

Evaluating The National Biodiversity Strategy and Action Plan 2016-2020 (NBSAP) As a Programmatic Approach To Biodiversity Conservation in Nigeria

Halimat Adepeju Adeniran¹

Opeyemi Adewale Gbadegesin²

Abstract

Ecosystems globally face unprecedented anthropogenic pressures, with biodiversity loss emerging as a defining environmental crisis of our era. In Nigeria, a nation of immense ecological richness yet profound socio-economic complexities, conservation efforts are frequently hampered by a centralized legal framework that struggles to effectively integrate the country's vast regional and ecological diversity, leading to significant implementation gaps. This study evaluates Nigeria's National Biodiversity Strategy and Action Plan (NBSAP) for 2016-2020 against established programmatic standards, specifically those emphasizing adaptive management and robust monitoring frameworks, such as the Conservation Measures Partnership's Open Standards. Employing a doctrinal and comparative legal research methodology, the paper contrasts the NBSAP with Botswana's National Biodiversity Strategy and Action Plan (BNBSAP) 2016-2025, a nation demonstrating a more integrated approach to localized strategies and monitoring. Findings reveal a critical paradox: while the NBSAP articulates key programmatic components and aligns with theoretical conservation principles, its operational design and practical implementation are severely undermined by a pervasive lack of systematic, data-driven adaptive management. This deficiency is empirically underscored by Nigeria's 2024 Environmental Performance Index (EPI) ranking of 140th overall and particularly its abysmal score of 0.0 in Bioclimatic Ecosystem Resilience. The study concludes that achieving Nigeria's biodiversity conservation goals necessitates a fundamental shift towards a more robust, evidence-informed, and operationally integrated programmatic framework that transcends mere policy articulation to embrace genuine adaptive governance.

Keywords: Biodiversity loss; Conservation policy; Nigeria ecosystems; Adaptive management; Environmental governance

1.0 Introduction

The accelerating degradation of global biodiversity presents a multifaceted crisis, implicating not only ecological stability but also the foundational conditions of legal

¹ Department of Commercial and Industrial Law, Faculty of Law, University of Ibadan, Ibadan, Nigeria

² Department of Public Law, Faculty of Law, University of Ibadan, Ibadan, Nigeria.

and socio-economic governance³—especially in developing states where livelihoods are inextricably linked to natural systems.⁴ Nigeria, as one of Africa's most ecologically diverse countries, occupies a particularly precarious position. Its rich tapestry of ecosystems—from the mangroves of the Niger Delta to the montane forests of the Mambilla Plateau—supports vital provisioning, regulatory, and cultural services.⁵ Yet these systems face escalating threats from land conversion, pollution, and climate variability.⁶ The erosion of biodiversity here is not just environmental decline; it signals a deeper breakdown in institutional and regulatory stewardship.

In response, Nigeria, as a signatory to the Convention on Biological Diversity (CBD), developed its NBSAP 2016–2020,⁷ aiming to domesticate international obligations through programmatic legal and policy instruments. However, as is often the case in environmental governance, the existence of a national plan does not equate to meaningful conservation outcomes.⁸ A fundamental disjuncture exists between normative commitments and their legal-operational actualization. This paper contends that while the NBSAP demonstrates formal compliance with global conservation standards, its practical ineffectiveness reveals entrenched deficits in legal institutional design, inter-agency coordination, and adaptive management mechanisms. These failures are not merely technical—they are symptomatic of deeper challenges at the intersection of legal formality, socio-economic pressures, and environmental risk regulation.

To critically examine this disjuncture, the paper adopts a doctrinal and comparative methodology. It juxtaposes the NBSAP with Botswana's National Biodiversity

³ P D'Orazio, D Schäfer and A Stephan, 'Macro-Financial Policy at the Crossroad: Addressing Climate Change, Biodiversity Loss, and Environmental Degradation—Introduction to the Special Issue' *Eurasian Economic Review* [2024] 14 (1) 1.

⁴ OA Gbadegesin, HA Adeniran and UE Ojogbo, 'Towards Holistic Environmental Governance: Embedding Biodiversity in Nigeria's Climate Change Frameworks' *Climate Law* [2026] 15 487. <https://doi.org/10.1163/18786561-bja10077>

⁵ TT Nguyen, U Grote, F Neubacher, MH Do and GP Paudel, 'Security Risks from Climate Change and Environmental Degradation: Implications for Sustainable Land Use Transformation in the Global South' *Current Opinion in Environmental Sustainability* [2023] 63 101322.

⁶ M Lockwood, 'Good Governance for Terrestrial Protected Areas: A Framework, Principles and Performance Outcomes' *Journal of Environmental Management* [2010] 91 (3) 754.

⁷ Federal Ministry of Environment, *National Biodiversity Strategy and Action Plan 2016–2020* (Federal Republic of Nigeria, December 2015) <<http://faolex.fao.org/docs/pdf/nig168968.pdf>> accessed 15 February 2025.

⁸ NM Dawson, B Coolsaet, A Bhardwaj, F Booker, D Brown, B Lliso, J Loos et al, 'Is It Just Conservation? A Typology of Indigenous Peoples' and Local Communities' Roles in Conserving Biodiversity' *One Earth* [2024] 7 (6) 1007; M Scott, G Parker, M Juntti, J Castellino, O Forero, I Mell, G Jerome et al, *The Biodiversity Crisis—Planning for Nature Recovery?* In Mark Scott and Gavin Parker (eds), *Planning Theory & Practice* 2024) 25 (1) 103.

Strategy and Action Plan 2016–2025 (BNBSAP),⁹ a document rooted in measurable targets, iterative stakeholder engagement, and evidence-informed plan revisions. Botswana serves not as a normative benchmark, but as a contextual comparator—demonstrating how similarly situated legal systems can diverge dramatically in institutional efficacy, not because of greater capacity, but due to more responsive governance architectures. The legal analysis focuses not merely on text but on operational pathways: the legal mandates, reporting obligations, and institutional accountability mechanisms that enable or obstruct conservation goals. This comparative analysis is not about declaring one nation superior, but rather about extracting nuanced lessons on how programmatic design translates into varying degrees of effectiveness in diverse African contexts.

Empirical insights further ground this analysis. Nigeria's performance in the 2024 Environmental Performance Index (EPI)¹⁰ exemplifies the paradox at hand. Despite ranking 27th globally in protecting terrestrial Key Biodiversity Areas (KBAs), it scored zero in Bioclimatic Ecosystem Resilience and performed poorly in Protected Area Effectiveness.¹¹ This contradiction—high designation but low resilience and enforcement—highlights the limits of juridical formalism in biodiversity law. It illustrates a phenomenon well-known in African environmental governance: the proliferation of legal instruments without corresponding implementation capacity, resulting in “paper parks” and hollow compliance.¹²

These empirical and doctrinal observations converge on a critical insight: legal responses to biodiversity loss in Nigeria remain siloed, formalistic, and insufficiently adaptive. Institutional fragmentation, weak data governance, and insufficient mechanisms for stakeholder participation limit the legal system's ability to evolve in response to dynamic ecological pressures. Moreover, constitutional and statutory

⁹ Botswana Department of Environmental Affairs, National Biodiversity Strategy and Action Plan 2016–2025 (Gaborone, 2016) <<http://faolex.fao.org/docs/pdf/bot155279.pdf>> accessed 1 March 2025.

¹⁰ Steven Block et al, 2024 Environmental Performance Index (Yale Center for Environmental Law & Policy, 2024) <https://epi.yale.edu> accessed 30 January 2025.

¹¹ While the EPI is a performance index rather than a direct policy evaluation, its granular data offers invaluable diagnostic insights into the actual state of environmental health. Nigeria's overall rank of 140th out of 180 countries in the 2024 Environmental Performance Index (EPI) and its 99th position in the Biodiversity & Habitat category already signal significant challenges. A closer examination of the EPI's sub-indicators, however, presents a more alarming picture: Terrestrial Key Biodiversity Area (KBA) Protection (Rank 27, Score 88.7), Bioclimatic Ecosystem Resilience (Rank 171, Score 0.0), and Protected Area Effectiveness (Rank 135, Score 32.9).

¹² OA Gbadegesin, ‘Legal Pathways to Sustainability in Sub-Saharan Africa: Integrating Indigenous Knowledge and Practices for Climate Adaptation and Food Security in Kenya and Nigeria’ *Environment & Ecosystem Science* [2025] 9 (1) 27.DOI: <http://doi.org/10.26480/ees.01.2025.27.35>

ambiguities regarding environmental protection—particularly the concurrent jurisdiction over land use, resource extraction, and conservation—further constrain integrated policy execution.¹³ In practice, biodiversity law is often subordinated to economic development imperatives, with courts reluctant to enforce environmental protections in the face of extractive interests.¹⁴

Accordingly, the challenge is not simply to improve technical implementation, but to recalibrate the legal architecture itself—to design biodiversity governance frameworks that are not only normatively coherent but also dynamically operable. This requires embedding adaptive legal standards, enabling horizontal coordination, institutionalising public accountability, and securing biodiversity as a matter of substantive environmental justice under domestic constitutional law.

Following this introduction, an examination of biodiversity conservation principles and programmatic sustainability approaches is provided. Subsequently, Nigeria's biodiversity landscape and NBSAP effectiveness are assessed using EPI data and policy documents, followed by a comparison with Botswana's strategy to identify implementation differences. The next section considers how Nigeria's biodiversity policy can be better aligned with emerging global frameworks to enhance conservation outcomes. Finally, recommendations are presented for strengthening Nigeria's conservation through data-driven adaptive management, multi-stakeholder engagement, and innovative financing mechanisms. The final section is the conclusion.

2.0. Conceptualising the Programmatic Approach to Environmental Sustainability

The programmatic approach to environmental sustainability represents a paradigm shift from isolated, short-term interventions to a holistic, strategic framework designed to achieve substantial and sustained impacts on complex environmental challenges.¹⁵ Unlike traditional project-based approaches, which often focus on tactical objectives within defined timeframes and budgets, leading to fragmented

¹³ OJ Olujobi, OS Irumekhai and AD Aina-Pelemo, 'Sustainable Development and National Integration: A Catalyst for Enhancing Environmental Law Compliance in Nigeria' *Environmental Policy and Law* [2024] 54 (1) 27.

¹⁴ OC Ruppel and R Murray, 'A Global Comparative Constitutional Analysis of Natural Resources Protection' *ICL Journal* [2024] 18 (2) 255.

¹⁵ MM Justin, 'Managing Development Programs for Sustainability: Integrating Development and Research Through Adaptive Management' *Society and Natural Resources* [2006] 19 (6) 531.

efforts, a programmatic approach adopts a long-term, strategic perspective. This distinction, as articulated by Justin is critical: while projects are often reactive and narrowly scoped, programs are proactive, emphasizing meticulous planning, coordination, and collaboration across diverse initiatives to anticipate future challenges and foster comprehensive responses.¹⁶ This foundational understanding is essential for navigating the intricate landscape of biodiversity conservation, particularly in dynamic developing contexts where quick fixes rarely yield lasting ecological or social benefits.

At its core, a robust programmatic approach is characterized by an iterative, adaptive management cycle, a concept rigorously articulated by the Conservation Measures Partnership (CMP) through its Open Standards for the Practice of Conservation.¹⁷ These standards provide a structured, five-step framework that moves beyond mere theoretical alignment to guide practical implementation and continuous improvement. The first step, Conceptualize, according to Egal and Berry¹⁸ involves defining the project's scope, vision, and conservation targets, identifying critical threats, and completing a comprehensive situation analysis, including stakeholder assessment and conceptual modeling of cause-and-effect relationships. This initial phase ensures a deep understanding of the socio-ecological context before interventions are designed, a crucial step often overlooked in the rush to implement.

Following conceptualization, the second step is to Plan Actions and Monitoring.¹⁹ This entails developing formal action plans with measurable goals, clearly defined strategies, and explicit assumptions about how these strategies will lead to desired outcomes. Crucially, it also involves designing a formal monitoring plan with specific indicators and methods to track progress and collect data, alongside an operational plan detailing resource needs and risk mitigation.²⁰ The third step, Implement Actions and Monitoring, is where these meticulously crafted plans are put into motion, translating strategic blueprints into on-the-ground activities and consistent data

¹⁶ Ibid

¹⁷ Eric Mostert, 'Law and Politics in River Basin Management: The Implementation of the Water Framework Directive in The Netherlands' *Water* [2020] 12 3367.

¹⁸ Florence Egal and Elliot M Berry, 'Moving Towards Sustainability—Bringing the Threads Together' *Frontiers in Sustainable Food Systems* [2020] 4 34.

¹⁹ Michael Lee, *EU Environmental Law, Governance and Decision-Making* (Hart Publishing 2014) 56.

²⁰ Ibid 68

collection.²¹ This phase demands not just execution, but a disciplined adherence to data collection protocols to ensure the integrity of subsequent analysis.

The true power of the programmatic approach lies in its fourth and fifth steps: Analyze, Use, and Adapt, and Capture and Share Learning.²² Data collected during implementation are systematically analyzed to evaluate effectiveness, test underlying assumptions, and identify areas for adjustment. This continuous assessment allows for real-time feedback and iterative improvements, ensuring that strategies remain responsive to changing environmental conditions and emerging insights.²³ Finally, documenting and sharing lessons learned, both successes and failures, fosters a vital learning environment within the conservation community, promoting knowledge transfer and enhancing future efforts.²⁴ This cyclical process ensures that conservation initiatives are not static but evolve dynamically, a critical feature for addressing complex, long-term environmental problems that defy static solutions.

While a programmatic approach aims for optimal environmental impact, economic viability, and social equity, Weber et al.²⁵ distinguish between the process of being programmatic and the outcomes of sustainability. The former refers to adherence to the structured, adaptive management cycle, while the latter represents the desired triple-bottom-line results. For instance, a program might be meticulously planned and monitored (programmatic process), yet still face challenges in achieving its desired social equity outcomes due to external socio-political factors. This nuanced understanding is particularly pertinent in contexts like Nigeria, where the efficacy of legal frameworks is often hampered by inconsistent enforcement and broad standards that struggle to address localized environmental governance. The landmark case of *Gbemre v. Shell Petroleum Development Corporation*,²⁶ for example, illustrates the limitations of relying solely on broad legal pronouncements without robust, adaptive, and context-specific programmatic interventions to ensure compliance and achieve

²¹RT Lackey, 'Seven Pillars of Ecosystem Management' Landscape and Urban Planning [1998] 40 21.

²²M Boeve and B van den Broek, 'The Programmatic Approach: A Flexible and Complex Tool to Achieve Environmental Quality Standards' Utrecht Law Review [2012] 8 74.

²³A Adawiyah, 'Unraveling the Dynamics of Performance Measurement: A Qualitative Study on Adopting Continuous and Data-driven Approaches in Performance Management' Golden Ratio of Human Resource Management [2024] 4 (1) 30.

²⁴IS Idrus, 'Performance Management Reimagined: Moving Beyond Annual Reviews to Continuous Feedback' The Journal of Academic Science [2025] 2 (1) 222.

²⁵SS Weber, D Bookhart and J Newman, 'Research and Solutions: Institutionalizing Campus-Wide Sustainability: A Programmatic Approach' Sustainability: The Journal of Record [2009] 2 2 <<https://tinyurl.com/vj89a3kj>> accessed 16 March 2025.

²⁶[2005] 6 AHRLR 152.

tangible environmental benefits. A programmatic framework, with its emphasis on tailored strategies, measurable objectives, and continuous adaptation, offers a more promising pathway to bridge this persistent gap between legal intent and practical impact, moving beyond punitive measures to foster genuine behavioral change.

However, implementing such an ideal programmatic framework in developing countries like Nigeria presents formidable challenges. Resource constraints, limited institutional capacity, inadequate data availability, and complex socio-economic pressures often impede the full operationalization of these standards. For instance, the absence of measurable indicators for policy targets, as observed in NBSAP, directly undermines the "Plan Actions and Monitoring" and "Analyze, Use, Adapt" steps of a programmatic cycle. Furthermore, the imperative for genuine stakeholder engagement, while central to programmatic success, can be complicated by issues of power dynamics, conflicting interests, and historical mistrust within diverse communities. According to Dupuy and Van Ingelgom,²⁷ even a theoretically sound programmatic plan can fail if the underlying institutional capacity, political will, and socio-economic realities are not adequately addressed in its operationalization. This means that while the blueprint might be perfect, the construction is flawed due to external pressures and internal weaknesses. Recognizing these inherent complexities is not an excuse for inaction, but rather a call for innovative, context-sensitive adaptations of programmatic principles to foster resilience and achieve meaningful conservation outcomes in challenging environments. This conceptual foundation now sets the stage for a critical examination of NBSAP against these programmatic benchmarks.

3.0 Nigeria's Biodiversity Landscape and the Implementation of the 2016–2020 NBSAP: Challenges and Insights.

3.1 Ecological, Cultural, and Economic Dimensions of Biodiversity in Nigeria

Nigeria's biodiversity is defined by its extraordinary ecological heterogeneity, spanning from mangrove estuaries and tropical rainforests in the south to savannahs and semi-arid zones in the north.²⁸ This diversity of ecosystems, ranging across

²⁷ C Dupuy and V Van Ingelgom, 'Neither Responsive, Nor Responsible? Citizens' Understandings of Political Actors' Responsiveness and Responsibility in the Socio-Economic Governance of the EU' *Journal of European Public Policy* [2024] 31 (4)1126.

²⁸OA Gbadegesin and OA Gbadamosi SAN, 'Indigenous Ecological Knowledge: A Transformative Approach to Biodiversity Legislation in Nigeria' *Environmental Management* [2024] 74 317. <https://doi.org/10.1007/s00267-024-01994-2>

multiple biogeographical realms, creates a complex conservation landscape that defies simplistic regulatory categorization.²⁹ The coexistence of endemic species—many of which are critically restricted to fragmented forest enclaves—with globally threatened fauna such as gorillas and forest elephants underscores Nigeria's unique and heightened responsibility as a custodian of global biodiversity.³⁰ Yet, this ecological richness simultaneously reveals a paradox: the same ecological complexity that provides resilience also introduces governance challenges that conventional spatially bounded legal frameworks struggle to accommodate.

Ecologically, Nigerian habitats function as interlocking systems whose integrity is foundational not only to environmental stability but also to socio-economic continuity.³¹ The legal significance of these ecological functions must be understood through the prism of ecosystem services as public goods—ranging from hydrological regulation and carbon sequestration to pollination and soil fertility—that transcend localized conservation zones.³² This challenges legal regimes to evolve beyond the protection of species or isolated habitats towards frameworks that account for connectivity, landscape-scale processes, and cumulative impacts. Notably, according to Onyena and Sam's study deforestation, urban sprawl, and climate-driven habitat shifts reveal that rigid protected-area systems can't keep up, highlighting the need for adaptive, networked legal frameworks.³³

Interwoven with ecological complexity is the cultural tapestry that shapes and is shaped by biodiversity.³⁴ Indigenous and local communities hold inestimable custodianship over ecosystems through traditional knowledge, sacred sites, and culturally embedded resource governance practices.³⁵ This intersection according to

²⁹ Ibid

³⁰ D Ogunniyi and A Azeta, 'Assessing Biodiversity Loss and the Challenge of Implementing Nature Conservation Laws in Africa' *African Journal of Legal Studies* [2024] 16 (2) 79.

³¹ KS Aina, E Iyiola, OR Oyewumi and OO Edward, 'Biodiversity as a Tool for Sustainable Socio-Economic Development in Nigeria' *Russian Journal of Agricultural and Socio-Economic Sciences* [2022] 125 (5) 200.

³² A Adegbite, 'Cultural Dimensions in Wildlife Preservation: African Indigenous Perspectives from Nigeria and Kenya' *Open Journal of Social Sciences* [2025] 13 (2) 444.

³³ AP Onyena and K Sam, 'The Blue Revolution: Sustainable Water Management for a Thirsty World' *Discover Sustainability* [2025] 6 (1) 1.

³⁴ OA Gbadegesin, 'Lost in Transplantation: Revisiting Indigenous Principles as a Panacea to Natural Resource Sustainability in Nigeria' *Journal of African Law* [2024] 68 (1) 41 <http://doi.org/10.1017/S0021855323000256>

³⁵ Ibid

Berebon³⁶ highlights a fundamental insight: legal conservation strategies that disregard customary ecological governance risk exacerbating biodiversity loss by alienating those most invested in sustainable stewardship. Accordingly, progressive legal scholarship and policy must embrace pluralistic governance models that enshrine community rights, enable co-management, and integrate ethno-biological knowledge into formal conservation frameworks. Such approaches not only strengthen legal legitimacy but also enhance ecological outcomes by aligning conservation imperatives with cultural continuity and social justice.

Economically, biodiversity's role in underpinning Nigeria's primary production sectors and livelihoods demands a reconceptualization of environmental law as an instrument of sustainable development rather than mere environmental protection.³⁷ Agricultural productivity, fisheries sustainability, forest-based economies, and emerging ecotourism sectors depend intimately on genetic diversity and ecosystem health.³⁸ The distributional consequences of biodiversity degradation also raise questions of substantive equality and the protection of vulnerable groups, particularly where environmental decline disproportionately affects communities whose livelihoods depend on natural capital.³⁹ Hence, environmental law must transcend fragmented sectoral regulation to adopt integrated fiscal and land-use policies that internalize ecological costs, incentivize conservation through market-based instruments, and enforce liability for environmental harm. This necessitates a sophisticated legal architecture capable of balancing extractive interests with ecosystem service valuation and equitable benefit-sharing.⁴⁰

This triad of ecological, cultural, and economic dimensions converges in NBSAP 2016–2020, which exemplifies an ambitious attempt to operationalize a holistic vision

³⁶ CB Berebon, 'Integrating Ethical, Legal, and Cultural Paradigms: Advancing Environmental Stewardship' *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis* [2025] 8 (1) 1.

³⁷ EE Obuah and RC Keke, 'Mitigating the Negative Externalities of Oil Drilling Activities in the Niger Delta, Nigeria' *Open Access Library Journal* [2022] 9 (5) 1.

³⁸ AT Adesiyan, TO Ojo and OO Ogundele, 'Determinants of Willingness to Pay for Externalities in Cocoa Production in Osun State, Nigeria' *Environment, Development and Sustainability* [2024] 26 (10) 24843.

³⁹ TR Ibitoye and F Ajagunna, 'Sexual Autonomy and Violence against Women in Nigeria: Assessing the Impact of COVID-19 Pandemic' *De Jure Law Journal* [2021] 54 172. <https://doi.org/10.17159/2225-7160/2021/v54a9>; O Olomola and F Ajagunna, 'Knowledge and Access to Reproductive Health Rights among Adolescents in Ibadan, Nigeria' *African Journal of International and Comparative Law* [2020] 28 335. <https://doi.org/10.3366/ajicl.2020.0320>

⁴⁰ E Muchapondwa and H Ntuli, 'Managing Trade-Offs Between Communities' Welfare and Nature Conservation: The Case of Wildlife Management Systems in and Outside Protected Areas in Africa' *Annual Review of Resource Economics* [2024] 16.

of biodiversity governance. The NBSAP's SMART targets and multi-stakeholder participatory processes reflect an awareness that effective biodiversity law must be adaptive, rights-based, and embedded within broader development frameworks.⁴¹ Yet, the Plan's aspirations reveal the persistent institutional fragilities and enforcement gaps that characterize Nigerian environmental governance, cautioning that legal reform must be accompanied by capacity-building, inter-agency coordination, and political commitment to achieve transformative outcomes. Moreover, this underscores the imperative for law to not only codify conservation objectives but to facilitate iterative learning, transparency, and accountability within a multi-level governance ecosystem.

3.2 Institutional and Legal Foundations for Biodiversity Conservation in Nigeria

Implementing NBSAP occurs within a complex legal and institutional framework shaped by a multiplicity of federal and state actors. At the federal level, the primary regulatory authority is the Federal Ministry of Environment, supported by its specialized agencies, notably the National Environmental Standards and Regulations Enforcement Agency (NESREA).⁴² These bodies derive their mandates from a constellation of statutory instruments and regulatory provisions, including the Endangered Species (Control of International Trade and Traffic) Act,⁴³ and the National Parks Act⁴⁴ —elements that are presently embedded within broader environmental legislation. Additionally, various sector-specific legal instruments govern forestry, wetlands, and biotechnology.⁴⁵ However, the absence of a single, overarching biodiversity law results in a legal framework that is disjointed and marked by jurisdictional overlap. This legislative patchwork necessitates critical

⁴¹The NBSAP was designed to address these very values by conserving biological diversity while enabling its sustainable use and equitable sharing of benefits; it set forth a vision of a “healthy living environment where people live in harmony with nature,” and established 14 SMART targets (with 21 impact indicators), alongside 67 strategic actions and 123 performance indicators.

⁴²National Environmental Standards and Regulations Enforcement Agency (NESREA), *National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007* [2007] No. 25, Federal Republic of Nigeria Official Gazette, Vol. 94, No. 92, 31 July 2007, A635–A655

⁴³ Federal Republic of Nigeria, *Endangered Species (Control of International Trade and Traffic) Act* [1985] Cap. E9, Laws of the Federation of Nigeria 2004

⁴⁴ Federal Republic of Nigeria, *National Park Service Act*, Cap. N65, Laws of the Federation of Nigeria 2004,

⁴⁵ See Federal Republic of Nigeria, *National Environmental (Wetlands, River Banks and Lake Shores Protection) Regulations*, S.I. No. 26 of 2009, Official Gazette No. 58, Vol. 96, 2 October 2009; Federal Republic of Nigeria, *National Environmental (Control of Bush/Forest Fire and Open Burning) Regulations*, S.I. No. 15 of 2011, Official Gazette No. 40, Vol. 98, 3 May 2011; Federal Republic of Nigeria, *National Environmental (Access to Genetic Resources and Benefit Sharing) Regulations*, S.I. No. 30 of 2009, Official Gazette No. 60, Vol. 96, 5 October 2009.

examination, as it impedes the development of a coherent, enforceable strategy for biodiversity conservation. The implications of this fragmentation become more pronounced when considered alongside the decentralised nature of land ownership in Nigeria.

Indeed, state governments retain proprietary control over most terrestrial resources, including forests and wildlife reserves.⁴⁶ As such, state-level environmental and land-use policies wield substantial influence over conservation outcomes. This dual-tiered governance arrangement introduces jurisdictional tensions and policy discontinuities, particularly when state priorities diverge from federal conservation objectives. The fragmented policy landscape underscores the need for harmonization of legal norms across levels of government. Importantly, it also illustrates the inherent constitutional complexity of environmental governance in Nigeria, where the federal structure necessitates concurrent legislative and administrative powers. Without an integrated legislative framework, biodiversity governance remains vulnerable to legal ambiguities and institutional inertia—issues that directly affect enforcement.⁴⁷

Even where policies are established, such as the 2006 National Forest Policy⁴⁸ and the National Biosafety Framework,⁴⁹ enforcement mechanisms remain largely ineffective. The law prescribes environmental impact assessments and the acquisition of wildlife permits as prerequisites for development projects, yet actual compliance is impeded by inadequate institutional capacity and pervasive enforcement gaps. This highlights a recurring disjunction in Nigerian environmental law: the dissonance between normative provisions and operational realities. The prevalence of unenforced or under-enforced statutes erodes the rule of law in the environmental sector and signals an urgent need for capacity development within regulatory institutions.

A further layer of complexity arises from poor inter-agency coordination. Multiple agencies claim overlapping mandates—NESREA and state ministries, for instance, both oversee pollution control—leading to regulatory redundancies and administrative conflict. Similarly, as posited by Osunsina and Olujide's study, conservation

⁴⁶E Marzo, 'The Human Rights Approach to Land: Promoting the Sustainable Use of Land through the Affirmation of the Rights of Local Communities' (2024) 17 *Erasmus Law Review* 173

⁴⁷ G Ferraro and P Failler, 'Understanding the "Implementation Gap" to Improve Biodiversity Governance: An Interdisciplinary Literature Review' (2024) 6(2) *Journal of Sustainability Research* e240009.

⁴⁸Federal Republic of Nigeria, *National Forest Policy*, Federal Ministry of Environment, Abuja, 2006

⁴⁹ Federal Republic of Nigeria, *National Biosafety Framework*, Federal Ministry of Environment, Abuja, 2005,

responsibilities are unevenly divided between institutions managing national parks and those overseeing state game reserves.⁵⁰ These fragmented competencies dilute accountability and obstruct coherent policy execution. From a legal standpoint, such fragmentation undermines the constitutional principle of administrative efficiency and raises questions about the proper scope of ministerial mandates. Addressing these structural tensions requires more than administrative reform; it necessitates legal restructuring that clarifies institutional jurisdiction and mandates through statutory precision and judicial interpretation where necessary.

The NBSAP, to its credit, explicitly identifies these institutional and legal deficiencies and advocates for integrative governance reforms. Its call for the establishment of a permanent inter-ministerial biodiversity committee, as well as targeted capacity-building initiatives, reflects a recognition that the success of biodiversity conservation hinges on institutional coherence and legal clarity. However, persistent deficits in resource allocation and coordination mechanisms have limited the realization of these objectives. The gap between legal intention and practical implementation remains a central challenge—one that demands a recalibration of legal and policy instruments to ensure they are not only normatively sound but also administratively feasible and enforceable.

3.3 Evaluating the NBSAP: Planning, Monitoring, and Implementation Realities

Assessing the NBSAP's implementation demands scrutiny of both procedural and substantive outcomes, particularly through the lens of legal accountability. Procedurally, the NBSAP marked a clear advance over its predecessor by embedding explicit, measurable objectives within a rights-based framework and by mapping those objectives to a monitoring regime anchored in the Aichi Biodiversity Targets.⁵¹ This approach mirrored the CMP Open Standards for conservation and signaled a nascent shift toward enforceable obligations: threats (e.g., deforestation, pollution, invasive species) were systematically identified; strategies were articulated through legally cognizable goals; and agencies were assigned clear duties. By defining performance indicators, the NBSAP effectively codified state responsibilities in

⁵⁰ OO Osunsina Israel and Olujide Osunsina, 'Biodiversity Conservation and Rural Development: Inseparable Options for Protected Area Management. A Case Study of Four Nigerian National Parks' (2023) 8(1) *Nature Conservation Research* 84.

⁵¹ Secretariat of the Convention on Biological Diversity, *Aichi Biodiversity Targets* <<https://www.cbd.int/sp/targets/>> accessed 27 February 2025.

tracking progress—yet this legal scaffolding would soon encounter practical obstacles that call its efficacy into question.

In practice, many planned actions—habitat restoration, community conservation initiatives, enforcement campaigns—were delayed or underfunded, exposing the gap between statutory commitments and state capacity.⁵² Nigeria's lack of a dedicated biodiversity trust fund reflects a deeper legal gap, as the reliance on annual appropriations—often diverted from biodiversity—undermines the principle of fiscal predictability in administrative law.⁵³ Moreover, the monitoring and evaluation frameworks, though well-intentioned, have languished under weak institutional mandates, revealing that the NBSAP's legal constructs lacked the binding force necessary to compel systematic data collection.

The uneven application of indicators has left baseline surveys of species and ecosystems incomplete, undermining any robust legal claim that “no net loss” obligations have been met.⁵⁴ Equally telling is the faltering of institutional arrangements: the envisaged high-level coordinating body—designed to possess both normative authority and sanctioning power—has failed to convene with the regularity or jurisdictional reach required. In turn, this void has stymied subnational efforts: while some states have integrated biodiversity concerns into forestry and agricultural statutes, the patchwork nature of those legal provisions has prevented coherent, country-wide implementation.⁵⁵

Stakeholder engagement, as a manifestation of meaningful participation and informed decision-making, is increasingly understood as an important component of rights-based governance.⁵⁶ Although local community forest management and traditional

⁵² AA Areola and A Olokesusi, ‘The Contribution of Urban Environmental Organisations in Urban Governance: A Review of the Nigerian Situation’ in *Regenerative Ecosystems in the Anthropocene: A Transdisciplinary Ecosystemic Framework for Regenerativeness* (2024) 325-347; OM Ogorugba, ET Kore-Okiti and E Okwuokei, ‘Assessing the Right to Sustainable Environmental Development in Nigeria’ (2024) 5(3) *International Research Journal of Multidisciplinary Scope* 865.

⁵³ N.U. Sobere, ‘Impact of Deforestation on Biodiversity Conservation in Nigeria and the Legal Response’ (2024) 2(1) *East African Journal of Law, Policy and Globalization*..

⁵⁴ A.O. Adeniyi, ‘Environmental Law and the Protection of Biodiversity in Nigeria: Militating Factor to Achieving Sustainable Development Goals’ (2024) 7(11) *International Journal of Social Science and Human Research* 8580, DOI: 10.47191/ijsshr/v7-i11-64.

⁵⁵ E.O. Akindele, M.C. Ekwemuka, P. Apeverga et al., ‘Assessing Awareness on Biodiversity Conservation Among Nigerians: The Aichi Biodiversity Target 1’ (2021) 30 *Biodiversity and Conservation* 1947, DOI: [10.1007/s10531-021-02175-x](https://doi.org/10.1007/s10531-021-02175-x).

⁵⁶ FO Ajagunna, ‘Informed Consent and Ethical Considerations in Assisted Reproductive Technology in Nigeria: Issues and Challenges’ in OS Adelakun and E Ndoni (eds), *Assisted Reproductive*

governance structures hold considerable normative weight under customary law, the Plan did not harness these institutions through enforceable statutes or memoranda of understanding.⁵⁷ Instead, indigenous systems remain tacit, relegated to rhetoric rather than codified partnerships—a shortcoming that has diluted the Plan's capacity for grassroots compliance and legitimacy.⁵⁸

Legal instruments across sectors remain misaligned. The long-stalled National Forestry Act, pending in the legislature for decades, exemplifies the legislative inertia that has thwarted the expansion of protected areas. Existing national parks, game reserves, and forest reserves enjoy statutory protection, but the dearth of enforcement personnel renders these laws hollow: anti-poaching patrols are minimal, and judicial follow-through on wildlife offences is sporadic.⁵⁹ This enforcement gap is even more acute in coastal and marine zones—where the absence of a marine protected area network leaves the NBSAP's marine conservation goals aspirational rather than actionable.⁶⁰

Nonetheless, a handful of legal successes have emerged. The government's National Plan of Action for Elephants,⁶¹ supported by ministerial regulation, has enhanced prosecutorial tools targeting ivory trafficking. In addition, community forest project agreements have begun to create contractual rights over lands that were previously unregulated. International donor-funded programmes addressing invasive species control and biodiversity research have further contributed to this progress. Notably, these initiatives now include capacity-building clauses within their grant agreements.

Technology in Nigeria (Springer Nature Singapore 2023) 235. <https://doi.org/10.1007/978-981-99-2411-0>

⁵⁷ Onyekachi Eni, Luke Eda, Onyinyechukwu Eze, Chinelo Ekechi-Agwu & Chukwudifu Emeka, 'Tracking the Environmental Injustice Dimensions of Biodiversity Loss in Nigeria and South Africa's Extractive Sector: Locating Conflict in State Custodianship of Mineral Resources' (2024) 37 *Environmental Claims Journal* 98, DOI: [10.1080/10406026.2024.2437685](https://doi.org/10.1080/10406026.2024.2437685).

⁵⁸ OA Gbadegesin and S Akintola, 'Bridging the Governance Gap: A Case for an Indigenous Jurisprudential Framework for Genomic and Biobanking Research in Nigeria' *Journal of Bioethical Inquiry* [2026] 23 67. <https://doi.org/10.1007/s11673-025-10463-2>

⁵⁹ W.A. Adebayo, 'Environmental Law and the Reality of the Conservation and Management of Forests in Nigeria' (2020) 96 *Journal of Law, Policy and Globalization* 1; E.N. Oboh, 'Climate War and the Forestry Act of Nigeria: A Critique' (2024) 25 *Nigerian Law Journal* 75

⁶⁰ E. Ekpemuaka, O.R. Odunlade and S.F. Maiyaki, 'Resilience in Africa's Transition to a Sustainable Digital and Blue Economy: Policy and Regulatory Framework in Nigeria' in *Securing Sustainable Futures Through Blue and Green Economies* (IGI Global Scientific Publishing 2025) 149–172.

⁶¹ Federal Ministry of Environment, *National Elephant Action Plan for Nigeria 2024–2034* (Abuja, 2024) <https://tinyurl.com/ma5jc9np> . accessed 2 March 2025.

This development highlights the growing importance of transnational legal instruments in complementing domestic environmental law.

Yet these piecemeal advances have been overwhelmed by the scale of biodiversity loss. While the NBSAP succeeded in elevating biodiversity onto the federal policy agenda and in embedding references to “intergenerational equity” within national statutes, it ultimately fell short of the legal threshold necessary to reverse declining ecological trends—and thus, to fulfill the state’s obligations under both national constitutional principles and international biodiversity conventions.

3.4 EPI 2024 and the Paradox of Protected Areas in Nigeria: Quantity Without Resilience

Data from the 2024 EPI illuminate some counter-intuitive aspects of Nigeria’s conservation status. On one hand, Nigeria has achieved substantial coverage of protected areas—roughly 14–15 percent of its land is formally conserved—approaching or exceeding certain international benchmarks such as Aichi Target 11 (17 percent by 2020). Many of Nigeria’s key ecosystems, from lake basins to mountain forests, now fall within designated zones, and the identification of Key Biodiversity Areas (KBAs)⁶² has yielded legally recognized conservation sites. Yet these promising figures mask deeper systemic issues that erode the very resilience such legal instruments are intended to secure, as the next indicator will reveal.

In the Biodiversity & Habitat category, Nigeria outperforms its overall EPI ranking, suggesting that on some metrics it surpasses its broader environmental profile. Paradoxically, however, the Bioclimatic Ecosystem Resilience index assigns Nigeria the lowest possible score (zero out of 100).⁶³ This measure—grounded in principles of ecological connectivity enshrined in the CBD—assesses an ecosystem’s capacity to retain species diversity under climate change by evaluating fragmentation and habitat condition. The legal designation of protected areas, it seems, offers no guarantee of ecological continuity when statutory enforcement of corridors and buffer zones is absent, a point to which we will return.

⁶² Yale Center for Environmental Law & Policy, *2024 Environmental Performance Index: Terrestrial KBA Protection* (Yale University 2024) <https://epi.yale.edu/measure/2024/TKP> accessed 27 February 2025

⁶³ Yale Center for Environmental Law & Policy, *2024 Environmental Performance Index: Bioclimatic Ecosystem Resilience* (Yale University 2024) <https://epi.yale.edu/measure/2024/BER> accessed 27 February 2025.

A zero resilience score places Nigeria at the very bottom globally, implying that even large tracts of protected land exist merely as isolated “islands” within a matrix of human-altered landscapes. Connectivity between reserves is poor, and land conversion outside park boundaries proceeds unchecked under weak land-use legislation. Such fragmentation compromises species’ ability to migrate and adapt, raising questions about the sufficiency of current environmental laws to uphold obligations of intergenerational equity and ecosystem integrity.

Further EPI indicators reinforce this uneven picture. Nigeria’s Protected Areas Representativeness Index⁶⁴ is very low, indicating that numerous biomes and habitat types lack adequate statutory coverage. This legal lacuna undermines the principle that conservation legislation must be ecosystem-wide rather than site-specific.

At the same time, the Protected Area Effectiveness score is low,⁶⁵ reflecting persistent challenges in management and enforcement. Reports of poaching and illegal logging within supposedly protected zones highlight the gulf between legislative intent and on-the-ground compliance.⁶⁶ Without sufficient enforcement personnel, judicial follow-through, and penal sanctions, the statutory protections on paper translate poorly into real conservation outcomes.

Meanwhile, Nigeria’s Species Protection Index⁶⁷ is moderately high, buoyed by regulatory measures such as bans on wildlife trade and the targeted management of reserves for endangered species. These sector-specific legal tools demonstrate that focused statutes can yield measurable gains. Yet this species-level success sits in stark tension with collapsing ecosystem metrics, underscoring that protecting individual taxa without safeguarding their habitats ultimately jeopardizes long-term biodiversity security.

⁶⁴ Yale Center for Environmental Law & Policy, *2024 Environmental Performance Index: Protected Areas Representativeness Index* (Yale University 2024) <https://epi.yale.edu/measure/2024/PAR> accessed 27 February 2025.

⁶⁵ Yale Center for Environmental Law & Policy, *2024 Environmental Performance Index: Protected Area Effectiveness* (Yale University 2024) <https://epi.yale.edu/measure/2024/PAE> accessed 27 February 2025.

⁶⁶ Opeyemi Adewale Gbadegesin, ‘Leveraging Artificial Intelligence (AI) in Strengthening the Legal Framework for Regulation of Wildlife and Forest Crimes in Nigeria’ (2023) *Environmental Policy and Law* 53(4) 259-274 <https://doi.org/10.3233/EPL-230011> ; Henry Ufomba and Eze Elekwachi, ‘Explaining the Ineffective Implementation of Logging Regulations in Nigeria’s Protected Forest Areas’ (2024) 5(1) *AKSU Journal of Social Sciences (AKSUJOSS)* 1-21 <https://doi.org/10.61090/aksujoss.2024.031>.

⁶⁷ Yale Center for Environmental Law & Policy, *2024 Environmental Performance Index: Species Protection Index* (Yale University 2024) <https://epi.yale.edu/measure/2024/SPI> accessed 27 February 2025.

Thus, the EPI data suggest a paradox: designating extensive protected areas and meeting percentage targets does not, on its own, secure healthy ecosystems or resilience under climate change. Without legal provisions ensuring representativeness across all habitat types and robust enforcement of management mandates, the quantity of protected land yields limited ecological benefit. This analytical insight points to critical gaps in Nigeria's conservation law.

The disconnect between high coverage and near-zero ecosystem resilience underscores that Nigeria's conservation strategy has been overly focused on area designation rather than on maintaining ecosystem processes, restoring degraded lands, and integrating biodiversity considerations into agricultural and urban planning statutes. Embracing connectivity and restoration in legal frameworks is non-negotiable if protected areas are to function as coherent networks rather than isolated enclaves.

In programmatic terms, Nigeria should embed adaptive management principles—central to the CMP Open Standards—within its legal regime: mandating not only the existence of parks but also systematic monitoring of wildlife populations, water quality, and habitat connectivity, with clear statutory triggers for policy adjustment. Absent such legally enforceable feedback loops, progress towards biodiversity goals risks stagnating, regardless of how robust plans may appear on paper.

Building on Nigeria's complex biodiversity landscape and the mixed outcomes of its 2016–2020 NBSAP, the analysis next considers Botswana's legal and institutional model. There, statutory clarity, inter-ministerial coordination, and community-based governance have delivered measurable conservation gains. These examples underscore the value of binding legal frameworks, judicial enforceability, and adaptive, participatory mechanisms. Drawing from this, the discussion returns to Nigeria to assess how its biodiversity policy might align more closely with global commitments—particularly the Convention on Biological Diversity and the post-2020 Global Biodiversity Framework—through harmonized statutes, fiscal accountability, and rights-based legal reform.

4. Lessons from Botswana: Institutional Coordination, Community Engagement, and Conservation Outcomes

To put Nigeria's experience in perspective, it is instructive to compare it with Botswana's National Biodiversity Strategy and Action Plan (BNBSAP) (2016–2025). Like Nigeria, Botswana is a party to the CBD and possesses a wealth of biodiversity alongside designated protected areas.⁶⁸ However, the two countries have adopted divergent approaches to biodiversity governance. Botswana, with its relatively sparse population, has designated a substantial portion of its land—approximately 17%—as formal protected areas, supplemented by extensive communal lands where wildlife utilization is permitted.⁶⁹ Its BNBSAP, while similarly structured around strategic goals and targets, derives its efficacy from a more coherent institutional framework.⁷⁰ Specifically, the existence of dedicated and well-resourced bodies such as the Department of Wildlife and National Parks (DWNP) and the Department of Forestry and Range Resources (DFRR) has enabled operational clarity and policy continuity.⁷¹ This raises a critical institutional question for Nigeria: to what extent can the presence or absence of technically proficient statutory bodies account for divergent conservation outcomes under similar treaty obligations?

Moreover, Botswana's institutional stability is reinforced by its community-based natural resource management (CBNRM) program,⁷² which has been legally entrenched and systematically integrated into national policy frameworks. Under CBNRM, rural communities are not merely stakeholders but co-managers with tangible usufruct rights over wildlife resources in designated hunting zones.⁷³ They derive direct revenue from safari tourism and related activities. This legal and policy architecture creates a justiciable linkage between conservation imperatives and community livelihoods, thereby embedding biodiversity protection within local

⁶⁸ Chitsove, E. (2025, March). Country report for Botswana. In *Legal Pathways to Sustainable Soil Management in Africa* (pp. 43–112). Nomos Verlagsgesellschaft mbH & Co. KG.

⁶⁹ R Hitchcock, J Frost and M Sapignoli, 'Botswana' in *The Indigenous World 2024* (IWGIA, 2024) 34–42.

⁷⁰ E Botlhale, 'Think Tanks and Public Policy-Making: The Case of Botswana' in *Think Tanks, Governance, and Development in Africa* (Edward Elgar Publishing, 2024) 45–64.

⁷¹ Botswana Ministry of Environment, Wildlife and Tourism, *National Biodiversity Strategy and Action Plan (NBSAP) 2016–2025*, 25–27, 44–47 (Gaborone, 2016), highlighting the institutional roles of the Department of Wildlife and National Parks (DWNP) and the Department of Forestry and Range Resources (DFRR) in ensuring policy continuity and operational clarity in biodiversity management.

⁷² E Chitsove and T Madebwe, 'Community Based Natural Resources Management in Botswana' (2024) 68(1) *Journal of African Law* 59–72.

⁷³ K Coe, J M Thomsen and J Mbaiwa, 'Botswana Communities' Adaptive Capacity to the Lifting of a Trophy Hunting Ban' (2023) 53(1) *African Journal of Wildlife Research*.

economies.⁷⁴ Botswana's approach demonstrates how legal frameworks can be used not only to regulate access but also to democratize resource governance. In contrast, Nigeria's biodiversity laws have yet to operationalize such decentralization in a coherent legal form. Here, the contrast invites a deeper inquiry into the role of legal decentralization and benefit-sharing mechanisms as catalysts for local compliance and sustainability.

In terms of legislative infrastructure, Botswana exhibits commendable coherence and stringency. Its wildlife laws impose comprehensive regulation on commercial hunting, with enforcement bolstered by an explicit moratorium on ivory trade—an embodiment of its adherence to international legal instruments such as the Convention on International Trade in Endangered Species (CITES). Notably, anti-poaching laws are supported by the deployment of military units where necessary, signalling that biodiversity protection in Botswana is treated as a matter of national security.⁷⁵ Additionally, the zoning of habitats through game reserves, botanical reserves, and wildlife management areas—often integrated with tourism concessions—reflects a functional application of spatial planning laws in service of biodiversity goals.⁷⁶ These features underscore the fact that biodiversity conservation is not merely a matter of ecological planning, but of legal spatial governance. Nigeria's fragmented enforcement mechanisms and ambiguous land use rights weaken such spatial coherence and dilute the enforceability of conservation laws.

Crucially, Botswana's clarity in defining community land rights—largely under customary tenure—serves to mitigate land-use conflicts and reinforce social legitimacy of conservation policies.⁷⁷ The state operates not in opposition to, but in collaboration with, traditional tenure systems, thereby recognizing indigenous land rights as part of its statutory order.⁷⁸ This legal recognition aligns with emerging jurisprudence in environmental law that emphasizes Free, Prior, and Informed Consent (FPIC) and participatory governance. Nigeria, by contrast, has struggled with statutory-centralist approaches that marginalize customary systems, leading to

⁷⁴ E Mogende, 'Conservation Politics in Botswana's "Green State"' (2025) 124(862) *Current History* 175–180

⁷⁵ A A LaRocco and E Mogende, 'Fall from Grace or Back Down to Earth? Conservation and Political Conflict in Africa's "Miracle" State' (2024) 7(1) *Environment and Planning E: Nature and Space* 22–49.

⁷⁶ *ibid*

⁷⁷ R Hitchcock, J Frost and M Sapignoli, 'Botswana' in *The Indigenous World 2024* (IWGIA, 2024) 37.

⁷⁸ *ibid*

contestation and erosion of community trust. Thus, the Botswana model offers valuable jurisprudential insight into how legal pluralism can be harnessed for biodiversity outcomes without compromising legal certainty.

From the perspective of implementation metrics, BNBSAP has demonstrated more consistent progress, with several targets either completed or on course. This is partly attributable to higher per capita conservation spending, but more critically to the presence of dedicated financing mechanisms, such as a national trust fund for protected areas.⁷⁹ These legal-financial structures ensure that conservation is not subject to the vagaries of annual budget cycles. Monitoring and evaluation systems are similarly institutionalized, with routine activities such as elephant counts and anti-poaching patrols embedded within statutory agency mandates.⁸⁰ Here again, the role of law is pivotal—not only in mandating monitoring but in enabling the necessary financial and administrative continuity. Nigeria's failure to meet similar benchmarks reflects, in part, the absence of such legal mechanisms for financial sustainability and monitoring enforcement.

Equally important is the role of community participation, legally enabled through CBNRM, in Botswana's conservation apparatus.⁸¹ The active involvement of local stakeholders not only enhances surveillance and accountability but also fosters a sense of environmental stewardship rooted in legal empowerment.⁸² This decentralized vigilance system is not merely a social feature but a legal asset—operating as a quasi-judicial mechanism for monitoring compliance at the grassroots. Nigeria, meanwhile, has faced chronic difficulties in mobilizing local actors, primarily due to legal ambiguities surrounding authority, benefit-sharing, and jurisdictional competence. This highlights the necessity of enacting statutory reforms that clarify sub-national roles and incentivize local guardianship.

The governance comparison reveals a fundamental divergence in conservation financing and institutional prioritization. Botswana's small but functionally coherent state apparatus directly funds biodiversity programs, underpinned by legally

⁷⁹ P K Mogomotsi, L S Stone, G E J Mogomotsi and N Dube, 'Factors Influencing Community Participation in Wildlife Conservation' (2020) 25(4) *Human Dimensions of Wildlife* 372–386 <https://doi.org/10.1080/10871209.2020.1748769>.

⁸⁰ Ibid

⁸¹ E Chitsove and T Madebwe, 'Community Based Natural Resources Management in Botswana' (2024) 68(1) *Journal of African Law* 59–72

⁸² Ibid

sanctioned revenues from tourism and wildlife utilization. Nigeria, with its broader bureaucratic apparatus and competing fiscal demands—health, infrastructure, and national security—allocates relatively minimal budgetary resources to biodiversity. Legal frameworks that prioritize biodiversity as a matter of public interest remain weakly articulated. Moreover, Nigeria's embryonic ecotourism sector lacks the regulatory incentives and fiscal mechanisms that could generate conservation-linked revenues. The policy implication is clear: conservation outcomes are contingent on how biodiversity is framed in public law and fiscal policy, and not merely on ecological need.

Cultural and historical contexts also play a significant role. This cultural orientation informs legal policy and ensures popular legitimacy for stringent environmental laws.⁸³ Nigeria, by contrast, exhibits a more fragmented cultural identity in which biodiversity does not occupy a central place in the national legal consciousness. Legal reform must therefore also engage in normative change, embedding biodiversity within the country's constitutional and cultural lexicon.

Taken together, these contrasts yield more than a list of best practices; they offer a comprehensive jurisprudential critique. Nigeria's experience illustrates that drafting an ambitious NBSAP is a necessary but insufficient condition for success; such plans must be undergirded by enforceable legal mandates, institutional capacity, and ring-fenced financing. Botswana provides a compelling counterpoint, showing how legal clarity, community incentives, and integrated land-use planning can translate international commitments into enforceable domestic outcomes.

Thus, the lesson for Nigeria is not simply to replicate Botswana's strategies, but to pursue legal reform that enables similar dynamics—especially through constitutional recognition of environmental rights, statutory mandates for subnational implementation, and fiscal instruments for conservation financing. Given Nigeria's federal structure, there is a compelling case for legally empowering state governments to play roles akin to Botswana's DWNP, provided national guidance is clearly articulated and enforceable. This requires not only a revision of NBSAP targets, but a reengineering of the legal ecosystem in which those targets are to be realized.

⁸³ AC Campbell, 'The National Park and Reserve System in Botswana' (1973) 5(1) *Biological Conservation* 7–14.

5. Aligning Nigeria's Biodiversity Policy with Global Frameworks: Toward Adaptive, Inclusive, and Programmatic Reform

The NBSAP and broader conservation framework must now be interpreted through the lens of the Kunming-Montreal Global Biodiversity Framework (GBF), adopted in 2022 under the CBD.⁸⁴ This post-2020 framework codifies ambitious global objectives—such as the protection of 30% of terrestrial and marine areas by 2030, restoration of degraded ecosystems, the prevention of extinction among threatened species, and the incorporation of biodiversity values into national development policies. These goals are not merely aspirational; they form part of binding international commitments to which Nigeria, as a party to the CBD, is legally accountable. Nigeria's biodiversity governance mechanisms must therefore evolve to reflect these norms. The 30% protection target, for instance, necessitates not only a quantitative increase in protected area coverage beyond the current ~15%, but also a qualitative reassessment to ensure ecological representativeness.⁸⁵ This raises critical legal implications for land tenure, community rights, and environmental impact regulation, especially in underrepresented biomes such as savannah and wetland ecosystems.

The legal obligations arising from the GBF also accentuate the principle of equitable benefit-sharing, particularly in relation to indigenous peoples and local communities.⁸⁶ This element highlights systemic deficiencies in Nigeria's existing framework. While the NBSAP previously acknowledged the role of community participation, its implementation was inconsistent, revealing a disconnect between stated objectives and actionable legal mechanisms. The GBF obligates state parties to institutionalize participatory governance and procedural equity, which must now be enshrined in domestic biodiversity legislation. For Nigeria, this translates into the development of enforceable instruments to guarantee that conservation-derived benefits—such as ecotourism revenues or access to sustainable harvesting—are fairly allocated. Legal recognition of customary land rights and integration of traditional

⁸⁴ Convention on Biological Diversity, *Kunming-Montreal Global Biodiversity Framework (GBF)*, <<https://www.cbd.int/gbf>> accessed 2 April 2025

⁸⁵ Ibid

⁸⁶ Zhang, Z., Cao, D., Ma, T., Liu, H., & Mao, Z., 'International Cooperation for a Biodiverse Future: Opportunities and Challenges under the Kunming-Montreal Global Biodiversity Framework' (2025) *Global Ecology and Conservation* e03385

ecological knowledge into policymaking will be instrumental in translating these normative principles into enforceable rights.

Concurrently, the GBF integrates climate law and environmental protection through its endorsement of “nature-based solutions” (NbS).⁸⁷ This convergence mandates a harmonization of Nigeria’s biodiversity and climate policies, thereby requiring legal coherence across regulatory regimes. Mangrove restoration in the Niger Delta, for example, exemplifies a dual-benefit intervention: it contributes to carbon sequestration under climate obligations (e.g., the Paris Agreement) while simultaneously restoring biodiversity. From a legal standpoint, this calls for integrative statutory instruments that facilitate such cross-cutting projects and provide for inter-agency coordination. Institutionalizing NbS within national legislation would enable Nigeria to unlock climate finance streams while fulfilling biodiversity targets. The adoption of the CMP Open Standards, which promote adaptive management, would further support legal reforms by institutionalizing iterative planning, evaluation, and compliance mechanisms.

The CMP Open Standards demand that biodiversity governance operate as a continuous cycle—diagnosing ecological threats, articulating specific and measurable objectives, operationalizing strategies, and adjusting based on empirical monitoring. Accordingly, Nigeria’s post-2020 biodiversity strategy must include comprehensive monitoring protocols—such as ecological network monitoring—and statutory provisions for periodic evaluation. These mechanisms should be embedded in law to ensure that data collection triggers mandatory responses. For instance, legal thresholds could be established such that population declines in keystone species automatically activate conservation measures, including habitat corridors, anti-poaching enforcement, or translocations. Embedding such adaptive responses within legal instruments would ensure accountability and foster a dynamic governance model responsive to real-time ecological data.

Despite the existence of a structured NBSAP with defined targets and indicators, it remains insufficient without integration into an enforceable, iterative legal framework. Here, the principle of mainstreaming biodiversity—mandated under both the CBD and the GBF—becomes critical. Nigeria’s conservation efforts have historically been

⁸⁷ Aggestam, F., ‘Crosswalking the EU Nature Restoration Regulation and the Kunming-Montreal Global Biodiversity Framework: A Forest-Centred Outlook’ (2024) *Sustainability* 16(11) 4863.

siloed within the Ministry of Environment, limiting their influence on cross-sectoral policy. Legally mainstreaming biodiversity entails embedding conservation obligations within other regulatory regimes, such as agriculture, energy, health, and urban development. The Ministry of Agriculture, for example, should be legally mandated to adopt pollinator-friendly practices, while environmental impact assessments must be required by law for energy infrastructure. Urban planning statutes should be amended to protect green spaces, and fisheries law must be harmonized with marine biodiversity objectives. These legislative integrations ensure that biodiversity is not an isolated policy concern but a cross-cutting legal priority embedded within the architecture of national development.

Comparative legal analysis underscores the importance of mainstreaming within national law. In Botswana, tourism and wildlife management are legally and economically interlinked, with biodiversity conservation embedded within fiscal planning frameworks. The Wildlife Conservation and National Parks Act, for example, ensures that tourism revenues support anti-poaching initiatives. Nigeria can adopt similar legal instruments to channel revenue from ecotourism, extractive industries, or licensing fees into biodiversity financing mechanisms. Without such statutory linkages, biodiversity objectives risk remaining unfunded and thus unfulfilled. Hence, cross-sectoral legal coordination is not only advisable but necessary to operationalize biodiversity commitments.

The success of any biodiversity framework ultimately hinges on its financial sustainability—a point emphasized by the GBF's financing targets. Nigeria, facing persistent budgetary constraints, must innovate legally viable financial mechanisms to support biodiversity governance. This includes accessing international biodiversity and climate funds, mandating private sector contributions through enforceable supply chain standards, and legally enabling instruments such as biodiversity offsets and payment for ecosystem services (PES). Legislative models from Botswana, which earmark tourism and hunting revenues for conservation purposes, provide a useful precedent. In Nigeria, extractive industries could be legally obliged to pay environmental fees, the proceeds of which should be ring-fenced for conservation through trust funds or similar financial instruments governed by law.

6. Legal and Strategic Recommendations for Strengthening Nigeria's Biodiversity Conservation Framework

A close reading of the NBSAP reveals that while it offered a comprehensive strategic framework, its implementation was hampered by systemic legal, institutional, and financial deficiencies. Future reforms must begin by embedding adaptive biodiversity governance into a binding legal structure. Rather than treating adaptive management as an aspirational concept, it must be made operational through enforceable laws. A revised post-2020 NBSAP should require statutory periodic reviews triggered by measurable ecological indicators such as species population thresholds or habitat degradation levels. This would enable timely mid-cycle policy adjustments, making biodiversity governance a living process rather than a static document. By creating legal obligations for real-time responsiveness, Nigeria would ensure biodiversity strategies are continually aligned with on-the-ground realities.

Fragmented mandates and ineffective inter-agency coordination further weakened NBSAP implementation, despite its cross-ministerial endorsement. Future frameworks should establish a statutory inter-ministerial biodiversity implementation council, co-chaired by the Ministry of Environment and sectoral ministries such as Agriculture, Petroleum, and Water Resources. This council should be empowered by law to harmonize biodiversity goals with sectoral development plans, ensuring ecological considerations are not marginalized during policy execution. Learning from Botswana's integration of biodiversity planning into national budgeting, Nigeria should make inter-agency coordination an enforceable mandate, not a discretionary arrangement. Such an approach would anchor ecological priorities at the heart of government planning processes and transition seamlessly into mechanisms for more inclusive governance.

Participation by local communities and civil society was inadequately institutionalized in the original NBSAP, undermining inclusive implementation. This gap can be closed by legally recognizing community biodiversity management committees with formal consultative roles in protected area governance. These bodies should be granted procedural rights to participate in decision-making processes, making community engagement a legal requirement rather than a matter of administrative discretion. By securing stakeholder inclusion through legislation, biodiversity efforts will gain legitimacy and resilience. This legal empowerment of communities offers a firm foundation for addressing the critical issue of financing, where the previous NBSAP fell short.

The lack of a sustainable financing mechanism severely constrained implementation, as the original plan depended on unpredictable donor funding. Nigeria should enact legislation establishing a Biodiversity Conservation Fund, financed through earmarked levies, biodiversity offsets, and environmental fines. This fund should be independently audited, and disbursements should be linked to performance indicators derived from revised NBSAP targets. Drawing on Botswana's model of integrating biodiversity into public finance, Nigeria can ensure financial stability while promoting accountability. These financial reforms would reinforce data-driven decision-making, a dimension that the initial plan also failed to operationalize effectively.

Underdeveloped data systems and outdated baselines limited the NBSAP's responsiveness and effectiveness. Future efforts should include a legally mandated National Biodiversity Information System, with compulsory data contributions from all relevant agencies, researchers, and donor-funded initiatives. The law should require that this data inform progress assessments and strategic adjustments. Transforming biodiversity monitoring from periodic reporting into a continuous, legally supported process will solidify the shift toward evidence-based governance. This data infrastructure would support cross-sectoral integration, an area where the NBSAP's conceptual strengths were not matched by real-world impact.

Mainstreaming biodiversity into high-impact sectors—such as infrastructure, agriculture, and extractives—requires legal amendments to mandate biodiversity-specific impact assessments, distinct from general environmental reviews. These assessments should carry binding legal consequences, including project suspension or redesign where biodiversity thresholds are exceeded. Embedding these requirements in sectoral laws ensures that biodiversity considerations are not merely acknowledged but prioritized in development decisions. With sectoral alignment addressed, the next logical focus must be enforcement, the critical missing link in the original NBSAP.

Without enforcement and accountability, strategic plans remain aspirational. Future biodiversity policy must empower courts and administrative bodies to hear cases on biodiversity implementation failures. Civil society organizations and communities should be granted legal standing to pursue public interest litigation against inaction or harmful practices. Legal pathways for enforcement create pressure for compliance and give life to policy commitments. When combined with specific mandates,

inclusive governance, and sustainable financing, enforcement completes the chain of reforms necessary to transition from symbolic strategies to operational success.

By translating each strategic gap into a clear legal obligation, Nigeria can transform post-2020 biodiversity planning into a practical, enforceable roadmap. These reforms draw directly from past shortcomings while aligning with successful models like Botswana's. They offer not just critique, but concrete direction—empowering stakeholders with the clarity, tools, and mandates needed to achieve ecological resilience through legal and institutional strength.

7. Conclusion

Nigeria's NBSAP presents a critical foundation for biodiversity conservation, but its implementation exposed systemic legal, institutional, and operational shortcomings. The plan's ambition was not matched by enforceable mechanisms, sustainable financing, or effective coordination across government tiers and sectors. Monitoring and evaluation were fragmented, stakeholder participation was inconsistently applied, and data systems remained underdeveloped. These deficits point to a structural disconnect between strategic intent and regulatory practice.

This paper has argued that meaningful biodiversity conservation in Nigeria requires a paradigmatic shift from soft policy instruments to binding legal frameworks. Adaptive management, stakeholder engagement, sustainable financing, data transparency, and enforcement must be legally codified and operationalized across governance levels. Law must serve not only as a regulatory tool but also as a mechanism for institutional alignment, public accountability, and ecological resilience.

Future iterations of the NBSAP must be grounded in statutory obligations, supported by multi-level institutional mandates, and linked to fiscal accountability. The transition from aspirational planning to programmatic governance is not optional—it is imperative. Only through such a transformation can Nigeria honour its national commitments and international obligations, while securing biodiversity as a cornerstone of sustainable development and intergenerational equity.