New Models for Eradicating Unsustainable Exploitation of Extractive Resources and Its Impact on the Host Communities in Nigeria

Oluyemi O. Fayomi, PhD, Olalekan W. Adigun, PhD and Zainab Abdulwahab Zubair, PhD

NEW MODELS FOR ERADICATING UNSUSTAINABLE EXPLOITATION OF EXTRACTIVE RESOURCES AND ITS IMPACT ON THE HOST COMMUNITIES IN NIGERIA

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ABSTRACT

This article investigates the environmental, economic, and community impacts of unsustainable resource exploitation on Nigerian host communities. The paper looked into developing techniques for addressing the hazards caused by unsustainable extractive resource exploitation, including regulatory gaps, governance challenges, existing laws, and policy possibilities. Based on a thorough literature review and desk research, the article identifies weak regulatory enforcement and compliance as major issues for host communities. The study also observes that, while legislative measures like as the Petroleum Industry Act (PIA) 2021 and the Nigerian Minerals and Mining Act (NMMA) 2007 provide a legal framework for controlling extractive industries, their implementation has usually been fraught with difficulties. The paper also mentions how the Nigerian government's environmental cleanup and restoration programs, community-based natural resource management, and oil companies' corporate social responsibility (CSR) efforts have all contributed to alleviating some of the negative consequences. However, such initiatives typically fail due to incomplete integration and enforcement. To address the difficulties, we offered two policy options: a citizen-centric technology system and the localization/domestication of extractive methods.

Keywords: citizen-centric technology; system; host communities; unsustainable; extraction.

1. INTRODUCTION

The unsustainable use of extractive resources is one of Nigeria's largest socioeconomic and political challenges since its independence in 1960. Some of these resources include oil, gas, and minerals, which are extensively scattered over the federation, including the Federal Capital Territory. These practices, known as unsustainable extraction, have been shown to deplete the

country's precious natural resources while also harming the environment, local economies, and host populations.

The extractive industry has contributed the most to Nigeria's GDP over the last four decades, accounting for over 65% of government revenue and more than 85% of total exports[1]. Despite this, numerous host communities have had to deal with the consequences of unregulated, unsustainable extraction activities in their areas.[2]

Several reports have recently surfaced of unsustainable use of extractive resources, including illegal gold and mercury mining in Northern states like Zamfara and Plateau, with severe implications for both the environment and host communities.[3] [4] According to recent assessments[5], around 80% of Nigeria's mining resources are unlawfully extracted, exposing host communities to violence[6] or, if allowed unchecked, might have disastrous effects.

This practice is not just restricted to the North or any section of the country alone. It is a nationwide practice across the country little data and deterrent

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1 EITI, 'Nigeria 2021 EITI Report - Mining' (2023) https://eiti.org/countries/nigeria
2 Olusola Joshua Olujobi and Oshobugie Suleiman Irumekhai, 'Strategies and Regulatory Measures for Combatting Illicit Mining Operations in Nigeria: A Comprehensive Legal Perspective' (2024) 88 Resources Policy 104459 https://doi.org/10.1016/j.resourpol.2023.104459
3 M Ogbonnaya, 'How Illegal Mining is Driving Local Conflicts in Nigeria' (2020) ENACT Africa https://enactafrica.org/enact-observer/illegal-mining-drives-nigerias-rural-banditry-and-local-conflicts
4 Ahmed F. Ali, Amina S. Abdullahi, Aminu S. Zangina 'Environmental Issues and the Prospects of Mining in Nigeria' (2018) Dutse Journal of Pure and Applied Sciences (DUJOPAS), Vol. 4 No. 2; 531-539
5 Ogbonnaya, M.,'How Illegal Mining is Driving Local Conflicts in Nigeria' (2020) ENACT Africa https://enactafrica.org/enact-observer/illegal-mining-drives-nigerias-rural-banditry-and-local-conflicts
6 Olalekan W Adigun, 'Communal Violence in Nigeria, 2014–21: Mapping, Modeling, and Trends' (2023) 13 African Conflict and Peacebuilding Review 1-31 https://muse.jhu.edu/article/912736

measures in place to checkmate this unwholesome practice[7]. More notable is the fact that most perpetrators small-scale actors with little or no capital and equipment to carry out extractive activities (ibid) which in some cases have the involvement of host communities. The United Nations Development Programme (UNDP) found out that about 87.5 percent of the operators are small and medium-scale miners, while 12.5 percent are large enterprises.[8]

Foreign actors, including Chinese miners and those of neighbouring West African countries, have been fingered in unsustainable extractive activities in Nigeria.[9] It was this realization that led the Nigerian Government to announce a drastic ban on illegal mining in Zamfara state in March 2021 with a declaration of a 'no-fly zone'[10] *albeit* with little results. In a country whose extractive industry is largely dominated by a history of organised violence, systemic corruption, and unchecked environmental degradation, hence, the host communities bear the brunt. Some of the effects include environmental pollution, displacement of communities (in whole or part), and socio-economic discontent.

The current regulatory frameworks and industry practices including the Environmental Impact Assessment Act 1992, Nigeria Minerals and Mining Act (NMMA) 2007, Nigeria Extractive Industry Transparency Initiative (NEITI) Act 2007 and Petroleum Industry Act (PIA) 2021 – aimed at curbing these unsustainable extractive activities have proven to be largely inadequate in addressing these challenges, necessitating a fresh perspective and proactive measures, especially for the host communities.[11]

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7   Olusola Joshua Olujobi and Oshobugie Suleiman Irumekhai, 'Strategies and Regulatory Measures for Combatting Illicit Mining Operations in Nigeria: A Comprehensive Legal Perspective' (2024) 88 Resources Policy 104459 https://doi. org/10.1016/j.resourpol.2023.104459

8   United Nations Development Programme, Framework for Harnessing the Extractive Industries for Inclusive Growth and Development in Nigeria (UNDP 2014)

9   Olujobi & Irumekhai 2024, Adigun 2023, Ogbonnaya 2020
     10 Abolade, L. (2021, March 2) Why FG banned mining activities in Zamfara ICIR https://www.icirnigeria.org/why-fg-banned-mining-activities-in-zamfara/

11   Bethel Uzoma Ihugba and Sergius Nnamdi Okoro, 'Evaluation of the Legal Framework for Promoting Sustainable Development in the Extractive Host Communities in Nigeria' (2017) 8 Afe Babalola University Journal of Sustainable Development, Law & Policy 354-377

This study aims to explore innovative approaches and new models to eradicate unsustainable exploitation and mitigate its impacts on the host communities in Nigeria.

2. RELATED LITERATURE

2.1 Environmental Degradation and Ecosystem Disruption from Unsustainable Extraction of Resources

Xiong, Guo, Nor, Song, and Dai[12] examined the impacts of unsustainable mineral resource depletion and environmental degradation on natural resource uses in China. They observed an inverse relationship between mineral resource depletion and natural resource rents with significant effects on the host communities. They further noted that unchecked mineral extraction activities cause significant damage to the host communities' environment, polluting land, and water.

In the study carried out in Ethiopia, Wassie[13] noted that overexploitation of resources poses direct threats to the livelihoods and survival of local populations. The study further noted that poorly managed natural resources and ecosystems 'are likely exposing the population to long-term socio-economic risks and would have cataclysmic effects on environmental sustainability'.[14]

Factors such as ecological footprints, international migrant stocks, industrial value-added, and population growth substantially lead to unsustainable extraction of resources[15] with serious environmental consequences. To effectively mitigate this, some scholars have recommended the establishment

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12 Y. Xiong, H. Guo, M.Md. Nor, A. Song and L. Dai, 'Mineral Resources Depletion, Environmental Degradation, and Exploitation of Natural Resources: COVID-19 Aftereffects' (2023) 85(Part A) Resources Policy 103907 https://doi.org/10.1016/j.resourpol.2023.103907.

13 S.B. Wassie, 'Natural Resource Degradation Tendencies in Ethiopia: A Review' (2020) 9(33) Environmental Systems Research https://doi.org/10.1186/s40068-020-00194-1.

14 ibid

15 T-C Lee et al, 'Managing Natural Resources Through Sustainable Environmental Actions: A Cross-Sectional Study of 138 Countries' (2021) 13 Sustainability 12475 https://doi.org/10.3390/su132212475

of conservation areas set aside for protecting and managing natural resources[16].

Among the socio-economic challenges faced by host communities affected by unsustainable extraction activities include a decline in the overall productivity of the mining sector, which is a crucial driver of economic growth, significant revenue losses for the government, and economic inequalities in mining-affected communities.[17]

Unsustainable extraction activities affect the quality of the governance institutions and human development sectors such as the health and education of host communities[18]. The study which was carried out in 42 countries of which 23 were selected from Africa concludes that there will be a need for the government to minimize the negative impacts of these unsustainable extraction activities on the environment and health sectors especially in host communities.[19]

2.2 Regulatory Gaps and Governance Issues
The extraction of natural resources has long been a cornerstone of economic development, particularly in resource-rich countries; nevertheless, a lack of strong regulatory frameworks and governance structures sometimes leads to unsustainable extraction methods, which harm host communities[20] [21]. Lamas[22]

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16 Jiannan Wang and Waseem Azam, 'Natural Resource Scarcity, Fossil Fuel Energy Consumption, and Total Greenhouse Gas Emissions in Top Emitting Countries' (2024) 15 Geoscience Frontiers 101757 <https://doi.org/10.1016/j.gsf.202

17 Samuel Asuamah Yeboah, 'Digging Deeper: The Impact of Illegal Mining on Economic Growth and Development in Ghana' (2023) MPRA Paper No 117641

18 Issaka Dialga and Youmanli Ouoba, 'How Do Extractive Resources Affect Human Development? Evidence from a Panel Data Analysis' (2022) 7 Resources, Environment and Sustainability https://doi.org/10.1016/j.resenv.2022.100046

19 Dialga & Ouoba 2022 Op Cit

20 Gordon Yenglier Yiridomoh '"Illegal" Gold Mining Operations in Ghana: Implication for Climate-Smart Agriculture in Northwestern Ghana' (2021) Frontiers in Sustainable Food Systems Volume 5 - https://doi.org/10.3389/fsufs.2021.745317

21 Ruth Oore-ofe, Ogunnowo & Victor Ojakorotu.'Illegal Gold Mining and Sustainable Human Security in Osun State, Nigeria' (2021) The Journal of Sustainable Development, Law and Policy. Vol. 14:2. 198-221, DOI: 10.4314/jsdlp.v14i2.11

22 Isabella Alves Lamas, 'Governance Gap? Vale's Corporate Action and Socio environmental Conflicts in an International Perspective' (2023) The Extractive Industries and Society https://doi.org/10.1016/j.exis.2022.101172

observed that the large-scale extraction of natural resources is commonly justified by the argument that the tremendous economic potential of megaprojects gives an exceptional chance for the promotion of development and greater social justice. When something goes wrong in that equation, many of the main explanations turn to the institutional and regulatory fragility of host countries.

Inadequate legislation, weak enforcement mechanisms, and insufficient oversight create regulatory gaps in the extractive business. These gaps can lead to environmental deterioration, health risks, and socioeconomic problems for host populations.

Some studies have examined the activities of Royal Dutch Shell in oil exploration in Niger Delta communities of Nigeria.[23] The studies suggest the Transnational Corporation (TNC)'s approach (often backed by governments) to use CSR to end decade-old conflicts with host communities has largely failed[24] due to weak regulations.

According to Uduji, Okolo-Obasi, and Asongu,[25] communities that are not involved in multinational firms' CSR initiatives are missing out on many chances because monies allocated to them may still be seized by some community and traditional leaders. Participating in GMoUs has a significant benefit for both companies and communities in terms of increasing the companies' efforts to reach the targeted population.[26]

Foreign corporations that engage in unsustainable extractive activities have recently caused disputes with host communities. In the Udege-Mbeki village in Nasarawa local government area of Nasarawa state, North-Central Nigeria, an alleged move by a Chinese business, Kenpang Mining business, to expand mining activities into residential areas has recently caused unrest. The

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23 Alero Akporiaye and D G Webster, 'Social License and CSR in Extractive Industries: A Failed Approach to Governance' (2022) 2 Global Studies Quarterly https://doi.org/10.1093/isagsq/ksac041

24 ibid

25 Joseph I Uduji, Elda N Okolo-Obasi and Simplice Asongu, 'Oil Extraction in Nigeria's Ogoniland: The Role of Corporate Social Responsibility in Averting a Resurgence of Violence' (2020) AGDI Working Paper No WP/20/088, African Governance and Development Institute (AGDI), Yaoundé

26 Uduji, Okolo-Obasi, and Asongu 2020 Op Cit

area is rich in columbites, cassiterite, tantalite, and tin, which have drawn foreign miners to the community for generations. As a result of the company's desire to expand into residential areas and cemetery sites, some adolescents in the community have pledged to defend their ancestral lands.[27]

The Nigerian government's response to unsustainable mining has primarily centred on data collection, the arrest of illegal miners, and general environmental protection, all of which fall under the authority of the Nigerian Geological Survey (NGSA). However, the government seems to lack a comprehensive strategy for managing unsustainable extraction activities and reducing violence against host populations. As a result, the potential for the escalation of extraction-related violence especially in host communities looks to be increasing.[28]

3. REVIEW OF EXISTING POLICIES AND INITIATIVES FOR UNSUSTAINABLE EXTRACTION ACTIVITIES IN NIGERIA

Unsustainable extraction practices have far-reaching consequences for Nigerian host communities. Several host communities have endured extensive oil spills, gas flaring, and deforestation, resulting in biodiversity loss, soil degradation, and water contamination. Many farmlands in Nasarawa State's Angwan Kade area have become pitholes as a result of uncontrolled mining of solid minerals and valuable stones over several years. Though the federal government owns and controls all minerals in Nigeria under the Nigerian Minerals and Mining Act (1999), there have been few or no attempts to prosecute defaulters of unsustainable extraction activities in Nigeria[29], despite

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27 Ahmed Tahir Ajobe, 'Anxiety In Nasarawa Over Mining Firm's Expansion Plan' (2024) Leadership https://leadership.ng/anxiety-in-nasarawa-over-mining-firms-expansion-plan/

28 Charles Asiegbu, 'Lithium Could Fuel the Next Conflict in Nigeria' (2023) London School of Economics https://blogs.lse.ac.uk/africaatlse/2023/08/24/lithium-could-fuel-the-next-conflict-in-nigeria/

29 Christina Katsouris and Aaron Sayne 'Nigeria's Criminal Crude: International Options to Combat the Export of Stolen Oil' (2013) London: Chatham House

several arrests[30]. As a result of this development, some host communities have resorted to extra-judicial means of disrupting extractive firms' operations.[31] According to Abdullahi Agwai, an official with the Nasarawa Ministry of Environment, the authorities are aware of the illicit mining activities in Angwan Kade. However, the official stated that comparable operations take place in several other locations.[32]

Based on the foregoing, this paper shall review existing policies and initiatives adopted by the Nigerian government to curb these illicit practices. These policies include:

3.1 National Environmental Standards and Regulations Enforcement Agency (NESREA)

The National Environmental Standards and Regulations Enforcement Agency (NESREA) Act of 2007 was enacted to replace the Federal Environmental Protection Agency Act of 1988, and it was established in 2007 to enforce Nigerian environmental laws. The agency's efficacy and operations have often been marred by resource constraints and enforcement capabilities. To address this, the National Assembly revised the Act, which was then approved by President Muhammadu Buhari in 2018. Since this modification was implemented, the agency has enforced severe penalties and fines for environmental violations resulting from illegal extraction activities, including illegal wildlife trafficking and violations of environmental laws.

However, the agency suffers from numerous challenges. The first is insufficient resources to enforce regulations. The agency seems to lack the technical and organizational capacity to carry out its numerous tasks. Only recently, the United Nations donated GPS trackers, digital binoculars, digital video cameras, laptops and desktops, weighing scales, walkie-talkies, foot

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30 Michael Olugbode, 'Four Chinese Arrested For Illegal Mining in Nasarawa' (2024) Arise TV https://www.arise.tv/four-chinese-arrested-for-illegal-mining-in-nasarawa/

31 Isaac Shobayo, 'Mining Company Seeks Minister's Intervention Over Interference in Operations' (2024) Tribune https://tribuneonlineng.com/mining-company-seeks-ministers-intervention-over-interference-in-operations/

32 Nasir Ayitogo, 'SPECIAL REPORT: Misery of Agrarian Nasarawa Community Shows Pitfalls, Potential of Solid Minerals in Nigeria' (2022) Premium Times https://www.premiumtimesng.com/news/headlines/521574-special-report-misery-of-agrarian-nasarawa-community-shows-pitfalls-potential-of-solid-minerals-in-nigeria.html?tztc=1

wears, magnifying lenses, digital camera binoculars and calipers to the Agency to boost its effort to enforce regulations in Nigeria's extractive sector.[33]

Also, one of the main impediments to the agency's functionality is the issue of corruption. The agency has had to battle with local and international firms operating in Nigeria which brazenly violate the environmental laws. In 2019, the agency vowed to prosecute a Chinese firm, Kwo-Chief Investment Limited allegedly working in connivance with some Nigerian government officials over illegal charcoal production and export[34]. The agency allegedly received a N30million bribe from the Chinese company to recommence operations in 2020[35]. The agency denied the allegations as "untrue"[36] and later developed a code of conduct and ethics for its staff in 2024.[37]

3.2 Nigerian Oil Spill Detection and Response Agency (NOSDRA)

The Nigerian Oil Spill Detection and Response Agency (NOSDRA) was formed in 2006 as an institutional structure to coordinate the implementation of Nigeria's National Oil Spill Contingency Plan (NOSCP) in compliance with the International Convention on Oil Pollution Preparedness, Response, and Cooperation (OPRC 90), to which Nigeria has signed[38]. Since its inception, the Agency has ensured compliance with environmental legislation in Nigeria's petroleum sector.[39]

The agency's efforts have resulted in improved reporting and reaction times to oil spills. However, obstacles like as inadequate funding, limited technology, and a lack of cooperation from oil firms remain[40].

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33 Chidinma Okeke, 'NESREA receives equipment to fight wildlife trafficking' (2024) Daily Trust https://dailytrust.com/nesrea-receives-equipment-to-fight-wildlife-trafficking/

34 Chikezie Omeje 'Chinese-Run Company Aided By Govt Officials Exports Charcoal And Timber Despite Ban, Threatening Nigeria's Forests' (2021) SaharaReporters https://saharareporters.com/2021/09/27/chinese-run-company-aided-govt-officials-exports-charcoal-and-timber-despite-ban

35 Ibid

36 Ibid

37 'NESREA to develop code of conduct, ethics for staff' (2024) Peoples Gazette https://gazettengr.com/nesrea-to-develop-code-of-conduct-ethics-for-staff/

38 https://un-spider.org/national-oil-spill-detection-and-response-agency-nosdra

39 Ibid

40 https://nosdra.oilspillmonitor.ng/

3.3 Petroleum Industry Act (PIA) 2021

The PIA aspires to revamp Nigeria's oil and gas regulatory structure, increase openness, attract investment, and ensure more effective petroleum resource management[41].

The PIA established the Nigerian Upstream Petroleum Regulatory Commission (the Commission) and the Nigerian Midstream and Downstream Petroleum Authority (the Authority) to regulate the petroleum industry. The Commission, a body corporate with perpetual succession as defined in Section 4 of the Act, is in charge of supervising and regulating upstream petroleum activities, including technical and commercial rules, as well as ensuring compliance with relevant laws and regulations[42].

One other key provision in the PIA is the setting up of the Petroleum Host Community Development (PHCD). As a result, in comparison to other communities, the host communities are entitled to a privileged position in deriving direct social and economic benefits from these operations within their localities.

The Act, which is divided into five chapters (Governance and Institution, Administration, Host Communities Development, Petroleum Industry Fiscal Framework, and Miscellaneous Provisions), contains 319 Sections and seven Schedules and includes provisions for environmental management and community development, but it has been criticized for potential loopholes that could undermine environmental protection and local community benefits.

One very important limitation to the implementation of the PIA in the curbing of unsustainable extraction practices is its limited focus on environmental protection. A cursory view of the Act reveals that it may not

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41 Borha D.O.E & Olujobi, OJ. (2023), An Examination of the Petroleum Industry Act 2021: Prospects, Challenges, and the Way Forward, Taylor & Francis, F1000Research 2023, 12:551, https://doi.org/10.5256/f1000research.153263.r197203 accessed August 30, 2024.
42 Olujobi, O.J., Irumekhai, O.S. An Analysis of the Abolition of Premium Motor Spirit (PMS) Subsidies in Nigeria: A Breach of Social Contract or Climate Change Action? Springer Nature, Discover Sustainability 5, 71 (2024). 2.6 I, <https://doi.org/10.1007/s43621-024-00252-z https://link.springer.com/content/pdf /10.1007/s43621-024-00252-z.pdf> (accessed March 19, 2024).

provide sufficient emphasis on environmental impact assessments for new petroleum projects. It was as a result of this that some critical stakeholders in the Niger-Delta region have started stating that the PIA is designed against their interests[43]. According to Bubaraye Dakolo, King Ebenanaiwe of Ekpetiama Kingdom, Agada IV, the PIA was designed to criminalize 'everyone in the Niger-Delta'.[44] Also, in Bayelsa state, angry youths from the Anyama Clan of Ijaw Youths Council (IYC) and Onuebum community shut down the operation of OPL 2005 located in the community over the project owner - Sterling Oil Exploration and Energy Production Company Limited (SEEPCO)'s alleged poor compliance with EIA laws[45]. Onuebum paramount ruler, HRH Obanema Kine Kobolota Osain Ogo XVI said, "What we are asking is for the company to conduct EIA and respect existing laws. Instead of complying, they embarked on divisive tactics. They have disregarded the community authority. We call on the state government to call SEEPCO to order."[46]

3.4 Nigerian Minerals and Mining Act (NMMA) 2007

The NMMA provides a regulatory framework for the mining sector, aiming to promote sustainable mining practices and protect the environment. While the Act outlines comprehensive environmental safeguards, enforcement remains weak due to corruption, inadequate monitoring, and lack of technical expertise[47]. One of the major problems facing the implementation of the Act is unrestrained interventions of political actors in the mining sector in recent times. Recently, some stakeholders lamented state governments' unbridled interference in their operations, thereby making them uncomfortable.[48]

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43 Ruth Tene Natsa 'Group alleges Petroleum Industry Act is anti-people, criminalizes Niger-Delta" (2024) BusinessDay https://businessday.ng/news/article /group-alleges-petroleum-industry-act-is-anti-people-criminalizes-niger-delta/

44 Ibid

45 Olusegun Samuel 'Nigeria's Oil Production Threatened Again as Irate Ijaw Youths Shut Down OML 2005' (2024) ThisDay https://www.thisdaylive.com/index. php/2024/07/03/nigerias-oil-production-threatened-again-as-irate-ijaw-youths-shut-down-oml-2005/

46 Ibid

47 Chikezie Okoronkwo 'A Review of the Nigerian Minerals/Mining Act 2007 for Economic Transformation' International Journal of Innovative Research in Education, Technology & Social Strategies Vol. 4, No. 1: 40-84

48 Gabriel Ewepu 'Solid minerals: Stakeholders lament State Govts' interference in operations' Vanguard https://www.vanguardngr.com/2024/08/solid-minerals-stakeholders-lament-state-govts-interference-in-operations/

There are also suggestions that several provisions of the Act may not provide sufficient emphasis on environmental impact assessments for mining projects or fit current realities[49]. A recent report by KPMG revealed that the existing framework for investors in the mining sector is not attractive enough and does not consider the peculiar nature of the sector[50]. According to the report, "the revision of the NMMA is long overdue, as some of the provisions may no longer be in tandem with current realities. Hence, there is an urgent need for an update to ensure the provisions align with global best practices and address the current realities of the mining ecosystem in the country".[51]

3.5 Environmental Remediation and Restoration Programs

The President Muhammadu Buhari administration inaugurated the inter-ministerial committee for proper and efficient coordination of the Hydrocarbon Pollution and Remediation Project (HYPREP) for the Ogoniland clean-up in 2016. The project was to be implemented under the guidance of the United Nations Environmental Programme (UNEP). The exercise was expected to cost $1 billion under the management of the Ogoni Restoration Fund.[52]The HYPREP has trained over 15 indigenous Ogoni scientists on environmental assessment remediation as part of the project's plan. The administration also speedily approved the constitution of the Governing Council and the Board of Trustees of the Trust Fund for the Hydrocarbon Pollution Remediation Project (HYPREP) which included the Minister for Environment, Amina Muhammed; Minister of National Planning, Udoma Udoma, Minister of Niger Delta Affairs Pastor Usani Usani, Minister of State for Petroleum, Ibe Kachikwu, National Security Adviser, Babagana Monguno, Managing Director of the Niger Delta Development Commission (NDDC) Nsima Ekere, Managing Director SPDC, Osagie Okunbor amongst others. However, despite its noble goals, HYPREP faces challenges including slow implementation, funding

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49 Ruth Tene Natsa 'Mining: Existing fiscal frameworks for investors in Nigeria, not attractive-Report' (2024) BusinessDayhttps://businessday.ng/news/article/mining-existing-fiscal-frameworks-for-investors-in-nigeria-not-attractive-report/

50 Ibid

51 Ibid

52 Ignatius Chukwu, 'Buhari Approves Take-Off of $1bn Ogoni Restoration Fund' (2016) Business Day https://businessday.ng/uncategorized/article/buhari-approves-take-off-of-1bn-ogoni-restoration-fund/

constraints, corruption, and conflicts of interest in the award of contracts for the project.[53]

3.6 Community-Based Natural Resource Management

The Community-Based Natural Resource Management Programme (CBNRMP) engages local communities in natural resource management to guarantee sustainable use and equitable benefit sharing. The success of Cross River state's Sustainable Fuelwood Management (SFM) program, community-based forest management (CBM) programs, the REDD+ program, and the Green Carnival, in which farmer groups and local communities participate in forest management, has shown promise in reducing deforestation.[54]

This has also been very successfully adopted in India and other Asian countries. These projects have shown promise in promoting conservation and improving lives, but they typically require further institutional support and capacity building[55].

3.7 Corporate Social Responsibility (CSR) by Oil Companies

Many corporations often utilize stakeholder engagement and corporate social responsibility (CSR) initiatives to develop trust with local communities, resolve conflicts, and create social license by proactively limiting the negative social and environmental repercussions of their activities.[56] Oil companies in Nigeria, such as Shell and Chevron, have increasingly adopted CSR programs to mitigate the negative impacts of their operations.[57] Shell's Global Memorandum of Understanding (GMoU) is a notable example of community involvement in development planning and

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53 Uche Igwe, 'Corruption and Mismanagement May Derail Cleanup of Niger Delta' (2022) London School of Economics https://blogs.lse.ac.uk/africaatlse/2022/11/22/corruption-and-mismanagement-may-derail-cleanup-of-niger-delta/

54 CDP, 'Cross River State: Climate Action through Forest Protection' (2024) https://www.cdp.net/en/articles/states-and-regions/cross-river-state-climate-action-through-forest-protection

55 Milupi, I. D., Somers, M. J., Ferguson, W. 'A Review of Community-Based Natural Resource Management' (2017) Applied Ecology And Environmental Research 15(4):1121-1143

56 Akporiaye and Webster 2022 Op Cit

57 Ibid

implementation.[58]These initiatives include community development projects, health care, education, and environmental conservation efforts.

Recent studies have shown that communities that are not a part of CSR programs run by multinational firms are losing out on a lot of chances.[59] This is because some community and traditional leaders may still be able to misuse the resources that are allotted to them. Participating in GMoUs is said to offer benefits to both companies and communities by allowing companies to attempt to reach the targeted group.[60]

Additionally, the CSR programmes suffer from other deficiencies. First, Oil companies may engage in greenwashing[61] by making exaggerated or misleading claims about their CSR activities to improve their public image. This same tactic can sometimes be used to divert attention from negative environmental and social impacts such as oil spillage.

However, the effectiveness of CSR is debated, with concerns over its voluntary nature and the potential for tokenism rather than substantive change.

4. CHALLENGES

One of the critical challenges facing Nigeria's environmental policies is weak enforcement and pervasive corruption[62]. Some Chinese-owned corporations reportedly hired largely vulnerable people from Nigeria's far north, which has been devastated by conflicts and rising desertification, to work in mining operations across the country[63]. China's citizens and businesses are

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58 Jędrzej George Frynas, 'Corporate Social Responsibility in the Oil and Gas Sector' (2009) 2 The Journal of World Energy Law & Business 178-195 https://doi.org/10.1093/jwelb/jwp012
59 Uduji, Okolo-Obasi, and Asongu 2020 Op Cit
60 Uduji, Okolo-Obasi, and Asongu 2020 Op Cit
61 United Nations 'Greenwashing – the deceptive tactics behind environmental claims' https://www.un.org/en/climatechange/science/climate-issues/greenwashing
62 Stephen Adi Odey 'Environmental Law Enforcement: in Nigeria A Reevaluation' (2023) Jurnal Ilmu Sosiologi Dialektika Kontemporer Vol. 11, No. 1, 91-108.
63 Taiwo Adebayo, 'Nigeria is Emerging as a Critical Mineral Hub. The Government is Cracking Down on Illegal Operations' (2024) Associated Press https://apnews.com/article/nigeria-illegal-critical-minerals-lithium-arrests-tin-4c639e034f6bca724bf26cdc55805d4e

constantly in the news for environmentally destructive practices, exploitative labour, and illegal mining.[64] This is not made easier by the fact that the country has a weak judicial system to prosecute erring individuals and corporations.

Senator Ekong Sampson, the Chairman of the Senate Committee on Solid Minerals raised alarm that some powerful Nigerians were collaborating with foreigners to defraud the nation of its mining resources following a disappointing development in Nasarawa state where 109 illegal miners were arrested in February 2024.[65]

To ensure environmental regulation compliance, institutional structures must be strengthened, transparency increased, and accountability promoted[66]. In February following the arrest of 109 illegal miners, the Nasarawa State Government through its Commissioner for Environment and Natural Resources, Yakubu Kwanta ordered all miners in the state to form cooperative groups and get registered before commencing mining activities. He noted "I strongly put to them (suspected illegal miners) as an order and a last chance to repent from their illegal operation and form cooperative groups and get registered with the Ministry of Trade, Industry and Investment as a first step followed by a further registration and profiling by the Ministry of Environment and Natural Resources for documentation and identification of their operational status for peace and security. This they must do with the urgency it deserves before returning to their mining sites".[67]

Another salient challenge in curbing unsustainable extraction activities is inadequate funding and technical capacity for enforcement agencies. These are necessary to implement and enforce sustainable extraction practices. In April 2024, the Minister of Solid Minerals Development, Dr Dele Alake,

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64 Taiwo Adebayo, 'Nigeria is Emerging as a Critical Mineral Hub. The Government is Cracking Down on Illegal Operations' (2024) Associated Press https://apnews. com/article/nigeria-illegal-critical-minerals-lithium-arrests-tin-4c639e034f6bca724 bf26cdc55805d4e

65 Collins Agwam and Patrick Odey, 'Nasarawa Orders Illegal Miners' Registration, 109 Arrested' (2024) The Punch https://punchng.com/nasarawa-orders-illegal-miners-registration-109-arrested/

66 Olujobi, O.J., Nigeria's Climate Change Act 2021: A Pathway to Net-Zero Carbon Emission, Energy Security and Sustainability, Environmental Science and Pollution Research, > DOI 10.1007/s11356-024-33347-1> (accessed August 21, 2024).

67 Ibid

disclosed that the federal government is considering investing in technology by generating big data to attract investors into the solid minerals sector[68].

Local communities and stakeholders should be involved in decision-making processes to improve the long-term viability of extraction activities. The largely successful Sustainable Fuelwood Management (SFM) program, community-based forest management (CBM) projects, the REDD+ program, and the Green Carnival in Cross River state are examples of policies that should prioritize community rights, assure equitable pay, and encourage inclusive development.

There is a need for better integration and coordination of policies across different sectors. A holistic approach that considers the environmental, economic and social dimensions of resource extraction can lead to more sustainable outcomes.

5.   POLICY OPTION 1: CITIZEN-CENTRIC TECHNOLOGY SYSTEM AND UNSUSTAINABLE EXTRACTION ACTIVITIES

Citizen-centric technology solutions, which are meant to prioritize individual needs and participation in society, are becoming more common in modern governance and social infrastructure. These systems seek to improve openness, accountability, and inclusivity by using digital tools and platforms to directly include citizens in decision-making processes. However, their experiments have demonstrated varying results in Indonesia, China, Laos, and Vietnam. However, the rise of these systems is accompanied by unsustainable extraction activities such as mining, deforestation, and fossil fuel exploitation, all of which provide substantial environmental and socioeconomic issues.

Citizen-centric technology solutions aim to actively involve the public in the monitoring and management of natural resources. A good example is the Global Forest Watch, a free online platform that provides near-real-time data and tools for forest monitoring. It deployed a satellite dataset from the National Aeronautics and Space Administration (NASA)'s Visible Infrared Imaging Radiometer Suite, which has been updated daily over the last decade.

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68 Gabriel Ewepu, 'We're Concentrating on Generating Big Data Through Exploration – Alake' (2024) Vanguard https://www.vanguardngr.com/2024/04/were-concentrating-on-generating-big-data-through-exploration-alake/

This is akin to *Uchaguzi,*[69] a crowdsourcing platform developed after Kenya's controversial 2008 presidential election. The platform, which according to the *Cable News Network* "maps voting and tracks thousands of tweets, calls, emails and SMS messages from activists, civil society and election monitors"[70] to curb electoral violence, reduce tensions, and electoral fraud, the possibility of such in West Africa is open to debate. Also, the fact that the platform works only for specific timeframes – during elections or emergencies like volcanic eruptions - is another limitation.

One significant advantage of citizen-centric technology systems is that they frequently fit context-specific problems and local contexts. It also offers the advantage of involving citizens in environmental monitoring and management. Furthermore, evidence indicates that they can give more accurate and context-specific data, resulting in data-driven decisions. A noteworthy example is the Cornell Lab of Ornithology's citizen science projects, which use mobile applications to allow residents to report pollution problems or illegal logging activities, allowing authorities to respond more quickly and effectively.[71] The citizens' science projects aim to enable participants to learn about birds and understand the process of conducting scientific studies[72].

Using citizen-centric technology solutions to avoid unsustainable extractive practices in developing nations creates both potential and obstacles. On the one hand, these technologies can enable communities to monitor and report on unsustainable extraction practices, so improving environmental governance. For example, community-based forest monitoring projects using mobile technology under the REDD+ program have been successful in reducing illegal logging in Indonesia, China, Laos, and Vietnam.[73]

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69 For more information on Ushaguzi see https://www.ushahidi.com/case-studies /uchaguzi

70 Treisman, L. (2017, August 3) How Kenyans are using tech to stop election fraud and violence Cable News Network Available Online https://edition.cnn.com/2017 /07/27/africa/kenya-elections-technology/index.html

71 Rick Bonney et al, 'Citizen Science: A Developing Tool for Expanding Science Knowledge and Scientific Literacy' (2009) 59 BioScience 977-984 https://doi.org/ 10.1525/bio.2009.59.11.9

72 ibid

73 S Brofeldt et al, 'Community Monitoring of Carbon Stocks for REDD+: Does Accuracy and Cost Change Over Time?' (2014) 5 Forests 1834-1854 https://doi. org/10.3390/f5081834

The effectiveness of citizen-centric technological solutions, on the other hand, is determined by the larger domestic environment of the country in question. In poor countries such as Nigeria, political and economic factors, as well as interests in unsustainable extraction activities, may pose tremendous challenges to citizen-centric projects. Corruption, a lack of political will, and insufficient legal frameworks can all hamper efforts to encourage sustainable practices.[74] Furthermore, if citizen data is not adequately integrated into official decision-making processes, it runs the risk of being ignored or exploited, it runs the risk of being ignored or exploited.

There is also an issue with authentication and verification of incidences reported on crowdsourcing platforms. Because these crowdsourcing platforms have little or no way of validating claims made on social media or via content published by primarily nameless and unknown reporters, there are obvious incentives to abuse the projects. These make real-time election monitoring especially difficult, as they tend to undermine the goal of Early Warning and prevent unsustainable extraction activities.

Because most incidents of unsustainable extraction activities happen and often require urgent attention, there is a need to come up with a more environmentally friendly, safe, and technologically efficient model without endangering and compromising the safety of participants or informants. This is where a citizen-centric model may prove to be the icebreaker in Nigeria. This is because the home-grown, case-specific citizens' technological inclusion can provide some critical value based on local knowledge.

In 2009, the *Voix des Kivus*[75] system was developed in Congo by Van der Windt and Humphreys[76]. The system relied on simple technologies like phones and text messages to monitor and track conflicts in 18 villages in the war-torn province of Sud Kivu in the Democratic Republic of Congo.

The technology was a 'crowdseeding' platform, in which phones were distributed to a properly trained set of informants to offer real-time information at precisely selected sample areas or 'hotspots' for violent

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74 Benjamin K Sovacool, 'The Cultural Barriers to Renewable Energy and Energy Efficiency in the United States' (2009) 31 Technology in Society 365-373 https://doi.org/10.1016/j.techsoc.2009.10.009

75 Voice of Kivus

76 P Van der Windt and M Humphreys, 'Crowdseeding in Eastern Congo: Using Cell Phones to Collect Conflict Events Data in Real Time' (2014) 58 Journal of Conflict Resolution 1-34 https://doi.org/10.1177/0022002714553104

incidents[77]. The system's code encompassed troop movement, armed conflicts, rebel movements, logistics, and other battle-related issues. These details were then entered into a database, which communicates with the authorities and takes appropriate action. Phones were provided to informants in numerous regions based on predefined samples, including i) a Traditional Council representative, ii) an elected community leader, and iii) a women's representative. The system saw the informant transmitting over 4,000 pre-coded signals and more than 1,000 SMS messages since just a few months of starting the project.[78]

This technique was also tested in Liberia. Blair, Battman, and Hartman[79] conducted a pilot experiment in conflict monitoring while militating against the problems that caused the researchers to suspend the projects. The initiative focused on local violence, such as rape, riots, killings, and lynchings, rather than large-scale confrontations like civil wars or insurgencies.[80] The initiative covered around 242 towns and villages in the country during the years 2008, 2010, and 2012. The study demonstrates the value of early warning because it aimed 'not just to facilitate conflict prevention and mitigation but also to identify theoretically interesting patterns for future research to explore'[81]

These citizen-centric systems were deployed effectively and with high degrees of precision to monitor violence in Congo and Liberia. While it worked well for about two years in Congo, the investigators discontinued the project partly due to the safety of the informants. The Liberian experiment had some interesting results but was limited in scope[82].

Several efforts must be taken to completely incorporate citizen-centric technological systems in addressing unsustainable extraction practices. First, developing countries must make a deliberate effort to enhance institutional capacities and guarantee that regulatory frameworks are solid and enforced.

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77 Ibid

78 Ibid

79 R A Blair, C Battman and A Hartman, 'Predicting Local Violence: Evidence from a Panel Survey in Liberia' (2017) 54 Journal of Peace Research 298-312

80 Ibid

81 Ibid

82 R A Blair, C Battman and A Hartman, 'Predicting Local Violence: Evidence from a Panel Survey in Liberia' (2017) 54 Journal of Peace Research 298-312

This includes strengthening environmental defenders' legal safeguards and ensuring that authorities acknowledge and act on citizen-generated data.[83]

Second, it is essential to foster inclusive and participatory governance structures that genuinely incorporate the voices of local communities. This involves not only providing technological tools but also building the capacities of citizens to use these tools effectively. Education and training programs can play a crucial role in empowering communities to engage in environmental monitoring and advocacy.[84]

Third, there should be a focus on creating synergies between traditional knowledge and modern technology. Indigenous and local communities often possess valuable knowledge about sustainable resource management that can complement technological innovations. By integrating traditional practices with modern monitoring systems, it is possible to develop more holistic and effective approaches to resource management.[85]

The Nigerian government has yet to fully adopt citizen-centric technology for combating the scourge of unsustainable extraction activities. In June 2024, the Ministry of Solid Minerals Development vowed to deploy Remote Sensing Imagery as a more efficient method of mineral exploration that can be used to address Nigeria's illegal mining challenges.[86]

6. POLICY OPTION 2: LOCALIZATION, DOMESTICATION, AND UNSUSTAINABLE EXTRACTION PRACTICES IN NIGERIA

Localization and domestication are key principles in defining how natural resources are handled and used in national contexts. In Nigeria, these notions have major implications for tackling unsustainable extraction methods that endanger environmental sustainability and socioeconomic stability. One of the biggest pitfalls against combatting unsustainable extraction activities

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83 J Martinez-Alier, The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation (Edward Elgar Publishing 2002)

84 J Pretty, 'Social Capital and the Collective Management of Resources' (2003) 302 Science 1912-1914

85 F Berkes, J Colding and C Folke, 'Rediscovery of Traditional Ecological Knowledge as Adaptive Management' (2000) 10 Ecological Applications 1251-1262

86 Damilola Aina, 'FG Deploys Additional 350 Mining Marshals, Adopts Remote Technology' (2024) The Punch https://punchng.com/fg-deploys-additional-350-mining-marshals-adopts-remote-technology/

remains the excessive reliance on the top-down-only approach which 'will not create the local ownership needed to galvanize economic, social, and environmental transformation, nor will it ensure that global agendas reflect local realities'.[87] This is because, localization of the initiatives also needs to be domesticated locally, inculcated into the minds of the local people, and get community support, especially in the rural areas for the policies to have the desired impacts. More often than not, the resources within the host communities are often poorly managed when foreign extraction firms superintend instead of the local communities.

With this, the local communities are out of the picture or rendered ineffective because the resources may not be directed to and absorbed at the local level. Also, there is the temptation for national governments to overestimate their analyses of foreign expatriates and undermine local capabilities to cope with the challenges or manage resources.[88] Localization deals with developing strong relationships between global, national, and local actors, with citizens actively participating in the development of their God-given natural resources.[89]

Part of localization is for Nigerian states to establish a peer review mechanism that will provide a platform for learning from one another. These regular updates will enable cross-fertilization of ideas that work and their implementation in different contexts and environments – and more importantly, promote local participation and ownership across the geo-political zones.

A good example of this is the largely successful Sustainable Fuelwood Management (SFM) program, community-based forest management (CBM) programs, the REDD+ program, and the Green Carnival in Cross River state, which involves farmer groups and local communities in forest management and has shown promise in reducing deforestation.

Localizations will heavily depend on the political wills of federal and state governments to adopt the citizen-centric, community-focused approach to

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87 J L Roesch and M Rahmaty, 'Localizing the 2030 Agenda in West Africa: Building on What Works' (2020) International Peace Institute, July 2020

88 P Coleman, 'Half the Peace: The Fear Challenge and the Case for Promoting Peace' (2018) IPI Global Observatory

89 J L Roesch and M Rahmaty, 'Localizing the 2030 Agenda in West Africa: Building on What Works' (2020) International Peace Institute, July 2020

combat unsustainable extraction practices. Local communities who bear the brunt of environmental and other negative impacts of unsustainable extraction should be made important stakeholders in the management of these resources.

Building on workable solutions to unsustainable extraction activities by community engagement in Nigeria will foster local ownership, democratization of decision-making and sustainable development. This will also help achieve inclusive governance, transparency, and collaborative development in the country.

Guinea demonstrated the workability of community involvement in the peace process with the establishment of the Village Community Support Project (PACV).[90] The country also recently developed participatory budgeting processes through which local communities decide how to expend the grants from international donors (Ibid). This initiative has seen the implementation of 'some 1,500 micro projects across rural Guinea, including the building of schools, markets, and health centres'.[91]

In achieving sustainable extraction practices, the United Nations (UN) country teams have huge roles to play in its localization. West Africa has benefitted from UN technical assistance and other peace-building, development, and stabilisation programmes but the global body will need to do more in encouraging local, citizen-centric approaches to combat unsustainable extraction in the sub-region. The UN will need to support government departments in capacity building and convene dialogues with other critical stakeholders in peace-building and development in West Africa.

7. DISCUSSION

Some of the key lessons to be learnt from the analysis of these models include First, effective institutional enforcement of environmental and other regulations aimed at reducing unsustainable extraction practices. Agencies such as the Nigerian Oil Spill Detection and Response Agency (NOSDRA), the National Environmental Standards and Regulations Enforcement

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90 K Oshima and N Perrin, 'Citizen Engagement in Rural Guinea: Making Tangible Changes from the Bottom Up' (2018) World Bank Blogs https://blogs.world bank.org/nasikiliza/citizen-engagement-in-rural-guinea-making-tangible-changes-from-the-bottom-up

91 Ibid

Agency, the Nigerian Upstream Petroleum Regulatory Commission, the Nigerian Midstream and Downstream Petroleum Authority, the Petroleum Host Community Development, and the Niger Delta Development Commission must be adequately empowered to carry out their constitutionally guaranteed mandates free of political interference.

A key obstacle in curbing unsustainable extraction activities in Nigeria is the prevalence of large-scale corruption in the extractive industry. It was for this reason the Nigeria Extractive Industries Transparency Initiative (NEITI) in the oil sector. The fact that such initiative has not been domesticated across all extractive natural resources means there is still a long way to go.

Third, evidence has shown that community-based management models have proven effective in other contexts and should be scaled up in Nigeria. The success of the Sustainable Fuelwood Management (SFM) program, community-based forest management (CBM) programs, the REDD+ program, and the Green Carnival, in Cross River state attest to this. But, implementing such initiative on a nationwide scale to include granting communities legal rights to manage resources and providing support for local conservation efforts will go a long way to curb unsustainable extractive activities.

Corporations often utilize CSR initiatives to develop trust with local communities, resolve conflicts, and create social license by proactively limiting the negative social and environmental repercussions of their activities.

While CSR programs are a good start, they should not be overly simplistic. Extractive companies should be held accountable for their environmental impact and required to invest in sustainable practices in host communities. Despite the popularity of CSR programs, tensions between oil firms and host communities in Ogoniland persist, owing to mistrust. In the Niger Delta, host communities continue to protest with protests, destruction to multinational companies' infrastructure, and threats to their personnel.[92]

8. CONCLUSION AND RECOMMENDATIONS

This article examines the environmental, economic, and community effects of unsustainable extractive resource extraction in Nigeria's host communities.

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92   Akporiaye and Webster 2022 Op Cit

The article investigated developing approaches for mitigating the risks posed by unsustainable exploitation of extractive resources, looking at regulatory gaps, governance difficulties, existing policies, and potential policy options.

During our literature review, we observed widespread environmental deterioration and lax controls in the extractive sector as major concerns for host communities. Examination of regulatory agencies uncovered major gaps in enforcement and compliance. Similarly, while legislative measures like the Petroleum Industry Act (PIA) 2021 and the Nigerian Minerals and Mining Act (NMMA) 2007 provide a legal framework for governing extractive enterprises, their execution has frequently been beset with problems.

Our evaluation of existing policies and initiatives revealed some progress in combating unsustainable extraction practices. Environmental cleanup and restoration projects, community-based natural resource management, and oil firms' corporate social responsibility (CSR) efforts have all helped to mitigate some of the detrimental effects. However, such initiatives frequently fail due to a lack of complete integration and enforcement.

To address the difficulties, we offered two policy options: a citizen-centric technology system and the localization/domestication of extractive methods. The citizen-centric technology system stresses the use of modern technology to improve transparency, accountability, and community participation in the monitoring and management of extractive activities. This strategy can empower local people, enhance data accuracy, and ensure that environmental regulations are met.

As it emphasizes the significance of adjusting policies to Nigeria's unique socioeconomic and environmental setting, the second policy option calls for the localization and domestication of extraction processes. This method advocates for developing local governance systems, increasing community capacity, and ensuring that the benefits of resource extraction are equally distributed to host communities.

Our recommendations include the following:

1. A diversified approach that includes strong regulatory frameworks, effective enforcement, community participation, and technology innovation.

2. FG should construct a sustainable model for resource extraction by using citizen-centric technological systems and localized practices that safeguard the environment, promote socioeconomic growth, and ensure the well-being of host communities.
3. Politicians, industry stakeholders, and local communities must work together to adopt these new models, ensuring a sustainable and fair future for all.