# Socio-Economic Impact of Illegal Activities in Shasha Forest Reserve on the Inhabitants of Ifedayo Local Government Area, Osun State, Nigeria

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## ABSTRACT

This study examines the socio-economic impacts of illegal activities in Shasha Forest Reserve, located in Ifedayo Local Government Area (LGA), Osun State, Nigeria, with the aim of promoting sustainable forest management. Eight villages actively involved in forest-related activities were purposively selected, and 165 questionnaires were administered. Data were analyzed using descriptive statistics and logistic regression analysis.

The results showed that most respondents were males (65%) aged 40-49 years (37.5%), with a majority being married (90%) and engaged in sawmilling (49.1%). Illegal activities in the area included clearing forest land for agriculture (66.7%), unauthorized logging (66.7%), and fuelwood collection without permits (65.8%). Factors contributing to these activities included ineffective forest patrols, unemployment, poverty, and corruption.

Key socio-economic impacts were the loss of government revenue (93.3%), soil fertility reduction (89.2%), increased costs of timber (89.2%), and biodiversity loss (85%). Mitigation strategies supported by respondents included forest product dues, regular patrols, and arresting illegal loggers. Constraints in forest management included illegal grazing and poor road networks. The study emphasizes the importance of timely funding, improved road infrastructure, and stronger forest protection policies to ensure sustainable forest management and mitigate illegal activities.

(Keywords: illegal activities, forest management, socio-economic impacts, logging, sustainable management)

## INTRODUCTION

Forest ecosystems play a vital role in the sustainability of the Earth, offering a wide range of benefits. They are crucial in maintaining environmental stability, providing raw materials for wood-based industries, and supplying food and employment for millions, particularly in rural areas (Olawuyi and Agbeja, 2018). According to Ajake and Enang (2012), more than two billion people depend on forests and their resources for daily sustenance. In Nigeria, rural communities rely heavily on forests for both livelihood and security (Olawuyi, *et al.,* 2019). However, this overdependence on timber and other forest resources has contributed to illegal activities within forest ecosystems, posing significant economic and social challenges.

Illegal forest activities refer to actions that violate the legal management and conservation of forest ecosystems, including the unlawful harvesting, processing, and trading of timber and non-timber forest products (Tacconi, *et al.,* 2016). Hoare (2015) similarly defines these activities as illegal practices associated with the harvesting, processing, and trade of timber. Such activities occur without approval from the authorities managing the forest reserves. The consequences of illegal forest activities are severe, leading to extensive environmental degradation, significant revenue losses for governments, fostering corruption, and undermining the rule of law and governance (Tacconi, 2008). Moreover, these activities hinder sustainable forest development in many countries.

Illegal activities in forest reserves are increasingly threatening biodiversity conservation. The global loss of nearly half of its forests can be attributed to such practices (Owolabi, 2019). In Nigeria, forest exploitation, which includes wood, wildlife, and other forest products, has been subjected to

various forms of illegal activities. These include intense intrusion, vegetation degradation, de-reservation for agricultural use, industrialization, and urban development, all of which contribute to the rapid loss of forests and their resources (Owolabi, 2019). Consequently, nearly half of Nigeria's once forested areas are now in rapid decline. Illegal activities in some parts of the country also exacerbate deforestation rates (Ahmed and Oruonye, 2017).

## METHODOLOGY

Shasha Forest Reserve (SFR) is located between latitudes 6°55'00" and 7°1'00"N and longitudes 4°2'00" and 4°32'30"E in Osun State, South-west Nigeria, covering an area of 23,621.31 hectares, with approximately 1,559.8 hectares dedicated to forest plantations consisting of both exotic and indigenous tree species such as *Gmelina arborea, Tectona grandis, Pinus caribaea, Terminalia spp*., and *Nauclea diderichii,* while the remaining 22,061.51 hectares are covered by fragmented natural forests, experiencing annual rainfall ranging from 887mm to 2,180mm, a mean annual temperature of about 26.5°C, and a temperature range between 19.5°C and 32.5°C, with the rainy season occurring from March/April through November.

The reserve, first gazetted in 1925 under an agreement with the Ijebu Native Authority and bordered by Omo Forest Reserve to the west and Ife Native Authority Reserve and Oluwa Forest Reserve to the north and east, is divided into Areas 4 and 5, with soils consisting of ferruginous tropical red soils formed from basement complex rocks and characterized by deep clayey soils on hill crests and upper slopes and sandier hill wash soils on lower slopes.

A reconnaissance survey was carried out to determine the suitability of the study area for investigating the socio-economic impacts of illegal activities in the reserve on the inhabitants of Ifedayo Local Government Area, Osun State, Nigeria, ensuring familiarity with the location. Based on this survey, thirty-two villages were identified in the area, with eight purposively selected due to their active involvement in forest-related activities; these included Aba Olode, Aba Asaoye, Aba Jola, Ala Gbede, Oyi Araromi, Aba Ibaale, Aba Elemogun, and Safejoi II, with a total population of 1,760, and from these, a 10% sampling intensity was applied to select 165 respondents for the administration of structured questionnaires, complemented by institutional data from forest officials in charge of the reserve. For data analysis, descriptive statistics were used to identify the illegal activities, investigate factors influencing illegal activities, and determine methods for mitigating them, while logistic regression analysis was employed to evaluate the socio-economic impacts of illegal activities on the inhabitants of the study area.

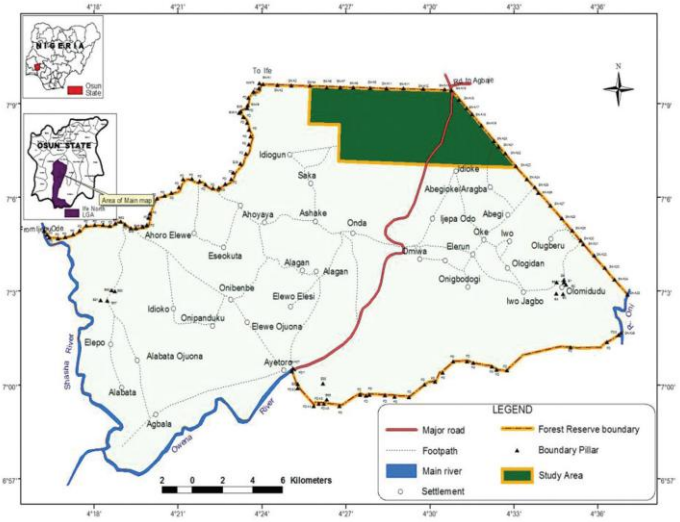


**Figure 1:** Map of Study Area.

## RESULTS AND DISCUSSION

### Socio-Demographic Characteristics

Table 1 shows the demographic characteristics of respondents in the study area. Out of the 165 respondents sampled, 120 questionnaires were retrieved. The results indicated that 65.0% of respondents were male, while 35.0% were female. This gender distribution suggests that men contribute more to illegal forest activities in the study area than women. This is in line with the findings of Olawuyi, *et al.,* (2019), who stated that men exploit more timber forest products, while women are more involved in the collection of non-timber forest products. These findings imply that men play a dominant role in illegal forest activities, such as logging and timber harvesting, which are often the focus of forest exploitation.

**Table 1:** Socio-Demographic Characteristics of the Respondents.

| Demographic Characteristics | Frequency | Percentage |
|---|---|---|
| **Gender** | | |
| Male | 78 | 65 |
| Female | 42 | 35 |
| **Age (years)** | | |
| 20-29 | 1 | 0.8 |
| 30-39 | 24 | 20 |
| 40-49 | 45 | 37.5 |
| 50-59 | 28 | 23.3 |
| 60-69 | 16 | 13.3 |
| 70-79 | 3 | 2.5 |
| 80 and above | 3 | 2.5 |
| **Marital Status** | | |
| Single | 6 | 5 |
| Married | 108 | 90 |
| Widowed | 5 | 4.2 |
| **Household Size** | | |
| 1-5 | 7 | 6.6 |
| 6-10 | 19 | 15.8 |
| 11-15 | 92 | 76.7 |
| 15 and above | 1 | 0.8 |
| **Occupation** | | |
| Farming | 7 | 5.8 |
| Trading | 18 | 15 |
| Sawmilling | 59 | 49.1 |
| Forest Officer | 18 | 15 |
| Hunting | 6 | 5 |
| Logging | 12 | 10 |
| **Education** | | |
| Informal | 0 | 0 |
| Primary | 17 | 14.2 |
| Secondary | 76 | 63.3 |
| Tertiary | 27 | 22.5 |
| **Nativity** | | |
| Indigene | 81 | 67.5 |
| Non-Indigene | 39 | 32.5 |
| **Residency Years** | | |
| 1-10yrs | 24 | 20 |
| 11-20yrs | 6 | 5 |
| 21-30yrs | 15 | 12.5 |
| 31 and above | 75 | 62.5 |

The age distribution revealed that the majority (37.5%) of the respondents were in the age range of 40-49 years, while the smallest group (0.8%) was in the 20-29 age range. This indicates that active participants in illegal forest activities tend to be older, more experienced, and physically capable. This observation aligns with Hewitt (2013), who noted that individuals in the age range of 31-50 years are more likely to engage in timber forest activities, including harvesting and processing, due to their physical stamina and experience. Consequently, young adults may be less involved, primarily because they are still in the early stages of their careers and may lack the resources or experience to participate in these activities.

Regarding marital status, the results showed that 90.0% of the respondents were married, highlighting the important role that married individuals play in forest activities. This finding suggests that most of the individuals involved in illegal forest activities depend on these activities for livelihood and sustenance, as marriage is often associated with family responsibilities and the need for economic support. This is consistent

with the observations of Garvin, *et al.* (2009), who found that most rural dwellers are married and depend heavily on forest resources for their livelihood, particularly in areas where alternative sources of income may be scarce.

The household size distribution revealed that 76.7% of respondents had households ranging from 11-15 members, while only 0.8% had more than 15 members. This suggests that larger households, particularly those with 11-15 members, are more involved in illegal forest activities. Larger families may place more demand on forest resources for sustenance and economic support, which can lead to increased exploitation of the forest. This supports the findings of other studies that indicate larger household sizes often result in a higher demand for forest products and consequently contribute more to illegal activities (Olawuyi, *et al.,* 2019).

In terms of occupation, the majority of respondents (49.1%) were sawmillers, involved in the sawing and selling of timber and other forest products, while 5.0% were hunters. The significant proportion of sawmillers in the study area suggests that sawmilling and timber trade play a substantial role in the local economy, particularly in rural areas where forest exploitation is common. This is in agreement with Ikumola, *et al.* (2016), who confirmed that sawmilling and wood trade are substantial sources of income for households in rural areas where forest exploitation takes place frequently. The involvement of sawmillers in illegal activities such as unsanctioned logging further compounds the environmental and economic challenges posed by forest resource exploitation.

The education level of the respondents showed that the majority (63.3%) had secondary education, while the least (0%) had no formal education. This suggests that most respondents are moderately educated but may not have sufficient knowledge or awareness about the importance of forest conservation and sustainable resource management. Olawuyi, *et al.,* (2019) argued that the lack of awareness about forest conservation leads many individuals to seek easy means of livelihood, including the unsustainable exploitation of forest resources. This lack of education and awareness likely contributes to the persistence of illegal forest activities in the region.

The study also revealed that 67.5% of respondents were indigenes of the area, while 32.5% were non-indigenes. This indicates that the majority of individuals involved in illegal forest activities are local residents. Local knowledge and deep familiarity with the forest may make indigenes more likely to engage in illegal forest activities, as they are often more aware of the forest's resources and have easier access to them.

Finally, the length of residency data showed that 62.5% of respondents had lived in the area for over 30 years, while only 5.0% had been residents for 11-20 years. This long-term residency suggests that the local population has a deep-rooted connection with the forest, likely influencing their participation in forest activities over extended periods. Long-term residents are often more involved in illegal forest activities due to their established relationship with the land and the resources available to them.

## Identification of Illegal Forest Activities in the Study Area

Table 2 illustrates the identification of various illegal forest activities observed in the study area, with 69.1% of respondents reporting that they have witnessed illegal forest activities, indicating a widespread prevalence of such practices in the region. The high frequency of illegal logging, with 60.0% of respondents indicating unauthorized timber harvesting, suggests that timber exploitation occurs without adherence to legal regulations, posing a significant threat to forest sustainability.

Similarly, illegal flitching, where timber is harvested and processed without authorization, was reported by 62.5% of respondents, further emphasizing the widespread nature of unlawful forest exploitation and the urgency of stronger enforcement measures to safeguard forest resources. Additionally, the report of 59.2% of respondents witnessing trespassing into protected forest areas reflects a recurring issue of unauthorized entry into conservation zones, which significantly hampers efforts to preserve forest ecosystems. The practice of charcoal production without government permits, reported by 55.8% of respondents, further exacerbates the depletion of forest resources, as charcoal production often involves the unsustainable cutting of trees, leading to soil erosion, loss of biodiversity, and altered microclimates.

**Table 2:** Identification of Illegal Forest Activities in the Study Area.

| Illegal Forest Activities | YES Freq. (%) | NO. Freq. (%) |
|---|---|---|
| Have you Witnessed Illegal Forest Activities in the Area | 83(69.1) | 37(30.9) |
| Unauthorized Timber Logging | 72(60.0) | 48(40.0) |
| Illegal Flitching in the Reserve | 75(62.5) | 45(37.5) |
| Trespassing into Forest Areas | 71(59.2) | 49(40.8) |
| Charcoal Production without Government Permit | 67(55.8) | 53(44.2) |
| Bamboo Cutting without Government Permit | 70(58.3) | 50(41.7) |
| Forest Operation without License | 67(55.8) | 53(44.2) |
| Logging in Excess of Permitted Cut | 80(66.7) | 40(33.3) |
| Fuel Wood Collection Without Government Permit | 79(65.8) | 41(34.2) |
| Unauthorized Logging tree volumes, sizes and species | 77(64.2) | 43(35.8) |
| Transporting Unauthorized Logs | 80(66.7) | 40(33.3) |
| Clearing Parts of Forest Lands for Agricultural Use | 80(66.7) | 40(33.3) |
| Harvesting Non-Timber Products from the Reserve | 1(0.8) | 119(99.2) |

Moreover, bamboo cutting without permits, reported by 58.3% of respondents, adds to the illegal harvesting activities, as bamboo, like other forest resources, is often exploited without regard for sustainability or regulation, leading to the depletion of this valuable resource, which is critical for maintaining soil integrity and supporting biodiversity. Forest operations without licenses, as identified by 55.8% of respondents, further highlight the gaps in regulatory enforcement, as such operations occur without oversight, resulting in the over-extraction of timber and other resources, which is a major contributor to forest degradation. Logging in excess of the permitted cut, reported by 66.7% of respondents, also suggests that illegal activities often exceed the limits set by regulatory bodies, leading to the unsustainable extraction of timber and further environmental damage. Fuelwood collection without government permits, reported by 65.8% of respondents, is another significant illegal activity that contributes to the depletion of forest resources, as excessive and unregulated fuelwood harvesting can lead to the degradation of forest ecosystems, affecting soil quality, water retention, and wildlife habitats. Finally, unauthorized logging of tree volumes, sizes, and species, reported by 64.2% of respondents, highlights the unsustainable extraction of forest resources, often targeting high-value or endangered species, which not only depletes biodiversity but also disrupts the ecological balance of the forest, making it more vulnerable to environmental changes and loss of species.

This finding is in agreement with Tacconi, *et al.* (2016), who stated that over 90.0% of rural dwellers rely on the forest for their livelihood, indicating the high dependency on forest resources, which fuels these illegal activities. Similarly, it aligns with Alamu and Agbeja (2011), who noted that forest-related income activities contribute to nearly one-fifth of the livelihoods of rural households in areas surrounding forests, further underscoring the significant role that forest resources play in supporting local economies, and the consequent need for greater regulation and sustainable management to prevent over-exploitation.

## Factors Contributing to Illegal Activities in the Study Area

The binary regression model obtained for factors contributing to illegal activities in the study area:

FILFA = 10.246 - 1.806HPG + 2.715POV – 22.522PI – 1.481LM + 0.723IFPP + 3.137UE – 4.235LPE + 2.66IFL + 2.61CP + 4.807IPFA --------- **(Eqn. 1)**

**Odds - Ratio (Unit Change):** Constant (28163.527), HPG (0.164), POV (15.105), PI (0.00), LM (0.227), IFPP (2.06), UE (23.034), LPE (0.014), IFL (14.292), CP (13.595), IPFA (122.333).

N = 120, Final loss = 2005.15, Chi-square (df, 10) = 50.76, p = 0.000

Where: FILFA = Factors Influencing Illegal Forest Activities, HPG = High Population Growth, POV = Poverty, PI = Political Influence, LM = Lack of Manpower, IFPP = Inadequate Funding for Patrol and Protection, UE= Unemployment, LPE = Lack of Patrol Equipment, IFL =Ineffective Forest Laws, CP= Corruption, IPFA = Ineffective Patrol in Forest Areas.

**Table 3:** Logistic Binary Nature for Factors Contributing to Illegal Activities in the Study Area.

| Independent Variables | Coefficient | Odds-ratio |
|---|---|---|
| HPG | -1.806 | 0.164 |
| POV | 2.715 | 15.105 |
| PI | -22.522 | 0.00 |
| LM | -1.481 | 0.227 |
| IFPP | 0.723 | 2.06 |
| UE | 3.137 | 23.034 |
| LPE | -4.235 | 0.014 |
| IFL | 2.66 | 14.292 |
| CP | 2.61 | 13.595 |
| IPFA | 4.807 | 122.333 |
| Model $\chi^2$ (df = 10) = -56.025* p=0.000 | | |

Dependent variable FILFA = Factors Influencing Illegal Forest Activities (Yes =1; No = 0) *= significant at p < 0.05

The logistic binary regression results presented in Table 3 reveal several key factors influencing illegal forest activities in the study area. Among the independent variables, Poverty (POV) showed a significant positive coefficient of 2.715, with an odds ratio of 15.105, indicating that households experiencing poverty are more likely to engage in illegal forest activities, as they often rely on forest resources as a means of livelihood to meet basic needs.

The variable for Unemployment (UE) also demonstrated a strong positive influence, with a coefficient of 3.137 and an odds ratio of 23.034, suggesting that the lack of alternative employment opportunities drives individuals to participate in illegal activities such as unauthorized logging and charcoal production.

In contrast, the variable for High Poverty Group (HPG) exhibited a negative coefficient of -1.806, and an odds ratio of 0.164, indicating that being part of a high poverty group does not necessarily correlate with increased illegal forest activities, possibly due to limited access or knowledge of illegal activities.

Similarly, the variable for Participation in Illegal Forest Practices (PI) had a coefficient of -22.522 and an odds ratio of 0.00, which suggests that those who do not engage in illegal practices are significantly less likely to be involved in forest-related violations.

The variable for Logging Methods (LM), with a negative coefficient of -1.481 and an odds ratio of 0.227, further highlights that inefficient or unauthorized logging techniques may discourage legal compliance or increase illegal activity within the forest.

On the other hand, Illegal Forest Product Processing (IFPP) with a positive coefficient of 0.723 and an odds ratio of 2.06, indicates that engaging in the illegal processing of forest products, such as timber or charcoal, significantly contributes to the continuation of forest-based illegalities.

Logging Permit Exemption (LPE) showed a negative relationship, with a coefficient of -4.235 and an odds ratio of 0.014, suggesting that individuals exempt from logging permits are less likely to engage in illegal logging activities, potentially due to official regulation or incentives that encourage legal compliance.

In contrast, Illegal Forest Land (IFL) with a coefficient of 2.66 and an odds ratio of 14.292, suggests that illegal encroachment into forest land, often driven by the absence of secure land tenure or forest boundaries, is a significant contributing factor to illegal activities.

The variables for Charcoal Production (CP) and Illegal Forest Product Access (IPFA) both showed strong positive correlations with illegal activities, with coefficients of 2.61 and 4.807, respectively, and odds ratios of 13.595 and 122.333. This indicates that the unregulated and unauthorized extraction of forest resources for charcoal production and the illegal access to forest products significantly contribute to forest degradation and the perpetuation of illegal forest activities in the area.

**Table 4:** Socio-Economic Impacts of Illegal Activities on the Inhabitants of the Study Area.

| Socio- Economic Impacts | Yes (%) | No (%) |
|---|---|---|
| High Cost of Living | 90(75) | 30(25) |
| Loss of Forest lands | 90(75) | 30(25) |
| Unemployment | 70(58.3) | 50(41.7) |
| Poverty | 69(57.5) | 51(42.5) |
| Rural-Urban Migration | 78(65) | 42(35) |
| Increased Cost of Timber and NTFPs | 107(89.2) | 13(10.8) |
| Loss of Revenue by Government | 112(93.3) | 8(6.7) |
| Reduction in Soil Fertility and Crop Output | 107(89.2) | 13(10.8) |
| Occurrence of Disputes and Crisis over Land | 105(87.5) | 15(12.5) |
| Loss of Biodiversity | 102(85.0) | 18(15) |

The model's overall significance, indicated by the $\chi 2$ statistic of -56.025 and p-value of 0.000, confirms that these factors are collectively influential in determining the likelihood of illegal forest activities in the study area, underlining the complex socio-economic and environmental challenges that drive such violations.

## Socio-Economic Impacts of Illegal Forest Activities on the Inhabitants

The socio-economic impacts of illegal forest activities on the inhabitants of the study area, as presented in Table 4, highlight several significant challenges faced by the local population. The high cost of living was reported by 75.0% of the respondents, indicating that the degradation of forest resources has led to increased expenses for basic commodities and services, thereby exacerbating the financial burden on households.

Similarly, 75.0% of respondents also reported the loss of forest lands, which further underscores the adverse effects of illegal activities on the environment and local livelihoods. Unemployment and poverty were also prevalent, with 58.3% and 57.5% of respondents acknowledging these issues, suggesting that illegal forest activities, such as logging and charcoal production, are symptomatic of a lack of sustainable economic opportunities in the area.

The data also revealed a high rate of rural-urban migration, with 65.0% of respondents indicating this as a consequence of the diminishing resources in rural areas, driving people to seek better opportunities in urban centers. Moreover, illegal forest activities have led to an increase in the cost of timber and non-timber forest products (NTFPs), as reported by 89.2% of respondents, which in turn has made these essential resources less accessible to local communities, contributing to higher living costs and greater economic hardship.

The loss of revenue by the government, as indicated by 93.3% of respondents, further highlights the broader economic implications of these illegal activities, reducing the funds available for public services and development in the region. This corroborated the findings of Obasi, *et al.,* (2015) who stated that the social effects of illegalities in forest areas include the loss of forest land, increased cost of wood and timber products, and loss of revenue to the government.

The reduction in soil fertility and crop output, with 89.2% of respondents agreeing, emphasizes the environmental consequences of illegal forest activities, such as deforestation and land degradation, which in turn negatively affect agricultural productivity. Additionally, 87.5% of respondents reported the occurrence of disputes and crises over land, reflecting the increased tensions and conflicts arising from the illegal encroachment and exploitation of forest areas.

Finally, the loss of biodiversity, as noted by 85.0% of respondents, underscores the ecological toll of these activities, as illegal forest exploitation disrupts local ecosystems and threatens the survival of various plant and animal species. Collectively, these findings demonstrate that the socio-economic and environmental impacts of illegal forest activities are multifaceted and deeply interconnected, creating a cycle of poverty, environmental degradation, and social conflict that significantly affects the inhabitants of the study area.

**Table 5:** Methods for Mitigating Illegal Activities in the Study Area.

| Methods | Yes (%) | No (%) |
|---|---|---|
| Awareness Campaign | 116(96.7) | 4(3.3) |
| Arrest of Illegal Loggers | 118(98.3) | 2(1.7) |
| Regular Patrol of Reserve | 118(98.3) | 2(1.7) |
| Payment of Fines by Defaulters | 116(96.7) | 4(3.3) |
| Imprisonment | 58(48.3) | 62(51.7) |
| Imposition of Law Against Illegal Acts | 101(84.2) | 19(15.8) |
| Community Participation | 110(91.7) | 10(8.3) |
| Restriction into Reserve | 117(97.5) | 3(2.5) |
| Imposition of Dues for Forest Product Collection | 118(98.3) | 2(1.7) |

## Methods for Mitigating Illegal Activities

The methods for mitigating illegal activities in the study area, as presented in Table 5, reveal a strong preference among respondents for enforcing preventive and punitive measures to curb the widespread illegal forest activities. The overwhelming majority, 96.7%, supported the implementation of awareness campaigns, recognizing the need for educating local communities about the consequences of illegal forest exploitation and the importance of sustainable practices.

Similarly, 93.3% of respondents endorsed the arrest of illegal loggers, highlighting the desire for strict enforcement of laws to deter unlawful activities. Regular patrols of forest reserves, which were also supported by 98.3% of respondents, were deemed essential in ensuring constant monitoring and intervention to prevent illegal logging and other forest-related crimes.

Additionally, the payment of fines by defaulters, supported by 96.7% of respondents, was identified as a financial deterrent to those who engage in illegal forest activities, ensuring that violators bear the cost of their actions. While imprisonment received the support of 48.3% of respondents, it was less favored compared to other measures, possibly reflecting concerns about the effectiveness and proportionality of imprisonment as a deterrent for illegal forest activities.

The imposition of laws against illegal acts was favored by 84.2% of respondents, revealing the importance of having a robust legal framework to enforce forest conversation policies. Community participation, with 91.7% support, was also recognized as a crucial strategy for addressing illegal activities, as local involvement in monitoring and reporting illegal acts fosters a sense of ownership and responsibility for protecting the forest.

The restriction of access to reserves, supported by 97.5% of respondents, further emphasizes the need for controlling unauthorized activities within protected forest areas, while the imposition of dues for forest product collection, favored by 98.3% of respondents, ensures that only legitimate and regulated harvesting of forest resources takes place. These mitigation strategies were supported by Owolabi (2019), who noted that proper forest legislation, as well as the involvement of stakeholders, will go a long way in tackling these issues.

Collectively, these findings suggest that a combination of legal, financial, educational, and community-based approaches is essential for mitigating illegal forest activities and ensuring sustainable forest management in the study area. Thus, if these methods are adopted, the chances of regaining our lost forest will increase, as emphasized by Obasi, *et al.* (2015).

## CONCLUSION

This study identifies a range of illegal activities occurring in the study area, including clearing forest land for agricultural use, transporting unauthorized logs, logging in excess of the permitted cut, fuelwood collection without

government permits, and unauthorized logging of tree volumes, sizes, and species. These illegal practices contribute significantly to the degradation of forest resources in the region. The factors contributing to these illegal activities were found to be statistically significant at $P<0.05$.

Among the most impactful factors were the Ineffective Patrol in Forest Areas (IPFA), wich emerged as the most significant variable, followed by Unemployment (UE), Poverty (POV), Ineffective Forest Laws (IFL), and Corruption (CP). These factors highlight the complex interplay between governance, economic pressures, and institutional shortcomings that exacerbate illegal forest activities.

The socio-economic impacts of these illegal practices were also evident, with significant consequences for both the environment and local communities. These impacts include the loss of government revenue, reduction in soil fertility and agricultural output, increased costs for timber and non-timber forest products (NTFPs), the occurrence of disputes and crises over land, and the loss of biodiversity. These findings underscore the broader societal and environmental costs of illegal forest exploitation.

To mitigate these illegal activities, the study suggests several strategies, including the imposition of dues for forest product collection, regular patrols of forest reserves, the arrest of illegal loggers, and restrictions on access to protected forest areas. These methods, if properly implemented, could help address the root causes of illegal forest activities, promote sustainable forest management, and protect the valuable resources of the study area for future generations.

This research highlights the urgent need for integrated policy interventions, combining law enforcement, community involvement, and economic development initiatives to effectively combat illegal forest activities and their negative socio-economic and environmental impacts.

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