

# Forest Resources Extraction, Indigenous Livelihood and Sustainability Dilemma in Tropical Africa: Case Study of Akwa Ibom State

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## Abstract

The study examined 'Forest Resources Extraction, Indigenous Livelihood and Sustainability Dilemma in Tropical Africa: Case Study of Akwa Ibom State' in a bid to restore the forestry sector that is threatened by an alarming rate of deforestation, urban expansion, over-population and high demand for forest based products. 400 copies of questionnaires were administered to respondents in the study area who were farmers, fish processors, canoe builders, fuel wood dealers, timber dealers and furniture designers. Questionnaires as well as semi-structured interviews were used in the study for data analysis. Following the interview done as well as the results of questionnaires retrieved from the study area, it was realized that though forest resource extraction was laced with sufficient economic benefits, yet little efforts were made towards re-afforestation and this challenge the sustainability of the forestry sector in the entire state. At field reconnaissance, illegal logging as well as conversion of forested landscape into peasant farmlands/plantation was spotted. Nevertheless, the study recommended that there should be improved legislation in the forestry sector, provision of alternative job to reduce dependence on forest based services, selective logging and primarily mass campaign on re-afforestation in order to stabilize the ecosystem and protect inter-generational utilization of forest-based products.

**Keywords:** Forest Resources Extraction, Indigenous Livelihood, Sustainability Dilemma, Tropical Africa, Akwa Ibom State.

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## INTRODUCTION

Natural resources, especially forest resources, are fundamental to global environmental stability, economic prosperity, and human well-being (Lisha *et al.*, 2023). Forests cover about 31% of the Earth's land area and provide critical ecosystem services such as carbon sequestration, water regulation, soil protection, and habitat for wildlife (Jaworski and Keay, 2022). Forest resources and associated benefits cannot be over-emphasized (Chandra *et al.*, 2023). They are also vital for the livelihoods of indigenous people around the world, particularly in developing regions where forests support agriculture, provide fuelwood, and offer resources for traditional crafts (Khan *et al.*, 2022b, 2023).

Countries with significant forest resources such as Nigeria, Indonesia, Malaysia, and Thailand have experienced rapid deforestation due to logging, palm oil plantations, and infrastructure development (Akhtar *et*

*al.*, 2023). This has led to environmental degradation, including loss of biodiversity and altered water cycles, and has significantly impacted local communities who depend on forests for their livelihoods. Despite efforts to implement sustainable management practices, balancing economic development with conservation remains a challenge.

Nigeria, situated in West Africa, is endowed with rich forest resources that are vital for the nation's economy and the livelihoods of its people (Jones, 2023). The forests in Nigeria provide resources for timber, fuelwood, and non-timber products, and they play a critical role in environmental sustainability. Forest cover in Nigeria is significantly destroyed at a faster rate particularly in Akwa Ibom State.

Forest resources exploitation profoundly impacts socioeconomic activities, with both positive and negative effects. While extraction can contribute to economic growth and development, it also poses

challenges such as environmental degradation, social disruption, and conflicts over resources. By understanding and addressing these impacts, policymakers can promote sustainable development and ensure that the benefits of extraction are shared equitably among communities.

Studies by Wang and Liu (2022) and Jones (2023) demonstrate that natural resources exploitation extraction can contribute significantly to economic development by generating revenue, creating jobs, and stimulating investment. The studies highlight the positive correlation between resource extraction and economic growth in resource-rich regions. Smith *et al.*, (2021) and Human Rights Watch (2022) reveals that natural resources exploitation can have mixed social impacts. While it can create employment opportunities and infrastructure development, it also leads to displacement, social unrest, and conflicts over land and resources. Amnesty International (2023) and WWF (2021) highlight the significant environmental consequences of forest resources exploitation. The studies showed that extraction activities often led to deforestation, water pollution, and loss of biodiversity, affecting ecosystems and threatening the livelihoods of local communities. They underscore the importance of environmental protection and sustainable resource management.

Boateng *et al.*, (2019) highlighted that forest resources contribute over 60% of household incomes, particularly through firewood, medicinal plants, and bushmeat. Zhang and Li (2022), as well as Kumar *et al.*, (2020), had assessed the consequences of unsustainable logging in Asia.

Ochieng *et al.*, (2021) evaluated the socio-economics of forest-dependent communities across Kenya and Tanzania. The study highlighted that households earning income from NTFPs experienced a 30% higher income stability than those dependent solely on agriculture. Meanwhile other researchers like Santos *et al.* (2020) in Brazil, Thapa *et al.*, (2023), in Nepal revisited income generated from forest and effects of anthropogenic activities in forested ecosystem.

As forest areas diminish, communities face increasing difficulties in accessing these essential resources, leading to reduced income, food insecurity, and a decline in overall quality of life (UNEP, 2023). The loss of forest cover also affects agricultural productivity, as soil erosion and degradation of land impact crop yields and farming practices (Wang and Liu, 2022).

The situation of rapid forest loss in Akwa Ibom State for instance is compounded by inadequate forest management practices, weak enforcement of environmental regulations, and insufficient community

involvement in resource management and this challenge sustainability principle.

Following reckless depletion of forest resources, effective legislative frameworks are fundamental to the conservation of natural resources. They provide the legal basis for enforcing conservation measures and protecting ecosystems from exploitation and degradation. Smith (2022) argues that "robust legal structures provide the necessary authority and enforcement mechanisms to protect natural resources. The study highlights that countries with comprehensive environmental laws tend to have better conservation outcomes. Additionally, adaptive legislation that can respond to new challenges and incorporate scientific advancements is crucial for long-term sustainability.

Moreover, governance structures determine how conservation policies are implemented and monitored. Brown and Green (2022) emphasize that "multi-level governance, involving both local and national agencies, enhances policy coherence and effectiveness. On the other hand, it shows that decentralization of conservation efforts allows for more tailored approaches that consider local contexts and needs. Effective conservation requires adequate funding. Jones (2022) notes that "innovative funding sources, including public-private partnerships, are increasingly vital for the long-term sustainability of conservation projects. Financial mechanisms such as environmental taxes, subsidies, and conservation trust funds provide the necessary resources for ongoing conservation activities and help mitigate the economic impact on community's dependent on natural resources. In some cases, one of the most contributory factor for non-compliance of forest conservation is non-involvement of local people in decision making. A study by Udofia *et al.*, (2011)

Stressed that non-engagement of local stakeholders in afforestation projects carried out in Akwa Ibom State led to the disappearance of forest resources. Engaging local communities in conservation efforts enhances the legitimacy and effectiveness of policies. Drawing from this scenario, the complexities in forest management in Akwa Ibom State presents a multifaceted problem with significant socio-economic and environmental implications. The state's rich forest cover, once a source of prosperity for local communities, is now under severe threat due to increasing demands for land and resources. The locals find themselves in a dilemma as to whether to abide by conservation principles of forest management and remain economically poorer or harness the resources in the forest particularly fuelwood, timber and non-timber products for life sustenance. This confusing condition underlies the basis of this investigation in order to salvage threatened species.

## MATERIALS AND METHODS

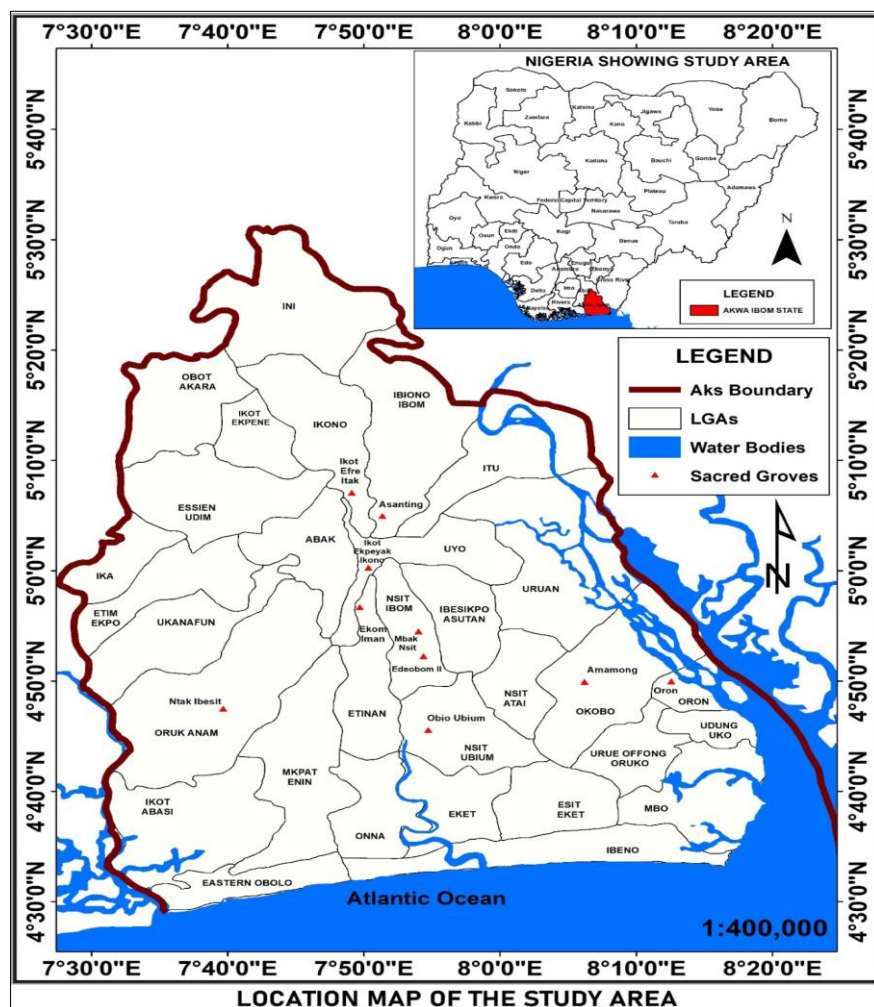
### Study Area

The study was conducted in Akwa Ibom State. It is located in the coastal plain of the Southern part of the country, Nigeria. It lies between latitudes 4°32'North and 5°33'North and longitudes 7°25'East and 8°25'East. The state is bordered on the east by the Cross River State, on the west by the Rivers State and Abia State and on the south by the Atlantic Ocean and the southernmost tip of Cross River State as shown in Fig. 1.1. Akwa Ibom has a population of 3,920,208 (2006 census estimate) and a land mass of 8412 km<sup>2</sup> (roughly 0.87% of Nigeria landmass). The population density varies between 280 – 2128 persons per Km<sup>2</sup>. Invariably, the small land mass is under intense pressure for competing demands a situation which has adversely affected agricultural production. There is traditionally a preponderance of small scale farmer that continually engage in intense cultivation on the same plots of land (National Population Commission, Uyo, 2006).

Due to the effects of the maritime and the continental tropical air masses, the climate of Akwa

Ibom State is made up of two seasons, namely, the wet or rainy season and the dry season. In the south and central part of the state, the wet or rainy season last about 8-10 months but towards the far north of the state, it reduces to about 9 months. The rainy season start about February – March and last till mid-November. A high proportion of the annual rainfall is received during this rainy season. The period is also characterized by little dry season within the rainy season. This dry season which occur for about 2-4 weeks in August. The climate condition favours the growth of trees and under-storey biodiversity. Akwa Ibom State is situated within two major river basins which are Niger Delta basin and Cross River Basin. The Cross River basin covers a significant portion of Akwa Ibom State, especially in the southern and southeastern parts. It includes rivers like the Cross River and its tributaries.

Whereas, Niger Delta basin is characterized by numerous creeks, rivers, and estuaries, including the Qua Iboe River and the Imo River. These river basins play crucial roles in the state's ecosystem, economy, and livelihoods of the people. Egeh, Okereke and Olagundoye, (2004).



**Figure 1.1: Akwa Ibom State showing study area**

**Source:** Compilation map of Akwa Ibom by researcher, University of Uyo, Uyo.

## METHODS

This study adopted a survey research design approach. With this survey approach, questionnaires were used in collecting data from the respondents. This implies those studies that aim at collecting data and describing them in a systematic way. The study purposively selected nine local government areas within Akwa Ibom State namely, Ibiono Ibom, Itu, Ibesikpo Asutan, Etim Ekpo, Ikot Ekpene, Ini, Eket, Ikot Abasi and Oron.

The selected Local Government Areas contain communities that covers a total population of 1,618,689 according to 2006 Population figure with a 2023 projected population of 2,087,975 at 2.5% annual growth rate.

In this study, both stratified and simple random sampling techniques were adopted. In the stratified sampling technique, Akwa Ibom State was divided into three (3) senatorial district namely (i) Akwa Ibom North East, (ii) Akwa Ibom North West and (iii) Akwa Ibom South, of which three local governments from each of the senatorial districts. Secondly, simple random sampling technique was employed in selecting sampled population in each community based on the number of assigned questionnaires. These techniques ensured that every community members have an equal chance of being carefully chosen. Slovin's (1960) formula for finite population was adopted in determining sample size and a total 400 questionnaires was derived.

## RESULTS AND DISCUSSION

**Table 4.1: Analysis of monthly Income of forest-based resource users**

Income (N)	Frequency	Percentage (%)
10,000-50,000	70	18.75
51,000-100,000	150	37.5
101,000-150,000	50	12.5
151,000-200,000	60	15
Above 200,000	70	18.75
<b>Total</b>	<b>400</b>	<b>100</b>

Source: Researcher, 2025

**Table 4.2: Impact of Forest Exploitation on Local Livelihoods**

Impact	Frequency	Percentage (%)
forest exploitation contribute directly to household income	110	27.5
Provision of non-timber products such as fruits, honey, or medicinal plants	50	12.5
Logging/ firewood collection	30	7.5
forest exploitation impact food security in community	80	20
Locally generated revenue to communities	50	12.5
Informal sector with enormous alternative income	60	15
Provision of industrial raw materials	20	5
<b>Total</b>	<b>400</b>	<b>100</b>

Source: Researcher, 2025

**Table 4.3: Threat to Sustainable Forest Resource Utilization**

Effects	Frequency	Percentage (%)
Investment in re-afforestation	100	25
Selective logging practices	20	5
Agroforestry adoption	10	2.5
overexploitation of forest resources	20	5
penalties for illegal logging	20	5
community participation in decision-making	30	7.5
Over-population	50	12.5
Forest conversion into farmland	80	20
Urban expansion into forest zone	40	10
Outright sale of forest for building	30	7.5
Degradation through excess users/demand	50	12.5
<b>Total</b>	<b>400</b>	<b>100</b>

Source: Researcher, 2025

## DISCUSSION OF FINDINGS

Following the interview done as well as the results of questionnaires retrieved from the study area, it

was realized that 110 respondents (27.5%) agreed that the impacts of forest resources extraction on livelihood is improvement in household income, 50 respondents



(12.5%) agreed on provision of non-timber products such as fruits, honey, or medicinal plants, 30 respondents (7.5%) on Logging/ firewood collection, 80 respondents (20%) on forest exploitation impact food security in community, 50 respondents (12.5%) on locally generated revenue to communities, 60 respondents (15%) on Informal sector with enormous alternative income job and 20 respondents (5%) on Provision of industrial raw materials. It was noted that a great number of persons derived their income from forest-based resources extraction and marketing. From the interview and information from questionnaires administered in the sampled communities. A total of 70 respondents (18.75%) generated income ranging from N10,000-50,000, 150 respondents (37.5%) generated income between N51,000-100,000, 50 respondents (12.5%) generated income between N101,000-150,000, while 60

respondents (15%) generated income between N150,000-200,000 and 70 respondents (18.75%) generated more than N200, 000. However, there were certain threats that affected sustainable forest resources utilization, chiefly over-population and urban expansion. From the result of the analysis, 100 respondents with 25% agreed that investment in re-afforestation is one of the sustainable practices and threats to forest resource utilisation, 5% on selective logging practices, 2.5% on agroforestry adoption, 5% on measures are in place to prevent overexploitation of forest resources, 5% on penalties for illegal logging, 5% on community participate in decision-making about forest conservation, 12.5% on over-population, 20% on forest conversion into farmland, 10% on urban expansion into forest zone, 7.5% on outright sale of forest for building as well as 12.5% on degradation through excess user/demand.



**Feature 1: High demand for forest resources**



**Feature 2: Forest extraction without re-planting**

## CONCLUSION AND RECOMMENDATIONS

The forestry sector in Akwa Ibom State generally is encumbered with the problem of mismanagement owing to weak implementation of policies and unwillingness to invest in forest plantation. Fewer of the existing community forest are facing unprecedented raping by humans.

The interplay of social, legal and economic conundrum infuses a setback to the productivity in forestry sector. Of course, the forestry sector is enriched with endless economic gains specifically income, revenue and value-added products and services. Continuous extraction of the benefit of forest resources without adequate and intentional investment in re-afforestation, regulated logging and consistent implementation of forest policies will lead to the disappearance of the forestry sector and its attendant effects on ecological hazards like flooding, erosion, poor air quality and many others. The neglect towards re-afforestation and forest plantation is a serious concern to the principle of sustainability which stands firm on inter-generational resource use and wealth creation. The scenario of the study area goes in contrary to international best practices in the forestry sector.

It is as a results, this study seeks to provide a better option for handling issues of unsustainable forestry practices through strategic management. It is recommended that the state agencies on forestry and land resources should provide incentive to forest investors in the aspect of private forestry, community forestry and state-managed forestry. The different layers of management will cumulatively improve upon the damage experienced in the past years. Secondly, forestry policies should be implemented as a matter of urgency to drive wealth while protecting the ecosystem from hazards. Effective collaboration, monitoring and financing in the forestry sector will open new vista for sustainable forestry sector in Akwa Ibom State.

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