



EXAMINING THE ADEQUACY OF THE PETROLEUM INDUSTRY ACT IN REGULATING OIL SPILLS IN NIGERIA

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Abstract

This article critically examines the adequacy of the Petroleum Industry Act (PIA) 2021 in regulating oil spills in Nigeria. While the PIA represents a landmark reform after decades of legislative deliberation, its effectiveness in addressing Nigeria's persistent oil spill challenges remains questionable. The study evaluates the Act's environmental management framework through doctrinal analysis, focusing on institutional arrangements, prevention mechanisms, remediation protocols, and compensation provisions. Findings reveal that while the PIA introduces notable innovations, including the Environmental Remediation Fund and restructured regulatory bodies, significant gaps persist in implementation pathways, inter-agency coordination, community participation frameworks, enforcement capacity, and climate change integration. The article argues that without addressing these deficiencies through legislative amendments, institutional reforms, and participatory administration, the PIA's promise of environmental justice for oil-impacted communities may remain unrealized. The study concludes by proposing specific reforms to strengthen Nigeria's oil spill regulatory framework and enhance environmental sustainability in the petroleum subsector.

Keywords: Petroleum Industry Act, Adequacy, Regulatory Framework, Oil Spills, Environmental Protection

1. INTRODUCTION

The enactment of the Petroleum Industry Act (PIA) in August 2021, following nearly two decades of protracted legislative deliberations, represents a landmark reform in Nigeria's oil and gas legal regime. The legislation aspires to overhaul the governance, administrative, regulatory, and fiscal architecture of the petroleum subsector, addressing entrenched inefficiencies, ambiguities, and institutional dysfunctions that have long characterised the industry.¹ Among its most salient objectives is the reconfiguration of the legal and institutional framework governing environmental protection, particularly as it relates to oil spill prevention, response, and remediation in the Niger Delta, a region that has borne the brunt of petroleum-related ecological degradation for decades.

¹ O Ojewale, 'Nigeria's Petroleum Industry Act: Addressing Old Problems, Creating New Ones' (Brookings Institution, 9 August 2021) <https://www.brookings.edu/articles/nigerias-petroleum-industry-act-addressing-old-problems-creating-new-ones> accessed 5 April 2025

Oil spills in Nigeria continue to pose complex legal, environmental, and socio-economic challenges. Available data indicate that between 2015 and 2021, a total of 4,919 oil spill incidents were officially recorded, resulting in the discharge of significant volumes of crude oil into the environment.² The resulting degradation has adversely affected water bodies, farmlands, and biodiversity, and has had deleterious implications for the health, livelihoods, and dignity of host communities. As Amnesty International has observed, the widespread contamination of the Niger Delta amounts not only to an ecological crisis but also constitutes a violation of fundamental human rights.³

Prior to the enactment of the PIA, the legal and institutional framework regulating oil spill incidents was marred by fragmentation, regulatory overlap, weak enforcement, and the absence of coherent remedial and compensatory mechanisms. Multiple institutions - including the Department of Petroleum Resources (DPR), the National Oil Spill Detection and Response Agency (NOSDRA), and the Federal Ministry of Environment - operated within overlapping mandates, engendering a convoluted regulatory environment marked by inefficiency and ambiguity.⁴ These shortcomings have raised critical questions regarding whether the PIA's comprehensive reform agenda is sufficient to redress the systemic weaknesses of the previous regime and to ensure robust, integrated, and accountable environmental governance.

This article undertakes a doctrinal and policy-oriented analysis of the extent to which the PIA addresses the regulatory, institutional, and remedial dimensions of oil spill governance in Nigeria. By closely interrogating the provisions of the Act, juxtaposing them with the pre-existing legal framework, and engaging with contemporary academic and policy discourse, the study evaluates the efficacy of the PIA in bridging historical regulatory gaps. It also identifies persisting normative and institutional deficits that may necessitate further legislative refinement or administrative innovation.

The article is structured as follows: Section 2 provides a contextual overview of Nigeria's oil spill crisis and the regulatory landscape prior to the PIA. Section 3 examines the environmental protection provisions of the Act, with a focus on oil spill prevention, detection, remediation, and compensation. Section 4 assesses the adequacy of these provisions through the lens of established regulatory principles and comparative international best practices. Section 5 highlights persistent gaps in the PIA's oil spill governance regime. Section 6 proffers recommendations for strengthening the legal and institutional architecture of oil spill regulation in Nigeria. The concluding section reflects on the transformative potential of the PIA and its prospects for environmental justice and sustainable petroleum governance in Nigeria.

² TheCable, 'Nigeria Recorded 4,919 Oil Spills in Six Years, Says Minister' (*TheCable*, 2 November 2021) <https://www.thecable.ng/nigeria-recorded-4919-oil-spills-in-six-years-says-minister> accessed 5 April 2025

³ Amnesty International, 'No Clean Up, No Justice: Shell's Oil Pollution in the Niger Delta' (30 June 2020) <https://www.amnesty.org/en/latest/news/2020/06/no-clean-up-no-justice-shell-oil-pollution-in-the-niger-delta> accessed 8 April 2025

⁴ A.A. Babalola and D.S. Olawuyi, 'Overcoming Regulatory Failure in the Design and Implementation of Gas Flaring Policies: The Potential and Promise of an Energy Justice Approach' (2022) 14(11) *Sustainability* 6800

2. CONTEXTUAL BACKGROUND: NIGERIA'S OIL SPILL CHALLENGES AND THE PRE-PIA REGULATORY FRAMEWORK

2.1 The Scale and Impact of Oil Spills in Nigeria

The Niger Delta region, the epicentre of Nigeria's petroleum industry, has endured extensive environmental degradation due to oil spills since the commencement of commercial oil exploration in the 1950s. Between 1976 and 2014, approximately 3.1 million barrels of oil were spilled in the region, encompassing over 10,000 incidents. These spills have resulted from various causes, including operational failures, equipment deterioration, deliberate sabotage, and oil theft operations.⁵

The environmental and social ramifications of these spills are profound. Oil pollution has fundamentally disrupted the regional ecosystem, contaminating surface and groundwater, destroying agricultural productivity, decimating fisheries, and compromising biodiversity.⁶ These ecological impacts have directly translated into socioeconomic hardships for local communities reliant on the natural environment for their livelihoods. Women and marginalized groups, whose subsistence practices are disproportionately affected by environmental contamination, bear the brunt of these consequences.⁷

Beyond immediate environmental and socioeconomic impacts, oil spills in Nigeria have engendered complex conflict dynamics. Environmental degradation functions both as a driver and consequence of sociopolitical tensions, creating a feedback loop that perpetuates ecological damage and community dislocation.⁸ The inadequate remediation and compensation frameworks have further exacerbated these tensions, fostering distrust between communities, operating companies, and regulatory authorities.⁹

The United Nations Environment Programme's (UNEP) Environmental Assessment of Ogoniland, published in 2011, provides a comprehensive documentation of oil pollution in a specific Niger Delta community. The assessment revealed extensive hydrocarbon contamination in soil and groundwater, with some drinking water containing benzene at levels 900 times above World Health Organization guidelines.¹⁰ A decade after the initial assessment, the implementation of UNEP's recommendations remains incomplete, highlighting the persistent challenges in remediating longstanding oil pollution.¹¹

2.2 Pre-PIA Regulatory Framework for Oil Spills

Prior to the enactment of the Petroleum Industry Act (PIA), Nigeria's regulatory framework for oil spills was characterized by institutional fragmentation, overlapping mandates, and significant

⁵ Amnesty International, 'Oil theft in the Niger Delta doesn't explain all the oil spills' (Amnesty International, 30 September 2013) <https://www.amnesty.org/en/latest/campaigns/2013/09/oil-theft-in-the-niger-delta-doesn-t-explain-all-the-oil-spills/> accessed 25 March 2025.

⁶ C.I. Obi, 'Oil Extraction, Dispossession, Resistance, and Conflict in Nigeria's Oil-Rich Niger Delta' (2010) *African Development*, 35(1), 1–19.

⁷ K. Sam and T. Zibima, 'Inclusive Environmental Decision-making in a Developing Nation: Insights from the Ogoni Remediation Project, Niger Delta, Nigeria' (2024) 73(2) *Environmental Management* 323–337

⁸ T.M. Ebiede, 'Conflict Drivers: Environmental Degradation and Corruption in the Niger Delta Region' (2011) 1(1) *African Conflict and Peacebuilding Review* 139–151
https://www.researchgate.net/publication/236831971_Conflict_Drivers_Environmental_Degradation_and_Corruption_in_the_Niger_Delta_Region accessed 24th March 2025.

⁹ Ibid

¹⁰ United Nations Environment Programme, *Environmental Assessment of Ogoniland* (2011)
<https://www.unep.org/resources/report/environmental-assessment-ogoniland> accessed 13 April 2025.

¹¹ Ibid

enforcement challenges. This system has been described as “a regulatory labyrinth with multiple agencies exercising concurrent jurisdiction without clear delineation of authority or accountability mechanisms.”¹² This assessment is reflected in the multiplicity of laws and agencies with environmental protection mandates in the petroleum sector.

The core legislation governing petroleum operations was the Petroleum Act of 1969 and its accompanying Petroleum (Drilling and Production) Regulations, which contained limited environmental protection provisions focused primarily on “good oilfield practice” and waste management. This framework was supplemented by the Oil Pipelines Act of 1956, which addressed issues of compensation for land acquisition and for pollution of the environment arising from oil pipeline operations.

Environmental regulation evolved through subsequent legislation, most notably the Federal Environmental Protection Agency (FEPA) Act of 1988 (later replaced by the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act of 2007) and the Environmental Impact Assessment Act of 1992. However, these broader environmental statutes were inadequately integrated with petroleum-specific regulations, creating jurisdictional ambiguities and enforcement gaps.¹³

The establishment of the National Oil Spill Detection and Response Agency (NOSDRA) through the NOSDRA Act of 2006 represented a significant attempt to create a specialized institution for oil spill management. However, NOSDRA faced substantial challenges in fulfilling its mandate, including resource constraints, limited technical capacity, and ambiguous relationships with other regulatory entities like the Department of Petroleum Resources (DPR), now replaced by the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) under the PIA.¹⁴

This institutional complexity was mirrored in the remediation and compensation framework, which has been characterized as “a patchwork of statutory provisions, common law principles, and ad hoc industry practices that collectively failed to provide consistent or adequate redress for affected communities.”¹⁵ In the absence of clear statutory guidance, compensation for oil spill damage was often determined through protracted litigation or closed-door negotiations with limited transparency or standardization.¹⁶

Moreover, the regulatory framework struggled with fundamental issues of enforcement and compliance. The pre-PIA regime was characterized by systematic enforcement deficits stemming from resource limitations, technical capacity constraints, political interference, and insufficient penalties for non-compliance.¹⁷ These enforcement challenges were compounded by jurisdictional conflicts among

¹² S.A. Ienlanye and D. Agelebe, ‘Impacts of Oil Production on Nigeria's Waters: Assessing the Legal Labyrinth’ (2022) 14 *Journal of Health, Environment & Education* 11–23.

¹³ D.S. Olawuyi and T. Zibima, ‘Review of the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN)’ (2019) OGEES Institute, Afe Babalola University https://iucn.org/sites/default/files/content/documents/2019/review_of_the_environmental_guidelines_and_standards_for_the_petroleum_industry_in_nigeria.pdf accessed 15 March 2025.

¹⁴ U. Udok and E.B. Akpan, ‘Gas Flaring in Nigeria: A Review of the Legal and Regulatory Framework’ (2021) *International Journal of Advanced Multidisciplinary Research and Studies*, 1(1), 1–10.

¹⁵ I.T. Odumosu-Ayanu, ‘Oil and Gas Decision-Making in Nigeria: Current Practice, Emerging Lessons’ (2019) *Afronomicslaw* <https://www.afronomicslaw.org/2019/08/02/investor-responsibility-towards-local-communities-in-extractive-industry-projects-in-african-countries/> accessed 15 March 2025.

¹⁶ Ibid

¹⁷ O.O. Adewale and U. Mustapha, ‘The Impact of Gas Flaring in Nigeria’ (2015) 3(2) *International Journal of Science, Technology and Society* 40–50.

regulatory agencies, with the DPR and NOSDRA frequently advancing competing interpretations of their respective mandates.¹⁸

It was within this context of regulatory fragmentation, enforcement deficits, and inadequate remediation frameworks that the PIA emerged as a potentially transformative legislation. The PIA represented an opportunity to establish a more coherent, effective, and responsive regulatory framework for oil spill prevention, detection, remediation, and compensation in Nigeria's petroleum industry.¹⁹

3. THE PIA'S ENVIRONMENTAL PROTECTION FRAMEWORK

The enactment of the Petroleum Industry Act (PIA) 2021 heralds a transformative shift in Nigeria's environmental governance within the petroleum sector. This section critically examines the PIA's provisions pertinent to oil spill regulation, delineating key innovations and continuities from the preceding regulatory regime.

¹⁸ Ibid

¹⁹ J.C. Nnaji, 'Petroleum Industry Act (PIA) 2021 and the Nigerian Oil & Gas Industry – A SWOT Analysis' https://www.researchgate.net/publication/355442779_PETROLEUM_INDUSTY_ACT_PIA_2021_AND_THE_NIGERIAN_OIL_GAS_INDUSTY_-A_SWOT_ANALYSIS accessed 18 March 2025

3.1 Institutional Framework for Environmental Regulation

The PIA restructures Nigeria's petroleum regulatory architecture, establishing the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) under Section 4²⁰ and the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA) under Section 29.²¹ Both entities are vested with explicit environmental protection mandates within their respective operational scopes.

For upstream operations, Section 6(c) mandates the NUPRC to "ensure strict implementation of environmental policies, laws and regulations for upstream petroleum operations."²² Similarly, Section 6(d) obliges the Commission to "ensure compliance with all applicable laws and regulations governing the protection of the environment."²³ This consolidation aims to mitigate the fragmentation that previously characterised environmental regulation in the sector.

In the midstream and downstream sectors, Section 31(c) charges the NMDPRA with ensuring "compliance with all applicable laws and regulations governing the protection of the environment by all persons licensed, permitted or authorised to engage in midstream and downstream petroleum operations."²⁴ This delineation of responsibilities seeks to streamline regulatory oversight across the petroleum value chain.

Remarkable, the PIA does not repeal or amend the National Oil Spill Detection and Response Agency (NOSDRA) Act, 2006 (amended in 2008), which established NOSDRA as the agency inter alia exclusively responsible for preparedness, detection and response to all oil spillages in Nigeria, coordinate, implement and review the National Oil Spill Contingency Plan for Nigeria, ensure compliance with all existing environmental legislation in the petroleum subsector including those relating to prevention, detection and general management of oil spills, oily wastes and gas flare and to act as the Lead Agency for all matters relating to oil spills response management and liaise with other Agencies for the implementation of the plan (National Oil Spill Contingency Plan for Nigeria).²⁵ Notwithstanding the aforementioned, from the perspective of the purposive principle of statutory interpretation of the cardinal objective of the PIA and the NOSDRA Act, both NOSDRA and the agencies established by the PIA needs to coexist because their functions are distinct and complementary. NOSDRA's specific mandate is to lead all oil spill contingency planning and response, a specialisation role not covered by the PIA. In contrast, the PIA serves the broader purpose of regulating the petroleum industry's technical and commercial aspects. Therefore, their parallel coexistence ensures a robust and comprehensive regulatory framework with each body leveraging its unique expertise.

3.2 Oil Spill Prevention and Detection Provisions

The PIA introduces several provisions aimed at enhancing oil spill prevention and detection. Section 102 imposes a general duty on licensees, lessees, and contractors to conduct petroleum operations in accordance with good international petroleum industry practices and standards.²⁶

²⁰ *Petroleum Industry Act 2021*, s 4.

²¹ *Ibid*, s 29.

²² *Ibid*, s 6(c).

²³ *Ibid*, s 6(d).

²⁴ *Ibid*, s 31(c).

²⁵ Sections 1(1), 5(1),6(1)(2), 19(2) and second Schedule of the *National Oil Spill Detection and Response Agency (Establishment) Act 2006* (amended in 2008).

²⁶ *Petroleum Industry Act 2021*, s 102.

Section 103(1) requires that prior to the approval of any licence or lease with potential environmental impact, the NUPRC or NMDPRA must direct the applicant to conduct an environmental impact assessment in accordance with the Environmental Impact Assessment Act.²⁷ Furthermore, Section 103(2) mandates the submission of an environmental management plan for projects not requiring a full environmental impact assessment.²⁸ For existing facilities, Section 103(7) obliges operators to conduct and submit a detailed environmental baseline study and environmental management plan within one year of the Act's commencement.²⁹

In terms of oil spill detection, Section 103(5) stipulates that licensees and lessees must install necessary measuring and monitoring equipment as required by the relevant compliance officer to detect and prevent pollution.³⁰ Additionally, Section 103(8) mandates the maintenance of an updated health, safety, and environment management system approved by the NUPRC or NMDPRA.³¹

3.3 Oil Spill Response and Remediation Framework

The PIA outlines obligations for prompt response and remediation in the event of oil spills. Section 103(4) requires licensees and lessees to adopt all practicable precautions, including the provision of up-to-date equipment, to prevent pollution and minimise environmental impact where pollution occurs.³² Section 103(6) mandates that upon occurrence of pollution, the licensee or lessee must commence appropriate and adequate clean-up promptly, subject to verification and periodic assessment by the Commission or Authority.³³ A notable innovation is the establishment of an environmental remediation fund under Section 103(9). This fund, to be established prior to the commencement of petroleum operations, serves as financial assurance for environmental remediation.³⁴

²⁷ Ibid, s 103(1).

²⁸ Ibid, s 103(2).

²⁹ Ibid, s 103(7).

³⁰ Ibid, s 103(5).

³¹ Ibid, s 103(8).

³² Ibid, s 103(4).

³³ *Petroleum Industry Act 2021*, s 103(6).

³⁴ Ibid, s 103(9).

3.4 Liability and Compensation Provisions

The PIA addresses liability and compensation for damage arising from petroleum operations. Section 238 imposes a general obligation on licensees and lessees to pay fair and adequate compensation for disturbance and damage to surface rights.³⁵

For upstream operations, Section 104(1) holds any person engaged in such operations liable for false declarations or failure to comply with environmental obligations under the Act.³⁶ In the midstream and downstream sectors, Section 232(1) establishes liability for damage to water bodies caused by licensees or lessees, in accordance with applicable regulations.³⁷ Additionally, the PIA introduces the Host Communities Development Trust under Chapter 3, requiring companies to contribute 3% of their annual operating expenditure to a community development trust fund.³⁸

4. ADEQUACY AND GAPS IN THE PIA'S OIL SPILL REGULATORY FRAMEWORK

The Petroleum Industry Act (PIA) 2021, long-awaited and ambitious in scope, is often heralded as a transformative legislative instrument capable of restructuring Nigeria's petroleum sector. While significant attention has been given to its fiscal and governance architecture, the Act's environmental framework, particularly regarding oil spill regulation, requires critical scrutiny. This section evaluates the adequacy of the PIA's oil spill-related provisions, highlighting both their strengths and their persisting deficiencies, through the lenses of institutional architecture, operational specificity, enforcement capacity, participatory justice, and environmental sustainability.

4.1 Integration of Environmental Protection and Implementation Gaps

The PIA makes a commendable attempt to embed environmental protection within the operational and regulatory lifecycle of petroleum activities. Sections 102 and 103 mandate compliance with international best practices, the conduct of Environmental Impact Assessments (EIAs), and the preparation of Environmental Management Plans (EMPs) as prerequisites for obtaining licences and leases.³⁹ These provisions mark a structural departure from earlier regulatory regimes, which often treated environmental compliance as secondary to production objectives.

Ele notes that the inclusion of these requirements signals a broader recognition of the environmental toll of oil production in Nigeria, especially in the Niger Delta.⁴⁰ However, Obi observes that these statutory obligations remain vaguely framed and potentially vulnerable to administrative discretion.⁴¹ Despite its progressive rhetoric, the Act remains weighted towards economic optimisation and lacks the hard environmental thresholds seen in comparative jurisdictions. Thus, Adebisi and Ezebuio caution that, without robust oversight and enforcement mechanisms, these obligations may remain aspirational rather than operationally effective.⁴²

³⁵ Ibid, s 238.

³⁶ Ibid, s 104(1).

³⁷ Ibid, s 232(1).

³⁸ Ibid, Ch 3.

³⁹ *Petroleum Industry Act 2021*, ss 102–103.

⁴⁰ M. Ele, 'Oil Spills in the Niger Delta – Does the Petroleum Industry Act 2021 Offer Guidance for Solving this Problem?' (2022) 13(1) *Journal of Sustainable Development Law and Policy* 64.

⁴¹ U.V. Obi, 'Mainstreaming Distributive Justice into Resources Management in Nigeria: The Extent of the Petroleum Industry Act 2021' (2024) 15(1) *Journal of Sustainable Development Law and Policy* 1.

⁴² S.A. Adebisi and K.N. Ezebuio, 'Analysis of the Petroleum Industry Act and Its Impact on the Nigerian Oil and Gas Sector' (2023) 4(1) *Global Journal of Interdisciplinary Management and Social Sciences* 201.

Yet, this framework is undermined by what Adebisi and Ezebuiro describe as an “implementation gap.”

⁴³ A fundamental limitation of the PIA’s environmental provisions is their heavy reliance on subsequent regulations, guidelines, and administrative decisions to establish concrete implementation mechanisms. This regulatory incompleteness is evident across multiple dimensions: the environmental remediation fund lacks specified contribution formulas or management protocols;⁴⁴ liability provisions omit damage assessment methodologies; prevention requirements reference “good international petroleum industry practices”⁴⁵ without specific technical standards; and enforcement provisions establish penalties without detailed compliance monitoring procedures. This extensive delegation of regulatory specificity creates a precarious gap between legislative aspiration and operational reality, particularly given Nigeria’s historical challenges with regulatory follow-through.

4.2 Institutional Architecture and Coordination

The PIA attempts to resolve the institutional fragmentation that plagued the pre-PIA regulatory regime by centralising environmental oversight within the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) and the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA). These new bodies are vested with explicit environmental protection mandates within their respective scopes. This restructuring marks a departure from the overlapping and ambiguous mandates of previous agencies like the Department of Petroleum Resources (DPR).

Yet, the Act remains silent on its concurrent jurisdiction with the National Oil Spill Detection and Response Agency (NOSDRA). Nwuke identifies this legislative silence as a source of regulatory ambiguity, with potential implications for effective enforcement and institutional coordination.⁴⁶ Without formalised coordination mechanisms, responsibilities for oil spill detection, remediation, and enforcement remain ambiguously distributed. This ambiguity not only frustrates accountability but also undermines trust in institutional responsiveness, particularly among host communities.

Field studies by *CSR-in-Action* corroborate these concerns, highlighting persistent confusion among host communities regarding which agencies are responsible for spill detection, enforcement, and clean-up.⁴⁷ Without clearly delineated mandates or statutory protocols for inter-agency collaboration, the risk of administrative overlap and blame-shifting remains high.

This institutional ambiguity creates several specific challenges for oil spill regulation. First, it potentially perpetuates the fragmentation that characterised the previous regulatory regime, with multiple agencies claiming jurisdiction over different aspects of oil spill prevention, detection, and remediation. Second, it creates potential coordination gaps in emergency response capabilities, where clear command structures and information sharing protocols are essential. Third, it may generate contradictory requirements or interpretations that complicate compliance for industry actors.

CSR-in-Action reports that without formal coordination mechanisms, jurisdictional delineation, or structured engagement among agencies like NOSDRA, NESREA, and the Federal Ministry of

⁴³ (n-42)

⁴⁴ *Petroleum Industry Act 2021*, s 103(9)

⁴⁵ *Ibid*, 102(c)

⁴⁶ K. Nwuke, ‘Nigeria’s Petroleum Industry Act: Addressing Old Problems, Creating New Ones’ (2021) *Brookings Institution* <https://www.brookings.edu/articles/nigerias-petroleum-industry-act-addressing-old-problems-creating-new-ones/>. Accessed 20 March 2025.

⁴⁷ *CSR-in-Action*, ‘Beyond Policies: What the PIA Report Tells Us About Community Inclusion’ (2023) *CSR-in-Action* <https://www.csr-in-action.com/beyond-policies-what-the-pia-report-tells-us-about-community-inclusion/>. Accessed 5th April 2025.

Environment, the PIA's new institutional framework risks replicating or even exacerbating the inter-agency conflicts that undermined the previous regulatory regime.⁴⁸

4.3 Oil Spill Prevention and Operational Specificity

The PIA codifies a preventive approach to oil spill governance through several obligations. Section 103(5) mandates environmental monitoring, while section 103(8) requires licensees to maintain updated Health, Safety, and Environment (HSE) management systems. The Act also imposes a general duty to adhere to “good international petroleum industry practices,”⁴⁹ signalling a shift from the production-centred orientation of earlier frameworks. However, the absence of prescriptive technical standards, e.g., minimum sensor sensitivity, inspection intervals, and independent audit requirements, limits the enforceability and reliability of these provisions.

Ater notes that the Act's dependence on subsidiary regulations without specifying timelines for their issuance may undermine its preventative efficacy.⁵⁰ *CSR-in-Action*'s analysis of field implementation confirms that many companies continue to operate without modern spill detection systems due to the lack of immediate regulatory compulsion.⁵¹ Compared to international best practices that incorporate mandatory thresholds and independent audits, Nigeria's approach under the PIA appears unduly reliant on executive discretion and industry goodwill. This lack of prescriptive technical benchmarks undermines the enforceability of the PIA's preventive framework and leaves its effectiveness contingent on voluntary industry compliance.

4.4 Remediation, Compensation, and Enforcement Capacity

The Environmental Remediation Fund introduced in Section 103(9) is perhaps the most innovative of the PIA's environmental provisions. It requires operators to establish a financial security mechanism, through performance bonds or letters of credit, prior to commencing operations. Ele praises the Fund as a “codification of financial responsibility for environmental harm,” contrasting it with the post hoc, often unenforced obligations of the past.⁵² Ater similarly frames the Fund as a concrete application of the polluter pays principle within Nigerian petroleum law.⁵³

However, the PIA offers no guidance on contribution benchmarks, management structures, or the modalities for community access. Adebisi and Ezebuio identify this regulatory underdevelopment as a serious gap, one which risks replicating the same delays and corruption that plagued the Oil Spill Compensation Fund under NOSDRA.⁵⁴ Moreover, the Act does not specify how “adequate clean-up” is to be measured or who independently verifies it. As *CSR-in-Action*'s research reveals, remediation efforts are frequently declared “complete” despite visible contamination and community objections.⁵⁵

⁴⁸ Ibid

⁴⁹ *Petroleum Industry Act 2021*, s 103(5), (8).

⁵⁰ S.V. Ater, ‘Petroleum Industry Act, 2021 (PIA) and Its Impacts on Environmental Sustainability in Nigeria’ (2022) *Sabi Law Foundation* <https://sabilaw.org/petroleum-industry-act-2021-pia-and-its-impacts-on-environmental-sustainability-in-nigeria/>.

⁵¹ *CSR-in-Action*, ‘Driving Change in Nigeria’s Oil Communities: Insights from Our Research’ (2023) *CSR-in-Action* <https://www.csr-in-action.com/driving-change-in-nigerias-oil-communities-insights-from-our-research/>. Accessed 10 April 2025.

⁵² (n-40)

⁵³ (n-46)

⁵⁴ (n-42)

⁵⁵ (n-47)

Without binding standards and third-party verification, even a well-funded mechanism risks ineffectiveness.

According to *CSR-in-Action*, the Act creates expansive new regulatory mandates without corresponding provisions for capacity building, technical resources, or sustainable funding mechanisms for enforcement activities.⁵⁶ This observation highlights the potential gap between regulatory ambition and implementation reality, particularly in a context where regulatory agencies have historically faced significant resource constraints. Umukoro and Omozue argue that effective implementation of the PIA's environmental provisions requires substantial investment in technical capacity development, specialised equipment, and information management systems that are not explicitly provided for in the legislation.⁵⁷

4.5 Community Participation and Environmental Justice

The Host Communities Development Trust (HCDDT) created under the PIA requires companies to allocate 3% of their operating expenses to community development. While this reflects a shift towards redistributive justice, the HCDDT does not confer any statutory role on host communities in relation to environmental governance. According to Ele, the Act largely conceptualises communities as recipients of financial benefit rather than governance partners, offering few provisions for their meaningful involvement in environmental monitoring, enforcement, or remediation activities.⁵⁸

Agbarakwe and Bredino argue that the exclusion of communities from environmental decision-making, including Environmental Impact Assessments (EIAs), compliance monitoring, and remediation oversight, represents a missed opportunity for participatory justice.⁵⁹ Nwuke also critiques Section 257(2), which permits deductions from the Trust's funds in cases of sabotage.⁶⁰ While intended to discourage vandalism, it risks penalising entire communities for the acts of a few. Reports by *CSR-in-Action* suggest that this conditionality undermines trust and reinforces perceptions of top-down control, rather than fostering genuine partnership.⁶¹

This participation gap is particularly significant for oil spill governance, where affected communities often possess valuable localised knowledge about environmental conditions, detection capabilities for early spill identification, and direct stakes in remediation outcomes. International best practices increasingly recognise the importance of community-based monitoring systems, participatory impact assessments, and collaborative remediation planning in effective oil spill governance. Obi argues that the PIA's limited community participation provisions represent a missed opportunity to harness local knowledge, build mutual trust, and establish more responsive environmental governance systems in regions with histories of socio-ecological conflict.⁶²

Thus, for environmental justice to be meaningful, affected populations must not only benefit economically but also participate substantively in shaping environmental outcomes. On this front, the

⁵⁶ Ibid

⁵⁷ B.E. Umukoro and M.O. Omozue, 'Environmental Protection and the Role of National Policies and Guidelines in Nigeria' (2024) 4(2) *Journal of Environmental Law & Policy* 198.

⁵⁸ (n-40)

⁵⁹ U.H. Agbarakwe and S.M. Bredino, 'Nigerian Petroleum Industry Act 2021 and Host Communities Development: Issues and Challenges' (2023) 9(2) *Saudi Journal of Humanities and Social Sciences* 38.

⁶⁰ (n-43)

⁶¹ (n-44)

⁶² (n-41)

PIA's architecture remains paternalistic, positioning communities as passive beneficiaries rather than active governance partners.

4.6 Climate Integration and Environmental Sustainability

A notable limitation in the PIA's environmental framework is its limited integration of climate change considerations with oil spill governance. Ele notes that the Act approaches oil spills primarily as localised pollution events rather than recognising their interconnections with broader climate impacts through methane releases and carbon losses from affected ecosystems.⁶³

This limited climate integration represents a significant gap given the increasing recognition of methane's potent greenhouse gas properties and the climate implications of ecosystem degradation. International best practices increasingly emphasise the climate dimensions of oil spill prevention and remediation, with regulatory frameworks addressing methane monitoring, quantification protocols for climate impacts, and remediation approaches that prioritise carbon sequestration potential.

Kodiya et al. demonstrate that integrated strategies are essential for achieving sustainability in Nigeria's environmental governance landscape and argue that the exclusion of climate linkages from oil spill policy reflects a missed opportunity for holistic reform.⁶⁴ *CSR-in-Action's* findings further indicate that the PIA's siloed approach to environmental protection, separating oil spill management from climate considerations, fails to reflect the integrated nature of contemporary environmental challenges and misses opportunities for policy coherence between pollution control and climate objectives.⁶⁵

Taken together, these deficiencies reveal that while the PIA introduces notable structural improvements, its operational impact remains constrained by significant institutional ambiguities, vague implementation pathways, weak enforcement capacity, limited community participation, and the absence of climate integration. Unless these gaps are addressed through urgent regulatory, administrative, and participatory reforms, the PIA's environmental provisions risk remaining largely aspirational, and the promise of environmental justice for oil-impacted communities may remain elusive.

5. PROPOSED REFORMS FOR ENHANCING THE PIA'S OIL SPILL REGULATORY FRAMEWORK

Building on the deficiencies identified in the preceding analysis, this section proposes specific reforms to strengthen the PIA's capacity to effectively regulate oil spills in Nigeria's petroleum sector. These proposals encompass legislative amendments, institutional restructuring, and policy interventions that collectively aim to fortify Nigeria's oil spill governance framework and ensure the attainment of its environmental protection objectives.

5.1 Clarifying Implementation Pathways and Regulatory Specificity

A foundational reform priority is the closure of the "implementation gap" created by the PIA's extensive reliance on subsidiary regulations. While the Act establishes broad environmental obligations, it leaves critical operational details to yet-to-be-developed regulatory instruments, creating

⁶³ (n-40)

⁶⁴ M.A. Kodiya, M.A. Modu, K. Ishaq, Z. Yusuf, A.Z. Wakili, N. Dayyabu, M.A. Jibrin and M.U. Babangida, 'Environmental Pollution in Nigeria: Unlocking Integrated Strategies for Environmental Sustainability' (2025) 18(1) *African Journal of Environmental Sciences & Renewable Energy* 1.

⁶⁵ (n-47)

uncertainty and delaying enforcement. To address this, there is a pressing need for the prompt development of comprehensive subsidiary legislation that articulates technical standards, procedural requirements, and enforcement protocols. Legal scholars underscore that such regulations must operationalise the Act's environmental objectives with clarity, precision, and enforceability.

Key areas in need of subsidiary instruments include:

- i. Contribution formulas and governance models for the Environmental Remediation Fund, including eligibility criteria for community access and mechanisms for disbursement.
- ii. Methodologies for ecological damage assessment, compensation valuation, and remediation timelines across different environmental contexts.
- iii. Detailed procedural requirements for EIAs and EMPs, encompassing methodological rigour, transparency standards, and frameworks for community involvement.

These instruments should be developed through transparent consultative processes, informed by international best practices and credible scientific evidence, to enhance legitimacy and regulatory effectiveness.

5.2 Clarifying Institutional Mandates and Coordination Mechanisms

A critical reform priority is the clarification of relationships between the PIA's newly established regulatory institutions and existing environmental agencies. Legal scholarship has emphasised the importance of legislative amendments that explicitly delineate jurisdictional boundaries, establish formal inter-agency coordination protocols, and provide for hierarchical regulatory relationships where appropriate.

Recommended reforms include:

- i. Amending the PIA to recognise NOSDRA as the lead agency for oil spill response coordination, while positioning the NUPRC and NMDPRA as the primary regulators for prevention standards within their operational scopes.
- ii. Establishing a statutory inter-agency coordination committee with clearly defined responsibilities, procedural protocols, and reporting obligations.
- iii. Creating information-sharing platforms and joint inspection procedures to reduce regulatory redundancy and promote holistic oversight.
- iv. Developing a unified national oil spill database that integrates reports from all relevant institutions and is accessible to regulators, industry operators, and the public.

Institutional clarity, as supported in environmental governance literature, is foundational for the effective enforcement of environmental mandates, particularly in complex, high-stakes sectors such as petroleum.

5.3 Developing Robust Technical Standards for Oil Spill Prevention

Addressing the PIA's lack of prescriptive technical standards requires the formulation of binding and enforceable preventive benchmarks. This would transform the current reliance on vague references to "good international petroleum industry practices" into concrete operational obligations.

Key reforms include:

- i. Specification of technical standards for oil spill prevention tools, environmental monitoring systems, and equipment maintenance protocols tailored to varied operational terrains (onshore, offshore, shallow water).
- ii. Requirements for periodic independent audits and certification of spill detection systems.
- iii. Mandatory minimum inspection frequencies, sensor sensitivities, and calibration protocols.

These technical standards must be codified in binding regulations, aligned with international best practices, and subject to regular review to remain scientifically current and technologically relevant.

5.4 Enhancing Remediation Mechanisms and Regulatory Capacity

Reforms are also needed to address design weaknesses in the Environmental Remediation Fund and the chronic resource constraints undermining regulatory enforcement. Without clear rules for contributions, disbursement, and oversight, the Fund risks replicating the corruption and delays that plagued earlier compensation mechanisms.

Proposed reforms include:

- i. Defining contribution benchmarks and governance structures for the Environmental Remediation Fund, including provisions for community access and public oversight.
- ii. Establishing third-party verification systems to certify when clean-up is “adequate,” based on transparent, science-based criteria.
- iii. Allocating a designated percentage of petroleum revenues or licence fees to fund environmental regulation and enforcement.
- iv. Developing specialised training curricula for regulators in oil spill science, environmental forensics, and enforcement procedures.
- v. Expanding technological capacity through remote sensing and digital monitoring systems for real-time environmental surveillance.
- vi. Establishing public-private partnerships that bolster emergency response resources while maintaining regulatory integrity and independence.

Research consistently shows that well-conceived laws can be rendered ineffective without the institutional means for their enforcement; building this capacity is therefore indispensable to the success of the PIA’s environmental regime.

5.5 Embedding Community Participation in Environmental Governance

Enhancing community participation within the PIA’s framework requires a paradigm shift from a model of passive benefit-sharing to one of active environmental governance partnership. Legal scholars advocate for the statutory recognition of environmental rights, including access to information, participation in decision-making, and access to effective remedies for environmental harms.

Proposed reforms include:

- i. Legislative amendments to mandate community representation in environmental impact assessments, monitoring programmes, and remediation strategy formulation.

- ii. Formalisation of community-based monitoring schemes, with regulatory recognition of the data they produce.
- iii. Establishment of accessible dispute resolution bodies, such as environmental tribunals or ADR platforms, to address grievances and expedite compensation claims.
- iv. Revision of the Host Communities Development Trust structure to remove provisions that impose collective liability and to enhance community control over development planning and implementation.

Scholarly analysis stresses that inclusive governance is not only normatively desirable but also practically effective in regions marked by environmental degradation and socio-ecological conflict.

5.6 Integrating Climate Considerations into Oil Spill Governance

Finally, reforming the PIA's environmental framework must include the integration of climate change considerations into oil spill regulation. Emerging scholarship suggests that oil spills should be addressed not only as localised pollution events but also as significant contributors to global climate change through methane emissions and carbon loss from degraded ecosystems.

Reforms to integrate climate dimensions into oil spill governance could include:

- i. Statutory recognition of the greenhouse gas implications of oil spills and the development of monitoring and reporting obligations for methane emissions.
- ii. Design and implementation of carbon accounting frameworks that measure both direct and indirect emissions linked to spill events.
- iii. Prioritisation of remediation strategies that promote carbon sequestration alongside conventional ecological restoration.
- iv. Integration of environmental and climate impact reporting into regulatory compliance tools.
- v. Incorporation of climate vulnerability assessments into EIAs to evaluate how changing climatic conditions influence spill risks and mitigation effectiveness.

A climate-sensitive oil spill governance framework would not only align with global environmental objectives but also ensure greater coherence and sustainability in Nigeria's broader environmental regulatory regime.

Collectively, the reforms proposed in this chapter are intended to transform the PIA's oil spill framework from a broadly aspirational regime into a functionally robust and accountable system of environmental governance. By confronting the legislative ambiguities, institutional fragmentation, technical weaknesses, capacity constraints, participatory deficits, and the neglect of climate considerations identified in the preceding analysis, these measures provide a coherent and practicable roadmap for strengthening Nigeria's oil spill regulatory architecture.

6. CONCLUSION

The Petroleum Industry Act (PIA) 2021 represents a landmark legislative intervention aimed at reforming Nigeria's petroleum sector, yet its environmental provisions - particularly regarding oil spill regulation - remain substantially deficient in design and enforceability. This study demonstrated that the PIA's framework is constrained by six interrelated weaknesses: the deferral of critical

implementation details to yet-to-be-developed subsidiary legislation; persistent institutional ambiguity between new regulators and existing agencies such as NOSDRA and NESREA; the absence of prescriptive technical standards for prevention and monitoring; the exclusion of host communities from meaningful environmental governance roles; severe capacity and resource constraints undermining enforcement; and the failure to integrate climate change considerations into oil spill governance. These deficiencies collectively undermine the Act's capacity to deliver environmental protection, accountability, and justice for oil-impacted communities.

In response, this article proposed a suite of legislative, institutional, and policy reforms to transform the PIA's oil spill regime from a broadly aspirational framework into a functionally robust and accountable environmental governance system. These include clarifying implementation pathways and institutional mandates, developing binding technical standards, redesigning remediation mechanisms, investing in regulatory capacity, embedding community participation as a governance principle, and integrating climate considerations into oil spill regulation. Together, these proposals provide a coherent roadmap for strengthening Nigeria's oil spill regulatory architecture and underscore the broader imperative that environmental legislation in resource-dependent states must rest on enforceable structures rather than aspirational norms.