning the phenomenon under study as it exists in their natural setting.

Population of the Study

The population of the study consisted of all ten thousand, one hundred and fifty (10,150) residents in Ekosodin, Benin City. The data was extracted from the Ekosodin Town Hall. The population encompasses residents of five streets in Ekosodin, namely Newton, Edo, Boundary, Market Road, and Eguavoen Street.

Sample and Sampling Technique

A sample size of 255 (two hundred and fifty-five) residents was selected within Ekosodin community, representing 2.5% of the study population. The multi-stage sampling technique was adopted to select respondents for this study.

Stage one: The Ekosodin community was stratified into five clusters comprising the study area, namely Newton, Edo, Boundary, Market Road, and Eguavoen Street.

Stage two: Using the simple random sampling technique, 51 (fifty-one) respondents were selected from each of the five major streets in Ekosodin Community, making a total of 255 respondents as the study sample.

Research Instrument

The instrument for data collection was a self-structured questionnaire titled 'Questionnaire on the Knowledge and Perception of the Effects of Deforestation among Residents of Ekosodin Community'. The questionnaire was divided into three sections. Section A comprised the demographic characteristics (personal data) of the respondents. Section B consisted of multiple-choice questions designed to elicit responses on the Knowledge of Deforestation from the respondents. Section C was designed using a four-point modified Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) to gauge respondents' perceptions of deforestation.

Validity of the Instrument

The face and content validity of the research instrument was established by submitting the constructed questionnaire to the project supervisor and two other experts in the Department of Health, Safety and Environmental Education. The appropriate suggestions and corrections were effectively incorporated into the final draft of the instrument.

Reliability of the Instrument

The reliability of the research instrument was established using internal consistency reliability. The questionnaire was administered to a pilot group of 40 respondents who were not part of the main study sample. The responses were analyzed using Cronbach's

Alpha coefficient to determine the degree to which the items in the instrument consistently measured the intended constructs.

Method of Data Collection

The researcher personally administered and collected the questionnaire from respondents. Upon completion of the exercise, the instrument was immediately retrieved to guarantee a 100% return rate.

Method of Data Analysis

The data collected for this study were analyzed using frequency counts and percentages to answer the research questions, while chi-square statistics were used to test the hypothesis at a 0.05 level of significance.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

This chapter deals with the presentation, analysis, and interpretation of findings based on the data collected from respondents in relation to the research questions guiding the study. The results of the respondents are carefully analyzed and presented in the following tables below.

Research Question 1: What is the level of knowledge of rural dwellers in Ekosodin community about the effects of deforestation?

Table 1: Knowledge of the Effects of Deforestation

Knowledge Level	Frequency	Percent (%)
Low (0–3)	30	11.8
Moderate (4–6)	35	13.7
High (7–10)	190	74.5
Total	255	100.0

Source: Field Survey, 2026 | Scale: 0–3 = Low Knowledge; 4–6 = Moderate Knowledge; 7–10 = High Knowledge

Table 1 presents the descriptive statistics on the level of knowledge of rural dwellers in Ekosodin community about the effects of deforestation. From the table, it was shown that 30 respondents, representing 11.8% of the sample, possess low knowledge about the effects of deforestation. A further 35 respondents (13.7%) demonstrated moderate knowledge, while the majority, 190 respondents (74.5%) recorded high knowledge of the effects of deforestation. Cumulatively, these findings indicate that 88.2% of respondents

possess at least moderate knowledge, with nearly three-quarters demonstrating high knowledge levels.

From the table above, it can therefore be concluded that the majority of rural dwellers in Ekosodin community possess high knowledge of the effects of deforestation. This finding suggests that the community is broadly aware of the environmental consequences associated with the removal of forest cover, which may be attributable to their direct dependence on forest resources for livelihoods, as well as exposure to community-based sensitization efforts.

Research Question 2: What are the perceptions of rural dwellers in Ekosodin community regarding the effects of deforestation on their environment and livelihoods?

Table 2: Perceptions Regarding the Effects of Deforestation on the Environment and Livelihoods

Perception	Frequency	Percent (%)
Negative (0–19)	0	0.0
Neutral (20–30)	65	25.5
Positive (31–40)	190	74.5
Total	255	100.0

Source: Field Survey, 2026 | Scale: 0–19 = Negative; 20–30 = Neutral; 31–40 = Positive

Table 2 presents findings on the perceptions of rural dwellers in Ekosodin community regarding the effects of deforestation on their environment and livelihoods. The data reveal that none of the respondents (0.0%) held negative perceptions regarding the effects

of deforestation. A minority of 65 respondents (25.5%) expressed neutral perceptions, indicating neither strong agreement nor disagreement about the adverse impact of deforestation. The majority 190 respondents (74.5%) held positive perceptions, meaning they strongly acknowledge and affirm the detrimental effects of deforestation on their immediate environment and livelihoods.

The complete absence of negative perceptions is a noteworthy finding, suggesting that no respondent within the community is indifferent to or dismissive of the harmful consequences of deforestation. The high proportion of positive perceptions indicates that rural dwellers in Ekosodin community hold a strong and affirming awareness of how deforestation adversely affects their environment, encompassing soil erosion, reduction in biodiversity, climate change, and diminished agricultural productivity, as well as their livelihoods, which are closely tied to forest resources. These findings point to a community that is not only knowledgeable but also perceptive about the environmental challenges confronting them.

Research Question 3: Is there a relationship between the knowledge of rural dwellers and their perception of the effects of deforestation in Ekosodin community?

Hypothesis: There is no significant relationship between the knowledge of rural dwellers and their perception of the effects of deforestation in Ekosodin community.

Table 3a: Knowledge * Perception Cross-tabulation

Knowledge Level	Perception: Neutral	Perception: Positive	Total
Low	15	15	30
Moderate	15	20	35
High	35	155	190
Total	65	190	255

Table 3b: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.046	2	.000
Likelihood Ratio	18.580	2	.000
Linear-by-Linear Association	18.942	1	.000
N of Valid Cases	255		

Source: Field Survey, 2026

Table 3a presents the cross-tabulation of respondents' knowledge levels against their perceptions of the effects of deforestation, while Table 3b presents the results of the Chi-Square test of independence used to examine the relationship between these two variables. From the cross-tabulation in Table 3a, it is observed that among respondents with low knowledge, 15 held neutral perceptions and 15 held positive perceptions, yielding an

equal distribution. Among those with moderate knowledge, 15 expressed neutral perceptions while 20 expressed positive perceptions. Notably, among respondents with high knowledge, only 35 recorded neutral perceptions in contrast to 155 who held positive perceptions, indicating a strong tendency for highly knowledgeable respondents to also hold positive perceptions about the effects of deforestation.

The Chi-Square test results in Table 3b reveal a Pearson Chi-Square value of 20.046 with 2 degrees of freedom and an asymptotic significance value of .000 ($p < 0.05$). Similarly, the Likelihood Ratio statistic (18.580, $p = .000$) and the Linear-by-Linear Association value (18.942, $p = .000$) all yield significance values well below the 0.05 threshold. Since the p-value (.000) is less than the significance level of 0.05, the null hypothesis which states that “there is no significant relationship between the knowledge of rural dwellers and their perception of the effects of deforestation” is hereby rejected. There is therefore a statistically significant relationship between the knowledge of rural dwellers in Ekosodin community and their perception of the effects of deforestation. This indicates that higher levels of knowledge are associated with more strongly affirming perceptions of deforestation's adverse effects on the environment and livelihoods.

Discussion of Findings

This study investigated the knowledge and perceptions of the effects of deforestation among rural dwellers in Ekosodin community, Benin City, Edo State. The findings are discussed below in relation to the research questions.

The first finding of this study established that the majority of rural dwellers in Ekosodin community (74.5%) possess high knowledge of the effects of deforestation. This finding aligns with the submission of Ajayi and Ogunyemi (2017), who documented that rural communities in Nigeria with direct dependence on forest ecosystems for food, fuel, and income tend to accumulate substantial experiential knowledge of environmental changes occasioned by deforestation, including reduced rainfall, soil degradation, and loss of biodiversity. Similarly, Adesina et al. (2019) reported that prolonged exposure to the consequences of forest loss such as reduced crop yields, flooding, and disappearance of non-timber forest products enhances environmental awareness among forest-adjacent communities. The high level of knowledge recorded in the present study may thus be attributed to the community's proximity to forested areas and their direct reliance on these resources for subsistence and economic activities. However, this finding contrasts with the work of Nwachukwu and Ibe (2015), who found relatively low environmental knowledge among rural dwellers in southeastern Nigeria, attributing it to limited access to formal education and extension services. The discrepancy may reflect the varying degrees of direct forest dependence across communities, with Ekosodin's closer proximity to forest resources generating higher experiential awareness.

The second finding revealed that the majority of respondents (74.5%) held positive perceptions of the effects of deforestation, recognizing its detrimental impact on their environment and livelihoods, while none expressed negative perceptions. This finding corroborates the finding of Okonkwo and Obiora (2018), who revealed that rural dwellers

who are directly affected by land degradation and forest loss demonstrate heightened sensitivity to environmental deterioration, particularly when it impairs their agricultural productivity and access to clean water. The study also supports Lambin et al. (2003), who argued that communities residing in forest frontiers develop strong perceptual frameworks around deforestation's consequences, especially regarding the depletion of natural resources they rely upon. The absence of negative perceptions in the current study is particularly significant and suggests that within Ekosodin community, there exists a broad consensus on the harmful effects of deforestation, which may provide a fertile social foundation for community-based conservation initiatives. This finding is consistent with Adeyoku (2014), who noted that communities with a history of resource depletion are more likely to hold strong, affirming perceptions about environmental degradation. In contrast, Agbeja et al. (2012) found more mixed perceptions in communities where alternative livelihoods had reduced forest dependence, suggesting that economic diversification can sometimes attenuate environmental concern.

The third finding, derived from the Chi-Square analysis, established a statistically significant relationship between the knowledge of rural dwellers and their perception of the effects of deforestation ($\chi^2 = 20.046$, $df = 2$, $p = .000$). This finding is consistent with the work of Oziegbe and Atolagbe (2020), who similarly demonstrated a significant association between environmental knowledge and environmental attitudes among rural communities in Edo State, concluding that as knowledge levels increase, communities develop more strongly affirming perceptions of environmental threats. The finding is

further supported by the Knowledge-Attitude-Practice (KAP) model, which posits that an individual's level of knowledge about a subject directly influences their attitudes and perceptions, which in turn shape their behaviour (Bloom, 1956; Green & Kreuter, 2005). The cross-tabulation in this study clearly illustrates this pattern: among respondents with high knowledge, 81.6% (155 out of 190) held positive perceptions, compared to only 50% among those with low knowledge. This progressive pattern reinforces the theoretical expectation that knowledge acquisition is a precursor to heightened environmental perception. The finding also aligns with Agbola and Agunbiade (2009), who argued that environmental education plays a pivotal role in shaping rural communities' perceptions of ecosystem degradation, underscoring the importance of sustained knowledge dissemination through formal and non-formal channels. Conversely, the finding partially contrasts with Sunderlin et al. (2005), who cautioned that knowledge alone does not guarantee attitudinal change in communities where economic pressures override environmental concerns. The present study, however, demonstrates that in a subsistence-oriented community such as Ekosodin where livelihoods are directly tied to forest health, knowledge and positive perception tend to reinforce each other strongly.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter has to do with the summary, conclusion and recommendations based on the findings.

Summary

This study investigated the knowledge and perceptions of the effects of deforestation among rural dwellers in Ekosodin community, Benin City, Edo State. To achieve the purpose of the study, three (3) research questions and one hypothesis were raised and important literature related to deforestation were clearly discussed. The descriptive research design was used for this study and the population consisted of ten thousand, one hundred and fifty residents (10,150) in Ekosodin, Benin City. A multistage sampling procedure was adopted to select two hundred and fifty five (255) respondents to represent the study's population. The instrument used for data collection was a well-structured close-ended questionnaire with twenty (20) items. The questionnaire was validated by the project supervisor and two other lecturers in the Department of Health, Safety and Environmental Education. The internal consistency reliability method was used to establish the reliability of the questionnaire. A total of two hundred and fifty five (255) questionnaires were administered to the sample and data collected was analyzed using frequency count and percentage while Chi Square correlation was used in testing the hypothesis.

Findings

Based on the data collected and analyzed, the following findings were made:

1. The majority of rural dwellers in Ekosodin community possess high knowledge of the effects of deforestation.
2. The majority of rural dwellers in Ekosodin community hold positive perceptions regarding the effects of deforestation on their environment and livelihoods.
3. There is a statistically significant relationship between the knowledge of rural dwellers and their perception of the effects of deforestation in Ekosodin community ($\chi^2 = 20.046$, $df = 2$, $p = .000$).

Conclusion

Based on the findings of this study, it is concluded that rural dwellers in Ekosodin community are highly knowledgeable about the effects of deforestation and hold overwhelmingly positive perceptions of its adverse impact on their environment and livelihoods. Furthermore, a statistically significant relationship exists between their level of knowledge and their perceptions, indicating that greater knowledge is associated with stronger awareness of deforestation's consequences. These conclusions underscore the importance of sustained environmental education and community engagement as essential strategies for addressing deforestation in rural communities.

Recommendations

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

- Government agencies and NGOs should intensify environmental education programmes in rural communities to further deepen knowledge and sustain positive perceptions about the effects of deforestation.
- Relevant stakeholders should leverage the community's existing awareness to establish community-led forest conservation groups in Ekosodin as a grassroots strategy for sustainable forest management.
- Policymakers should implement alternative livelihood programmes such as agroforestry and eco-tourism to reduce rural dwellers' over-dependence on forest resources.
- Participatory land-use planning and monitoring systems should be introduced in Ekosodin community to actively involve rural dwellers in decisions affecting their forest environment.

Suggestions for Further Study

Based on the findings of this study, the following areas are suggested for further investigation:

1. Health implications of deforestation among rural dwellers in Ekosodin community, Edo State.
2. Conservation behaviours and practices of rural dwellers in Ekosodin community regarding the effects of deforestation.
3. Influence of socio-demographic variables on the knowledge and perception of deforestation effects among rural dwellers in the Niger Delta region.

REFERENCES

- Abba, U. J., Bakoji, Y. M., Umar, A. A., Isa, M. S., & Mohammed, J. A. (2025). *Perception on the effect of forest deforestation in Taraba State, Nigeria*. Osun Geographical Review.
- Adesina, F. A., Mbaya, S., & Olagunju, T. E. (2019). Deforestation and rural livelihoods in Nigeria: A community assessment. *Journal of Environmental Management and Safety*, 10(2), 45–58.
- Adeyoju, S. K. (2014). *Forestry and the Nigerian economy*. Ibadan University Press.
- Agbeja, B. O., Adedire, M. O., & Azeez, I. O. (2012). Perception of forest resource users on deforestation in Oyo State, Nigeria. *Journal of Research in Forestry, Wildlife and Environmental Science*, 4(1), 12–22.
- Agbola, T., & Agunbiade, E. M. (2009). Urbanisation, slum development and security of tenure: The challenges of meeting Millennium Development Goal 7 in metropolitan Lagos, Nigeria. In *Urban population-environment dynamics in the developing world: Case studies and lessons learned (pp. 77–106)*. CICRED.
- Ajayi, A. O., & Ogunyemi, S. A. (2017). Rural communities' knowledge and perception of deforestation and forest degradation in Nigeria. *International Journal of Forest Research*, 2017, 1–9. <https://doi.org/10.1155/2017/2789479>
- Angelsen, A., Brockhaus, M., Duchelle, A. E., Larson, A., Martius, C., Sunderlin, W. D., Verchot, L., Wong, G., & Wunder, S. (2018). *REDD+ results-based payments: Who should be paid, and for what?* Center for International Forestry Research (CIFOR).
- Awe, F., Kolade, R., Ogunsola, A., & Arowolo, O. (2020). Assessment of the effect of deforestation on the economic activities of rural dwellers of the Western Region of Kogi State, Nigeria. *Bulgarian Journal of Soil Science, Agrochemistry and Ecology*.
- Ayanlade, A., & Drake, N. A. (2016). Forest loss in Nigeria: *Evidence from satellite data*. *Applied Geography*, 72, 1–12. <https://doi.org/10.1016/j.apgeog.2016.04.002>
- Ayanlade, A., Odekunle, T. O., Orimoogunje, O. O., & Adeoye, N. O. (2017). Climate change perception and adaptation strategies among rural farmers in southwestern Nigeria. *Weather, Climate, and Society*, 9(4), 709–720. <https://doi.org/10.1175/WCAS-D-16-0046.1>

- Ayanwuyi, E., Oladosu, I. O., Ogunlade, I., & Kuponiyi, F. A. (2022). Rural women's perception of the effects of deforestation on their economic activities in Ogbomoso area of Oyo State, Nigeria. *Pakistan Journal of Social Sciences*.
- Berkes, F. (2018). *Sacred ecology* (4th ed.). Routledge. <https://doi.org/10.4324/9781315114644>
- Bhomi, A. K., Poudyal, R., Tolange, S. K., & Chaudhary, S. (2024). Assessing the impact of urban expansion on forest cover using LULC maps, NDVI, and NDBI: A case study of Kathmandu District. *Journal on Geoinformatics, Nepal*, 23(1), 1–7.
- Bloom, B. S. (1956). Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain. David McKay.
- Climate. (2025). Climate change knowledge and perception among farming households in Nigeria. Climate.
- Deba Enomah, L., Downs, J., Acheampong, M., Yu, Q., & Tanyi, S. (2025). Urban expansion and the loss of agricultural lands and forest cover in Limbe, Cameroon. *Remote Sensing*, 17(15), 2631.
- Dufatanye, J. D., Mind'Je, R., & Ngirinshuti, H. (2025). Assessing the urban expansion level and its impact on forest cover loss in Rwanda: A case of Masaka Sector, Rwanda (2000–2024). *East African Journal of Environment and Natural Resources*, 8(3), 63–76.
- Emmet, G. L., & Cherif, M. P. (2022). Farmers' perception on the impact of deforestation influencing climate change. *American Journal of Environment and Climate*, 1(2), 53–58.
- Flomo, L. G., & Cherif, M. P. (2025). Farmers' perception on the impact of deforestation influencing climate change. *American Journal of Environment and Climate*.
- Food and Agriculture Organization of the United Nations. (2018). National forest monitoring systems: *Monitoring and measurement, reporting and verification (M&MRV) in the context of the UNFCCC*. FAO.
- Food and Agriculture Organization of the United Nations. (2022). The state of the world's forests 2022: *Forest pathways for green recovery and building inclusive, resilient and sustainable economies*. FAO.
- Food and Agriculture Organization. (2017). The charcoal transition: *Greening the charcoal value chain*. FAO.

- Food and Agriculture Organization. (2020). *Global forest resources assessment 2020*. FAO.
- Gitau, W. (2006). Small-scale farmers' perceptions of the effects of deforestation on livelihoods in Kenya.
- Green, L. W., & Kreuter, M. W. (2005). Health program planning: *An educational and ecological approach (4th ed.)*. McGraw-Hill.
- International Journal of Geography and Regional Planning Research. (2025). Assessing level of awareness of deforestation impacts and forest cover loss. *International Journal of Geography and Regional Planning Research*, 10(1), 22–41.
- Iwuji, M. C., Okpara, J. C., Ukaegbu, K. O. E., Iwuji, K. M., Uyo, C. N., Onuegbu, S. V., & Acholonu, C. A. (2022). Impact of deforestation on rural livelihood in Mbieri, Imo State, Nigeria. *International Journal of Geography and Regional Planning Research*, 7(2), 1–13.
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260. <https://doi.org/10.1080/13504620220145401>
- Lambin, E. F., Geist, H. J., & Lepers, E. (2003). Dynamics of land-use and land-cover change in tropical regions. *Annual Review of Environment and Resources*, 28(1), 205–241. <https://doi.org/10.1146/annurev.energy.28.050302.105459>
- Lemma, T., Abdallah, J. M., Marquardt, K., & Tolera, M. (2024). *Does participatory forest management reduce deforestation and enhance forest cover? Ecologies*, 5(4), 647–663.
- Lopes, D. N., Hiroshima, T., & Tsuyuki, S. (2025). Understanding local perceptions on drivers of deforestation and policy instruments for forest conservation. *Sustainability*, 17(22), 10094.
- Mapulanga, A. M., & Naito, H. (2018). Does higher population growth cause deforestation? Evidence from Malawi.
- Meijaard, E., Abram, N. K., Wells, J. A., Pellier, A. S., Ancrenaz, M., Gaveau, D. L. A., & Sheil, D. (2013). People's perceptions about the importance of forests on Borneo. *PLoS ONE*, 8(9), e73008. <https://doi.org/10.1371/journal.pone.0073008>

- Nwachukwu, I., & Ibe, C. (2015). Environmental knowledge and awareness among rural dwellers in southeastern Nigeria. *Nigerian Journal of Rural Sociology*, 15(1), 33–44.
- Ogunkunle, A. T. J., & Oladele, A. T. (2019). Local knowledge and perception of forest degradation in rural communities of southwestern Nigeria. *Environmental Development*, 30, 1–11. <https://doi.org/10.1016/j.envdev.2019.01.002>
- Ojo, O. A., & Adebayo, A. A. (2020). Perception of deforestation and its environmental effects among rural dwellers in Nigeria. *Journal of Environmental Management and Sustainable Development*, 9(2), 45–59.
- Okonkwo, C. N., & Obiora, P. N. (2018). Rural communities' perception of environmental degradation and forest loss in south-eastern Nigeria. *Journal of Tropical Forest Science*, 30(4), 521–530.
- Olanrewaju, R. M., Tilakasiri, S. L., & Bello, F. B. (2018). Community perception of deforestation and climate change in Ibadan, Nigeria. *Journal of the University of Ruhuna*.
- Olawuyi, E. B., & Odeyale, O. C. (2025). Impact assessment of deforestation on rural households' livelihoods in Olokemeji Forest Reserve of Ogun State, Nigeria. *FUOYE Journal of Agriculture and Human Ecology*.
- Oso, A. O., Faleyimu, O. I., & Abdullahi, S. A. (2025). *Perceived impact of deforestation on rural household income in Yewa South Local Government Area, Ogun State, Nigeria*.
- Oziegbe, M., & Atolagbe, A. M. O. (2020). Environmental knowledge and attitude of rural dwellers in Edo State: Implications for conservation education. *Journal of Applied Sciences and Environmental Management*, 24(3), 415–422.
- Packiam, S. M. (2015). Deforestation: Causes and consequences. *International Journal of Social Sciences and Humanities Invention*.
- Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407–424. <https://doi.org/10.1111/0022-4537.00175>
- Sunderlin, W. D., Angelsen, A., Belcher, B., Burgers, P., Nasi, R., Santoso, L., & Wunder, S. (2005). Livelihoods, forests, and conservation in developing countries: *An overview*. *World Development*, 33(9), 1383–1402. <https://doi.org/10.1016/j.worlddev.2004.10.004>

- Traoré, M. A., Bissonnette, J.-F., & Dossa, K. F. (2025). Forest dynamics and local perceptions of conservation. *Frontiers in Forests and Global Change*, 8, 1658611.
- United Nations Environment Programme. (2018). Nigeria: *Environmental profile and deforestation trends*. UNEP.
- United Nations Environment Programme. (2020). *Deforestation and forest degradation: Drivers, impacts and responses*. UNEP.
- World Bank. (2019). *Household cooking fuel use and energy poverty in Nigeria*. World Bank Group.

APPENDIX
UNIVERSITY OF BENIN
FACULTY OF EDUCATION
DEPARTMENT OF HEALTH SAFETY AND ENVIRONMENTAL EDUCATION
QUESTIONNAIRE ON
THE KNOWLEDGE AND PERCEPTION OF THE EFFECTS OF
DEFORESTATION AMONG RURAL DWELLERS IN EKOSODIN
COMMUNITY, EDO STATE.

Dear Respondent,

This questionnaire is designed to obtain information for academic research purposes only. It is structured to find the Knowledge and Perception of the Effects of Deforestation among Rural Dwellers in Ekosodin Community, Benin City, Edo State. Your responses will be treated with confidentiality. Kindly tick (✓) the option that best represents your opinion.

SECTION A: SOCIO-DEMOGRAPHIC DATA

1. Sex (a) Male ☐ (b) Female ☐
 2. Age (a) 18–25 ☐ (b) 26–35 ☐ (c) 36–45 ☐ (d) 46 years and above ☐
 3. Marital Status (a) Single ☐ (b) Married ☐ (c) Divorced ☐ (d) Widowed ☐
 4. Educational Qualification (a) No formal education ☐ (b) Primary education ☐ (c) Secondary education ☐ (d) Tertiary education ☐
 5. Occupation (a) Farming ☐ (b) Trading ☐ (c) Civil servant ☐ (d) Artisan ☐ (e) Others ☐
-
6. How long have you lived in Ekosodin community? (a) 1–5 years ☐ (b) 6–10 years ☐ (c) 11–15 years ☐ (d) 16 years and above ☐

SECTION B

Please tick (✓) the option that best represents your opinion.

1. What is the level of knowledge of rural dwellers in Ekosodin community about the effects of deforestation?
 - a. Deforestation refers to: (a) Planting of trees ☐ (b) Cutting down of trees and forests ☐ (c) Water pollution ☐ (d) Hunting of animals ☐
 - b. Which of the following is a major cause of deforestation? (a) Afforestation ☐ (b) Bush burning and logging ☐ (c) Rainfall ☐ (d) Fishing ☐
 - c. One effect of deforestation is: (a) Increased soil erosion ☐ (b) Increased forest cover ☐ (c) More wildlife protection ☐ (d) Reduced temperature ☐
 - d. Deforestation can lead to: (a) Flooding ☐ (b) Soil fertility improvement ☐ (c) Increased rainfall ☐ (d) Cleaner air ☐
 - e. Trees are important because they help to:

- (a) Prevent erosion [] (b) Increase desertification [] (c) Destroy farmland [] (d) Cause pollution []
- f. Which of the following may result from excessive tree cutting? (a) Climate change [] (b) More forest reserves [] (c) Increased wildlife population [] (d) Better air quality []
- g. Deforestation can negatively affect: (a) Farming activities [] (b) Wildlife habitats [] (c) Human health [] (d) All of the above []
- h. The practice of planting trees to replace cut ones is called: (a) Afforestation [] (b) Erosion [] (c) Urbanization [] (d) Grazing []
- i. Which group is mostly affected by deforestation in rural areas? (a) Farmers [] (b) Hunters [] (c) Rural dwellers [] (d) All of the above []
- j. One way to reduce deforestation is by: (a) Indiscriminate logging [] (b) Planting more trees [] (c) Bush burning [] (d) Overgrazing []

SECTION C

Research Question 2: What are the perceptions of rural dwellers in Ekosodin community regarding the effects of deforestation on their environment and livelihoods?

Instruction: Tick (✓) the option that best represents your opinion.

SA =(Strongly Agree), A =(Agree), D = (Disagree), SD = (Strongly Disagree)

S/N	Statement	SA	A	S D	D
1.	I think deforestation has reduced the number of trees in Ekosodin community.				
2	I think deforestation negatively affects farming activities in the community.				
3	I think deforestation contributes to excessive heat in the environment.				
4.	I think deforestation has increased the occurrence of flooding and erosion in the community.				
5.	I think cutting down trees affects the availability of firewood and forest resources.				
6.	I think deforestation affects the livelihood of farmers and hunters in Ekosodin community.				

7.	I think deforestation contributes to poor air quality in the environment				
8.	I think planting more trees can help reduce the effects of deforestation.				
9.	I think government should create laws to control deforestation in rural communities.				
10.	I think community members should participate in forest conservation activities.				