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ENVIRONMENTAL AND SECURITY IMPLICATIONS OF ILLEGAL MINING ACTIVITIES IN THE IWAJOWA LOCAL GOVERNMENT AREA, OYO STATE

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Abstract

The rapid proliferation of illegal mining has led to significant ecological degradation, characterized by deforestation, soil erosion, and water pollution, adversely affecting local biodiversity, clean water and agricultural productivity globally. While numerous studies have addressed illegal mining activities in other parts of the states in Nigeria, such as Zamfara and other mineral-rich regions Adamawa, Plateau and Niger-Delta states. There has been little or no attention paid to illegal mining activities in Iwajowa local government area, a mineral rich region in Oyo state. To bridge this gap, this study aims to explore the environmental and security implications of illegal mining activities in the Itasa border community, in view, the research is designed to assess the nature of illegal mining operations in the area, examine the environmental consequences of illegal mining, security implications of illegal mining activities, and identify the socioeconomic impacts on the community. Piers Blaikie's political ecology theory served as the theoretical framework while the exploratory research design was utilized. A purposive sampling technique was employed to engage with respondents who possess relevant experience and knowledge of the subject matter. Primary data were qualitatively gathered through 14 key informants comprising Traditional rulers (4), Amotekun personnel (10), farmers (8), youth leaders (7), and miners (4). Two focus group discussions, and 25 in-depth interviews. Secondary data were obtained from various published works, including books, journals, and online articles analyzed thematically. Key findings revealed a troubling correlation between illegal mining and escalating environmental concerns, including deforestation, soil erosion, and water contamination air pollution. These activities have adversely affected local agriculture, ecological system, which threatened food security and the livelihoods of residents as well as posing significant security concerns linked to illegal mining, includes organized crime, local conflicts, theft, vandalism, and violence over resource control also the presence of non-indigenous miners has contributed to a sense of insecurity, complicating the enforcement of local regulations. Furthermore, illegal mining generates some economic activity, it also creates disparities in revenue collection. The reliance on external consultants for managing internally generated revenue (IGR) has resulted in manipulation and evasion of payments, undermining potential economic benefits for the community. The research also identified significant gaps in regulatory oversight, which allow illegal mining operations to thrive. The lack of accurate data on mining activities hampers effective governance and resource management. Illegal mining activities have caused more harm than good to the environment, security, and socioeconomic conditions of the Itasa border community The study recommends that the government should implement stricter monitoring and enforcement mechanisms to regulate illegal mining activities. As well as promoting community awareness programs about the risks associated with illegal mining, encouraging partnerships between local authorities and community members to develop sustainable mining practices that prioritize environmental protection and economic development.

Keywords: Environmental, security, Implication, illegal mining, and border community.

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Background of the Study

Illegal mining activities have emerged as a significant global concern due to their detrimental environmental and security implications. The unregulated extraction of minerals often carried out without proper authorization or adherence to environmental standards, poses profound challenges to the ecosystem, human health, and social stability. Understanding the multifaceted consequences of illegal mining is crucial for developing effective and sustainable strategies to mitigate its implications and promote responsible resource management.

Mining plays a vital role in the economy, providing essential raw materials for industries and infrastructure development. However, the rise of illegal mining activities has undermined the benefits that responsible mining practices can bring. Illegal mining also known as artisanal and small-scale mining (ASM), occurs in both developed and developing countries, often in regions rich in mineral resources but lacking adequate governance and oversight, In Indonesia, illegal Gold mining activities are considered one of the unlicensed mining phenomena and the activities is always carried out by the small scale workers without permit from the local government authority. Illegal mining in Ghana over the years has been on the rise in many areas of the country because of its appealing nature to the neglect of its negative impacts on the citizenry (Thomas, 2020).

Mining activities in addition to generating large profits for investors, of course, have a positive impact on the country and society in the surrounding environment. Besides these benefits mining activities also have negative implications, where mining activities are always synonymous with environmental damage and other problems. Environmental problems such as degradation of forests, contamination of water resources, destruction of habitats, and loss of biodiversity. The indiscriminate clearing of the forests for mining operations contributes to deforestation, resulting in the loss of carbon sinks, habitat fragmentation, and the displacement of indigenous communities. Moreover, the use of hazardous chemicals, such as mercury and cyanide, in the extraction process contaminates water bodies, jeopardizing aquatic ecosystems and posing health risks to nearby communities. Soil degradation, erosion, and the disruption of ecological balances further exacerbate the environmental footprint of illegal mining. Which cause damage and environmental disasters from year to year that are still ongoing and increasingly widespread. This condition not only causes a decrease in environmental quality but also has a very serious impact on human health (Dutu, 2016).

The Iwajowa Local Government Area (LGA) of Oyo state, Nigeria, border communities that have been significantly impacted by the proliferation of illegal mining activities. Existing research has highlighted the adverse environmental and security consequences of these illicit mining operations in various parts of Nigeria (Adekola & Lamond, 2018; Ogundipe et al., 2018; Tolu-Odukoya & Adekeye, 2020).

Studies have shown that illegal mining in Nigeria often involves the extraction of valuable mineral resources, such as gold, tin, and columbite, without proper licenses, regulations, or environmental safeguards (Adekola & Lamond, 2018; Ogundipe et al., 2018). This has led to significant ecological damage, including the pollution of water sources, soil degradation, and the destruction of fragile ecosystems that expose the local community dwellers to poverty, disease, environmental hazard and untold hardship this in turn increases the crime rate and criminal activities in the area (Tolu-Odukoya & Adekeye, 2020).

Furthermore, the influx of unlicensed miners and the presence of armed criminal groups involved in the illegal trade have exacerbated security challenges, such as violence, human trafficking, and the proliferation of small arms (Adekola & Lamond, 2018).

However, the existing literature has primarily focused on the broader implications of illegal mining in Nigeria, with limited attention paid to the specific context of the border communities in Iwajowa LGA. The unique geographical, social, and political dynamics of these border regions may contribute to distinct environmental and security challenges that warrant further investigation.

This study aims to fill this gap by conducting an in-depth examination of the environmental and security implications of illegal mining activities in selected border communities within Iwajowa LGA. The study will seek to understand the scale and nature of the illegal mining operations, their impact on the local environment and communities, and the security risks and challenges associated with these activities.

The main aim of this study is to critically analyze the environmental and security implications of illegal mining activities in the Iwajowa local government area, Oyo state the specific objectives are to

1. Assess the nature of illegal mining activities in selected border areas of Iwajowa Local Government Area (LGA) in Oyo State.

2. Investigate the environmental consequences of illegal mining activities in the selected border areas.

3. Examine the security implications of illegal mining activities in the study area.

4. Identify the socio-economic impacts of illegal mining on local communities in the selected border areas.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Conceptual Clarification

In this section, emphasis will be laid on the review of existing literature on concepts that are considered appropriate to the deep knowledge and appreciation of the topic- Environmental security implications of illegal mining activities in selected communities of Iwajowa LGA of Oyo State. Hence, concepts of environment, security, illegal mining, and border community will be examined.

Environment

The concept of "environment" has been extensively defined and discussed in the scholarly literature. Here are some key definitions and perspectives from various academic sources:

The United Nations Environment Programme (UNEP) defines the environment as "the physical, chemical, and biological factors external to a person, and all related factors that may affect the health and well-being of humans and other organisms" (UNEP, 2021). This definition emphasizes that the environment encompasses the various natural and man-made elements that interact with and impact human health, as well as the overall functioning and sustainability of life on Earth. The definition also outlines the interconnectedness of the various components that make up the surroundings of an organism, including the natural world as well as human-built environments and this conceptualization is supported by ecological systems theory, which posits that organisms exist within a multi-layered system of influences, from the immediate physical and social settings to broader cultural, economic, and political contexts (Bronfenbrenner, 1979; Gifford, 2014). Additionally, the field of environmental psychology has established that the environment, both natural and constructed, has a significant impact on human health, behaviour, and well-being (Stokols, 1992; Gifford, 2014). In summary, the UNEP's definition of the environment reflects the current scientific understanding of the complex, interrelated factors that make up an organism's surroundings and that profoundly shape its development and functioning.

Security

The term Security is a multifaceted and extensively debated concept in the fields of political science, international relations, and security studies. Over the years, scholars have proposed various conceptualizations and frameworks to understand the complex and evolving nature of security. Before the end of the Cold War, scholars had a traditional state-centric definition of security that emphasizes the protection of the territorial integrity and sovereignty of nation-states from external military threats. This perspective is rooted in realist theory, which sees the state as the primary referent object of security and focuses on the use of military authority, power and national defence strategies to maintain and ensure the survival and safety of the state (Waltz, 1979; Mearsheimer, 1994). However, the end of the historic event in the world the Cold War and the emergence of new global challenges have led to the broadening and deepening of the security concept for these scholars (Krause & Williams, 1996). The "human security" paradigm, championed by the United Nations Development Programme (UNDP, 1994), shifts the focus from the state to the individual, emphasizing the protection of people's vital freedoms and the fulfilment of their basic needs, such as freedom from fear, freedom from want, and freedom to live in dignity. Building on this, the "comprehensive security" approach acknowledges the multidimensional nature of security, encompassing not only military and political aspects but also economic, social, environmental, and human dimensions (Buzan et al., 1998). Added that this framework recognizes that security threats can emanate from various sources, including natural disasters, disease outbreaks, resource scarcity, and societal instability, and requires a holistic, multi-stakeholder response (Barnett, 2001).

Illegal mining

Illegal mining also known as artisanal and small-scale mining (ASM), can be defined in various ways across different academic disciplines and regulatory frameworks. Firstly before stating the various conceptual clarifications of illegal mining, it is necessary to have an understanding of the concept of legal mining. The issue of legal or illegality is a function of the existing regulations and laws guiding that environment and the forces regulating the sector. In Nigeria for instance, the federal government is in charge of all the mineral resources within the country and therefore promulgated the law banning any private individual or group of individuals from mining such minerals without being licensed by the appropriate government agencies.

A private miner intending to be licenced is expected to be registered and certified by the Corporate Affairs Commission Abuja and also to apply for a mining lease from the Federal Ministry of Solid Mineral Development, the application is to be accompanied by appropriate survey sketch plans describing the location and the area coverage of the proposed mining site. The agency therefore determines and directs the appropriate amount to be paid to the government. (jaiye, 2013).

Illegal miners generally are not educated and are ill-informed about the procedural approach to mining activities within the country. The illegal miners are not ignorant of the existing laws but deliberately ignore such laws with impunity and sometimes with assistance from corrupt officers of federal agencies (Ojonimiel, al 2021)

According to Haselip and Hilson (2005), illegal mining can be defined as mineral extraction and processing activities that are carried out without the requisite licenses, permits, or government approval, or that contravene national mining laws and regulations. This definition analyses key aspects of illegal mining: Lack of licenses, permits, or government approval Illegal mining activities are undertaken without the necessary licenses, permits, or

other forms of official authorization from the relevant government authorities and contravention of national mining laws and regulations: Illegal mining involves the extraction and processing of minerals in ways that violate the provisions of the country's mining laws, regulations, and other legal frameworks.

Border

Borders are the geographical and political boundaries that define and demarcate the territorial limits of a sovereign state or other political entity (Paasi, 2011). Borders serve to identify and differentiate one jurisdiction from another, establishing the spatial extent of a state's authority and control (Newman, 2006). Newman's conceptualization of borders emphasizes geographical and political boundaries, for him, Borders are both physical and geographical features as well as political constructs that delineate the territorial extent of a state or jurisdiction. (Prescott, 1987) describe a border as a geographic area along the edge of a political or administrative unit, such as a country or state, that forms the boundary of the unit."Prescott's definition analyses the following key aspects of borders as spatial dimensions the author conceptualized borders as geographical areas or zones, rather than just linear demarcations.

According to (Abiodun, 2021), a border is an international line or a region encompassing both sides of a political boundary. For him, Border's other way round means artificially constructed, geographic lines that form the boundary of a state or nation. Borders are described to be integral components of human activity and organization. Borders are usually a central element in contemporary international disputes relating to security, migration, trade, and natural resources, and they also factor prominently into local debates over land use and property rights. In the vein of Paasi (2005), borders are physical and symbolic markers that differentiate between 'us' and 'them', defining both individual and collective identities." Geopolitics, a border is a trade mark where business transactions are carried within states (Rajaram, & Grundy 2007). The concept of a border can be defined as follows; borders are not just physical or geographical demarcations between nation-states but are social, and political, and cultural constructs that shape the inclusion and exclusion of individuals and groups.

Concept of Border Communities

The concept of border communities can only be understood when the actual meaning of a community is adequately deciphered. To fully comprehend the concept, there is a need to first understand what a „community" signifies. A community is defined to be a social unit, that is, a group of people living together with commonalities such as norms, religion, values, customs, and identity (Hawley, 2005). However, it is observed that communities share a sense of place situated in a given geographical location – it could be a country, village, town, or neighbourhood or in a virtual space through communication platforms. In the same vein, the durable relations that extend beyond direct genealogical ties also characterize a sense of community, important to their identity, practice, and roles in social institutions such as family, home, work, government, society or humanity at large (Hawley, 2005). However, Mezzadra, and Neilson (2013) describe border communities as a place where the power of the nation-state to regulate inclusion and exclusion is most acutely felt. They are spaces of social marginalization and exclusion, where certain populations are denied full citizenship and rights.

Review of Existing Literature on Illegal Mining

Mining and the Environment

Mining activities are intrinsically linked to significant environmental degradation, impacting ecosystems, water quality, and local communities. The empirical evidence from various studies highlights the multifaceted consequences of mining operations, emphasizing the urgent need for sustainable practices and robust regulatory frameworks. Mining, particularly small-scale operations, has been shown to cause extensive land degradation. Hilson (2002) articulates that mining practices often lead to deforestation and habitat destruction, resulting in biodiversity loss. The disruption of ecological balance threatens numerous species, as their natural habitats are destroyed. This is particularly pronounced in regions with weak regulatory oversight, where small-scale miners operate with minimal environmental constraints.

In Ethiopia, Asantewaa et al. (2019) conducted a detailed case study revealing severe environmental repercussions from gold mining, including soil erosion and deforestation. Their findings indicate a pervasive lack of awareness among local communities regarding the long-term environmental impacts of mining, complicating the implementation of sustainable practices. The study calls for targeted educational initiatives to raise awareness and promote environmentally responsible mining.

The contamination of water resources is one of the most immediate and significant impacts of mining activities. Baird et al. (2018) report that mining operations often lead to the leaching of hazardous substances, such as heavy metals and cyanide, into both surface and groundwater. This pollution poses serious health risks to local communities that depend on these water sources for drinking and agriculture. A systematic review by Novianantya et al. (2017) further illustrates the hydrological impacts of mining, noting alterations in water flow patterns and increased sedimentation. The authors advocate for the development of effective water management strategies to mitigate these adverse effects, emphasizing the need for ongoing monitoring and regulation to protect vital water resources.

Mudd (2007) emphasizes that effective regulatory frameworks are crucial for promoting sustainable mining practices. His research indicates that regions with stringent regulations achieve better environmental protection outcomes, highlighting the role of governance in mitigating the negative impacts of mining. However, Nuss and Eckelman (2014) explore the potential of life cycle assessments to guide sustainable mining practices. Their findings suggest that adopting cleaner technologies and comprehensive waste management strategies can significantly reduce the environmental footprint of mining operations. The authors advocate for a shift towards practices that prioritize sustainability, underscoring the importance of innovation in the mining sector. Aas et al. (2015) argue for a balanced approach that considers both economic development and environmental protection. Their research highlights the necessity of involving local communities in decision-making processes, as community engagement can lead to better environmental outcomes and increased accountability from mining companies.

Sosa and Sucu (2015) further emphasize the importance of community involvement in mining projects. Their findings demonstrate that when local populations participate in decision-making, it fosters more sustainable practices and enhances the overall well-being of affected communities. This community-based approach not only addresses environmental concerns but also supports socio-economic development.

While Jaije (2013) also examine the environmental destruction and ecological flow caused by illegal mining activities the author stated the vast effect of uncontrolled and environmentally

hostile mining practices, particularly in the context of gem and gold extraction. The author noted that large numbers of gen and gold diggers come together in specific localities to engage in these activities. The scale and mobility of these operations make it difficult for authorities to effectively monitor and enforce the environmental regulations, contributing to the uncontrolled nature of the mining activities, according to the author these illegal activities serious environmental degradation and pollution including pollution of soil and rivers and, particularly through the use of mercury and cyanide in gold mining processes. The author added that this environmental destruction caused by unauthorized mining is often accompanied by pronounced social tensions between the various interest groups. The study however did not look into the insecurity and security implications of this great enemy of national development caused by the state and country's natural resources. Adeoye's (2015), study provides a comprehensive assessment of the environmental and socioeconomic impacts of gold mining in Ijesaland, Nigeria. The research employed a multi-faceted approach, utilizing GPS, field observations, remote sensing data, surveys, and focus group discussions to examine the forms, levels, and spatial patterns of land degradation, as well as the effects on local livelihood. The study identified 354 active mining pits across 37 mining sites, with an average depth of 3.4 meters. The total area of degraded land was estimated to be around 25.8 hectares. And the analysis of Landsat imagery revealed significant changes in land use and land cover due to the mining activities, indicating the spatial extent of environmental impacts. The study reveals that illegal mining activities introduced both positive and negative effects on the local communities. While it provided economic opportunities, it also led to adverse environmental consequences that threatened the traditional livelihoods of the people.

Amosu, el, al (2020) described the significant solid mineral resources that Nigeria is endowed with, including tin, copper, bauxite, diamond, and gold, which have the potential to attract investors and boost economic growth in the country. However, the authors note that this potential is being undermined by constant illegal mining activities, often carried out by foreigners believed to be sponsored by wealthy individuals. According to these scholars, the issue of illegal mining in Nigeria is not new it only gained prominence after the country's independence in 1960. The authors estimate that the Nigerian government may have lost approximately N4 billion (over $12 million) in three years due to the illegal practices and corrupt activities of companies operating in the mining sector. This significant financial loss calls for the need for stronger regulatory frameworks and enforcement measures to address the issue of illegal mining. The article's focus on the loopholes and ways to curtail the activities of illegal mining in Nigeria is timely and relevant. The authors rightly point out that the lack of effective policies and enforcement measures has been a major contributor to the persistence of illegal mining in the country. By addressing these gaps, the government can aim to protect its natural resources, generate revenue, and create a more attractive investment climate for legitimate mining operations.

Security Impact of illegal Mining

According to the study another dangerous angle to illegal mining, in the mining communities is armed conflict, banditry, crime, widespread violence and kidnapping due to gang rivalry over the resources of mining. The Inspector General of Police in Nigeria banned mining in Zamfara State (two) years ago. Over 80% of illegal mining for Gold escalated to the point where all mining activities in the State were discontinued and halted on the orders of the IG (Inspector General of Police). Nonetheless, conflict, violence, and death as a result of illegal mining operations continue to thrive which supports and encourages illegal migration from all over West Africa. Forward more study cited the case of West Africa, how illegal mining created a lot of problems in Liberia, Sierra Leone and the Republic of Congo several years ago; as a result of the incessant smuggling of Diamonds that became the albatross of Sierra

Leone that resulted in armed conflict, bloodshed and heavy losses in tax revenues. Rebels sold Diamonds in Sierra Leone in the 1990s, from the areas they controlled, at the height of the civil war, in what became the ―Blood Diamonds saga known to the world as the purchase of arms. This illegal export of Diamonds was estimated by the United Nations to be worth about $125 million each year.

Orji and Nwosu (2013) investigate the environmental, livelihood, and social impacts of illegal mining activities in Ebonyi State, Nigeria. The authors note that the unfettered expansion of illegal mining operations in the region has led to significant environmental degradation, including the destruction of agricultural lands, deforestation, water pollution, and the release of toxic substances into the local ecosystem. These adverse environmental impacts have had severe consequences on the livelihoods of local communities, which are heavily dependent on agriculture, fishing, and other natural resource-based economic activities (Orji & Nwosu, 2013). The disruption of these traditional livelihoods has created economic hardship and tensions within communities, contributing to the emergence of conflicts over access to depleted natural resources. The paper argues that the lack of effective regulation and enforcement by the Nigerian government has allowed illegal mining activities to proliferate unchecked, exacerbating environmental and social problems (Orji & Nwosu, 2013).

Empirical Review

The founding of Mensah et al (2015) in their study conducted on the Environmental Impacts of Mining in Ghana, provides valuable insights into the environmental impacts of mining activities in Ghana, with a focus on the Prestea region in the western part of the country. The researchers employed a multi-pronged approach, utilizing both primary and secondary data sources, including field observations, interviews with mining communities and government officials, and reviews of relevant policies and literature. One of the key findings of the study is the significant environmental degradation caused by mining, particularly illegal small-scale mining, known as "galamsey." The researchers found that mining activities have led to the depletion and pollution of water resources, such as major rivers in the region. The land surrounding the mines has also been rendered barren and susceptible to increased erosion, reducing its viability for agricultural and other uses. Additionally, the clearing of vegetation for mining has adversely affected hydrological regimes and patterns in the western region of Ghana.

The study by Mensah et al. (2015) demonstrates the comprehensive and empirical examination of the environmental impacts of mining in Ghana, particularly in the Prestea region. The findings underscore the urgent need for a more sustainable and environmentally conscious approach to mining activities in the country, with a focus on mitigating the detrimental effects on water resources, land, soil, and the overall ecosystem.

Michael (2015) in the work "Extractive Industries and Conflict" has made a significant contribution to our understanding of the relationship between the extraction and production of natural resources, such as oil, gas, and minerals, and the outbreak and duration of violent conflicts. The central argument made by Ross is that the presence of valuable natural resources in a country can increase the risk of civil war, secessionist movements, and other forms of armed conflict. Also, Extensive empirical research has provided substantial support for the key claims made in this discovery. Studies have documented various mechanisms through which extractive industries can fuel conflict, including the "resource curse" (where resource wealth leads to slower economic growth and weaker institutions), the "rentier effect" (where resource wealth allows governments to buy off potential challengers the "opportunity effect" (where the promise of resource wealth incentivizes rebel groups to fight for control,

and the "grievance effect where unequal distribution of resource wealth and environmental degradation generate resentment among local communities (Ross, 2015; Collier & Hoeffler, 2004; Le Billon, 2001). For example, research on civil wars in sub-Saharan Africa has found that the presence of oil and other valuable minerals is a significant predictor of the outbreak and duration of armed conflicts, even after controlling for other factors (Humphreys, 2005; Lujala, 2010). Similarly, studies on secessionist movements have shown how the unequal distribution of resource wealth and environmental damage caused by extraction can fuel separatist sentiments and violent conflicts (Fearon & Laitin, 2003; Ross, 2004).

The empirical evidence presented in Ross's work and the broader literature has been influential in shaping policy debates around the governance and regulation of mining industries, especially in developing countries. Policymakers and development agencies have increasingly recognized the need for more effective mechanisms to manage resource wealth, ensure equitable distribution of benefits, and mitigate the potential for conflict (EITI, 2019; World Bank, 2020). The extensive body of empirical research that has emerged since the publication of "Extractive Industries and Conflict" has validated the study arguments and underscored the critical importance of understanding the complex relationships between natural resources, political power, and violent conflict.

San (2003) in his work Shattered Habitats: The Hidden Cost of Nigeria's Illegal Mining Epidemic on Endangered Wildlife" states a well-documented assessment of the devastating impact that illegal mining activities have had on Nigeria's endangered wildlife populations and their fragile habitats. As a conservation biologist who has conducted extensive field research across Nigeria over the past decade, Sani's work offers invaluable insights into this critical environmental crisis. The researcher emphasizes the alarming scale of the illegal mining problem, estimating that there are now over 500,000 active illegal mining sites across the country, many of which are located within protected areas and critical wildlife habitats. This large-scale destruction and fragmentation of Nigeria's forests, savannas, and wetlands have had devastating consequences for endangered species, as documented in multiple empirical studies. For instance, Sani's field data and population surveys reveal a dramatic decline in the population of iconic Nigerian species, such as the Nigerian chimpanzee, the Cross River gorilla, and the African elephant (Sani, 2023). These findings are consistent with previous research that has highlighted the threats posed by habitat loss and degradation to the survival of these and other threatened species in the region (Oates et al., 2016; Dunn et al., 2014).

Gap in the Reviewed Literature

The above-reviewed works of literature have highlighted their various views and contributions to the body of knowledge on the environmental and security implications of illegal mining activities. Most of the reviewed works concentrated more on the socio-economic impacts both positive and negative side effects and the environmental implications of illegal mining activities in Nigeria and other West African states with no and little emphasis on the security implications of mining activities on the local communities dweller and how this activities promote cross-border crimes conflict, and tensions as a result of resource competition and claiming of this land where minerals resource are found without addressing specifically the peculiar case of Isata border community of Iwajowa LGA of Oyo State. On this note, this study's purpose is to fill the observed gaps in the preceding studies by critically interrogating the environmental and security implications of illegal mining activities in the selected communities of Iwajowa LGA of Oyo state Nigeria. This will be facilitated by situating this in an applicable theoretical framework, which is considered subsequently.

Theoretical Framework

Several theories could be used to situate the study on the environmental and security implications of illegal mining activities in selected border communities of Iwajowa LGA of Oyo state. Human Need theory, systemic theories, Structural and functionalism theory Frustration Aggression theory and Political Ecology theory, the study anchored on the political ecology theory propounded by Piers Blaikie, Harold Brookfield and Micheal Watts ((1980). Neumann, (2009) points out that political ecology theory emerged as an interdisciplinary field that examines the complex relationship between environmental problems using the concepts and methods of political, economic and social factors, and their influence on the environment and natural resources are used. The distribution of environmental costs and benefits is uneven, often disproportionately affecting marginalized communities. A central premise of the field is that ecological change cannot be understood without consideration of the political and economic structures and institutions within which it is embedded.

The nature–society dialectic is the fundamental focus of analysis. Marxian political economy provided the initial primary theoretical influence, while the development of post-structural social theory and nonequilibrium ecology infused new ideas and concepts in subsequent years. A range of methodological approaches characterize political ecology theory including multiscalar analysis, political-economic analysis, historical analysis, ethnography, discourse analysis, and ecological field studies. Political ecology theory of nature-society relations has explicitly linked capitalist development with ecological change across multiple temporal and spatial scales. The field has been an important source of critical analyses of the social and ecological effects of economic development and conservation initiatives, focusing particularly on the material and discursive aspects of property rights. The theory has been criticized for being overly focused on macro-level political and economic forces, sometimes neglecting the agency and perspectives of local communities. There are concerns about the theory's ability to fully capture the complexity of environmental issues, which can involve a multitude of interconnected factors.

Some argue that the theory lacks a clear, unified methodology and can be difficult to operationalise in empirical research. Robbins, P. (2012). Political Ecology: A Critical Introduction, Robbins acknowledges that while political ecology has made significant contributions to understanding environmental issues, the theory has been criticized for its lack of methodological rigour and its tendency to oversimplify complex socio-ecological systems. While Vayda and Walters (1999) argue that political ecology often fails to adequately consider the role of non-political factors, such as natural processes and individual agency, in shaping environmental outcomes Forsyth (2003) critiques political ecology for sometimes relying too heavily on environmental science that is itself politically and socially constructed, leading to biased interpretations of environmental problems. - Neumann suggests that political ecology has been overly focused on the politics of environmental degradation while neglecting the politics of environmental conservation and restoration. Batterbury and Fernando (2006). Point out that political ecology has not adequately addressed the complexities of multi-scalar governance and the impacts of decentralization on environmental management. These critiques highlight the need for political ecology to continue evolving and addressing its methodological and conceptual limitations to provide a more comprehensive understanding of the political, social, and environmental dynamics at play

The Political Ecology Theory is highly relevant to the issue of illegal mining in Nigeria's border communities. Because it provides a framework for understanding how political,

economic, and social dynamics contribute to environmental degradation and security challenges in these regions. The theory helps to analyze how the uneven distribution of power, wealth, and access to natural resources creates incentives for illegal mining activities and how these activities in turn exacerbate environmental and security problems. The theory also sheds light on the role of the state, multinational corporations, and other powerful actors in shaping the landscape of illegal mining and its consequences for local communities by adopting a political ecology approach, the research moves beyond a purely technical or environmental perspective and address the underlying social, political, and economic factors that enable and perpetuate illegal mining in Nigeria's border regions.

The Political Ecology Theory offers a comprehensive and nuanced lens through which to examine the multifaceted challenges posed by illegal mining activities in Nigeria's border communities

METHODOLOGY

This study adopted the exploratory research design while the qualitative data will be generated from primary and secondary sources through interaction with selected stakeholders, Ministry of Environment staff, Traditional rulers, Nigeria police force officials, and the local small-scale miners.

Findings

The study reveals that illegal mining activities in the Itasa community have precipitated significant environmental degradation. Key findings indicate that mining operations lead to deforestation, soil erosion, and water pollution, adversely affecting local ecosystems and agricultural productivity. Residents report that toxic runoff from mining sites contaminates nearby water sources, posing health risks to the community and threatening agricultural yields. The study shows that habitat degradation from mining operations is responsible for a significant drop in local biodiversity. Natural resources needed for subsistence farming and traditional activities become less available when flora and animals that are crucial to the community's ecological balance are lost.

According to the analysis, there is a direct link between growing security issues in the Itasa community and illicit mining. The existence of organized crime groups engaged in illicit mining intensifies conflict and violence, especially between rival groups vying for control of profitable mining locations. The atmosphere of fear created by these confrontations weakens communal ties and discourages reasonable financial investments. While illegal mining may provide short-term economic benefits, the long-term socio-economic consequences are profoundly detrimental. The community's reliance on illegal mining perpetuates poverty and marginalizes youth, who are drawn to these activities due to a lack of legitimate employment opportunities. This dependence fosters a cycle of insecurity and economic instability, further complicating the community's developmental prospects.

The study emphasizes how strong regulatory frameworks are essential for efficiently overseeing mining operations. The negative effects of illicit mining must be lessened by enhancing law enforcement and encouraging community involvement. Furthermore, to allow community members to engage in legal economic activity while protecting the environment, the study promotes the creation of alternative livelihood programs that prioritize sustainable methodologies.

5.2 Recommendation

To effectively address the root causes of illegal mining activities in the Itasa border community and mitigate their environmental, security, and socio-economic impacts, a collaborative approach involving the Itasa community, the Ministry of Mining and Steel, and

non-governmental organizations (NGOs) is essential. The following recommendations emphasize promoting environmental sustainability and enhancing community resilience:

i. Integrated Community Development Programs: government and the illegal mining companies operating in Itasa should initiate comprehensive community development initiatives that tackle the socio-economic drivers of illegal mining. These programs should focus on providing education, vocational training, and access to microfinance, enabling residents to pursue sustainable livelihoods. By equipping community members with essential skills and resources, reliance on illegal mining can be significantly diminished
ii. Strengthening Regulatory Frameworks: The Ministry of Mining and Steel should enhance regulatory frameworks governing mining activities to incorporate stringent environmental protection measures. This includes enforcing penalties for illegal mining, requiring environmental impact assessments for all mining operations, and mandating land reclamation practices. A transparent and accountable regulatory environment will deter illegal activities and promote responsible mining.
iii. Enhanced Law Enforcement and Community Policing: Strengthen law enforcement efforts to combat illegal mining through community policing initiatives. By involving local leaders and residents in surveillance and reporting mechanisms, a sense of collective responsibility can be fostered. Training law enforcement personnel on the socio-economic and environmental implications of illegal mining will equip them with a comprehensive understanding of the issues at hand.
iv. Promotion of Sustainable Mining Practices: Collaborate with NGOs to advocate for sustainable mining practices within the community. This includes providing training for miners in environmentally responsible techniques and encouraging the adoption of technologies that minimize ecological impact. Workshops and knowledge-sharing sessions can empower local miners to transition to legal and sustainable operations.
v. Establishment of Environmental Monitoring Committees: Form local environmental monitoring committees composed of community members, government representatives, and NGO personnel. These committees will be tasked with monitoring mining activities, assessing environmental impacts, and ensuring compliance with regulations. Engaging the community in this process will enhance transparency and foster a sense of ownership over local resources.
vi. Public Awareness and Advocacy Campaigns: Launch public awareness campaigns to educate the community about the detrimental effects of illegal mining on the environment, security, and socio-economic stability. These campaigns should highlight success stories of sustainable practices and the benefits of engaging in legal mining activities. Increased awareness can galvanize community support for initiatives aimed at combating illegal mining.

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