International Journal of Law and Societal Studies
ISSN: 3079-2614
DOI: 10.61424/ijlss
Journal Homepage: www.bluemarkpublishers.com/index.php/IJLSS

IJLSS
BLUEMARK PUBLISHERS

| RESEARCH ARTICLE

A Legal Pathway to a Low-Carbon Future: Nigeria's Commitment under the Paris Agreement and other Domestic Implications

Damilola Aishat Alada
Faculty of Law, University of Ibadan, Nigeria
Corresponding Author: Damilola Aishat Alada, **E-mail**: damilolaalada@gmail.com

| ABSTRACT

Nigeria's journey toward achieving its climate commitments under the Paris Agreement represents a critical juncture in the country's environmental governance trajectory. This article examines the legal frameworks, institutional mechanisms, and domestic implications of Nigeria's climate change obligations, with particular emphasis on the transformative potential of the 2021 Climate Change Act. Through comprehensive analysis of Nigeria's Nationally Determined Contributions (NDCs), emerging climate litigation patterns, and comparative assessment with regional counterparts, this study reveals both the promise and challenges inherent in Nigeria's low-carbon transition. The research demonstrates that while Nigeria has established a robust legal foundation through its Climate Change Act and related environmental legislation, significant implementation gaps persist, particularly in areas of institutional coordination, financing mechanisms, and judicial enforcement. The findings suggest that Nigeria's path to achieving its climate targets will require enhanced integration between international commitments and domestic legal frameworks, strengthened institutional capacity, and innovative approaches to climate litigation that can drive meaningful policy change.

| KEYWORDS

Climate Change Act, Nationally Determined Contributions (NDCs), Climate litigation, Environmental governance, Low-carbon transition, Institutional coordination.

| ARTICLE INFORMATION

ACCEPTED: 19 July 2022 **PUBLISHED:** 28 October 2022 **DOI:** 10.61424/ijlss.v1.i1.476

1. Introduction

The global imperative for climate action has never been more urgent, with developing nations like Nigeria facing the dual challenge of contributing to global mitigation efforts while addressing pressing socio-economic development needs. Nigeria's commitment under the Paris Agreement represents a significant step toward integrating climate considerations into national policy frameworks, yet the translation of international obligations into effective domestic action remains a complex endeavor fraught with legal, institutional, and practical challenges.

Nigeria's climate vulnerability is well-documented, with the country experiencing increased frequency and intensity of extreme weather events, rising sea levels along its extensive coastline, and significant impacts on agricultural productivity and food security (Ani, Anyika, & Mutambara, 2021; Adesete, Olanubi, & Dauda, 2022). These climate impacts have profound implications for human rights, economic development, and social stability, making effective climate governance not merely an environmental imperative but a fundamental requirement for national development and security.

The adoption of Nigeria's Climate Change Act in 2021 marked a watershed moment in the country's environmental law landscape, providing a comprehensive legal framework for addressing climate change challenges while establishing institutional mechanisms for coordinating climate action across government levels (Olujobi, 2021; Ladan, 2022). This legislation, coupled with Nigeria's updated Nationally Determined Contributions (NDCs) and emerging patterns of climate litigation, creates a unique opportunity to examine how international climate commitments are being domesticated and implemented within Nigeria's legal system.

The significance of Nigeria's climate commitments extends beyond its national borders, given the country's status as Africa's most populous nation and largest economy. Nigeria's success or failure in implementing its climate commitments will have far-reaching implications for regional climate action, continental sustainable development goals, and global efforts to limit temperature increases to 1.5°C above pre-industrial levels. Understanding the legal pathways through which Nigeria is pursuing its low-carbon transition therefore provides valuable insights not only for domestic policy makers but also for other developing countries grappling with similar challenges.

This article contributes to the growing body of literature on climate law and governance in developing countries by providing a comprehensive analysis of Nigeria's legal framework for climate action. Through examination of legislative developments, judicial responses, and institutional arrangements, this study offers insights into how domestic legal systems can be leveraged to advance climate objectives while addressing development imperatives.

2. Nigeria's Legal Framework for Climate Action

2.1 The 2021 Climate Change Act: A Comprehensive Legal Foundation

Nigeria's Climate Change Act of 2021 represents the most significant legislative development in the country's environmental law history, establishing a comprehensive legal framework for addressing climate change challenges across all sectors of the economy (Noah, 2022; Kehinde & Abifarin, 2022). The Act demonstrates Nigeria's commitment to translating its international climate obligations into binding domestic law, creating institutional mechanisms for coordination and implementation of climate action.

The legislation establishes several key institutional arrangements, including the National Council on Climate Change, which serves as the apex policy-making body for climate change issues in Nigeria. This Council, chaired by the President, brings together relevant ministers, state governors, and representatives from civil society organizations to ensure coordinated approaches to climate action across all levels of government. The Act also creates the Department of Climate Change as the implementing arm of the National Council, providing technical and administrative support for climate policy development and implementation.

One of the most innovative aspects of the Climate Change Act is its establishment of a Climate Change Fund, which serves as a dedicated financing mechanism for climate mitigation and adaptation projects. The Fund is designed to mobilize resources from various sources, including government budgetary allocations, international climate finance, carbon market revenues, and private sector contributions. This financial mechanism represents a significant step toward addressing one of the major barriers to effective climate action in developing countries: inadequate financing for climate projects.

The Act's approach to integrating climate considerations into sectoral planning and development processes reflects a sophisticated understanding of the cross-cutting nature of climate change impacts. The legislation requires all relevant government agencies to mainstream climate change considerations into their policies, programs, and projects, creating a framework for ensuring that climate objectives are not treated as add-ons to existing development initiatives but are integrated into the core of government planning processes.

Table 1: Key Institutional Mechanisms Established under Nigeria's Climate Change Act 2021

Institution	Mandate	Composition	Key Functions
National Council on Climate Change	Apex policy-making body	President (Chair), Ministers, State Governors, CSO Representatives	Policy formulation, coordination, oversight
Department of Climate Change	Technical implementation	Technical experts, administrative staff	Policy implementation, monitoring, reporting
Climate Change Fund	Financial mechanism	Fund managers, technical committee	Resource mobilization, project financing
State Climate Change Committees	Sub-national coordination	State governors, local representatives	Local implementation, adaptation planning

2.2 Integration with Existing Environmental Legislation

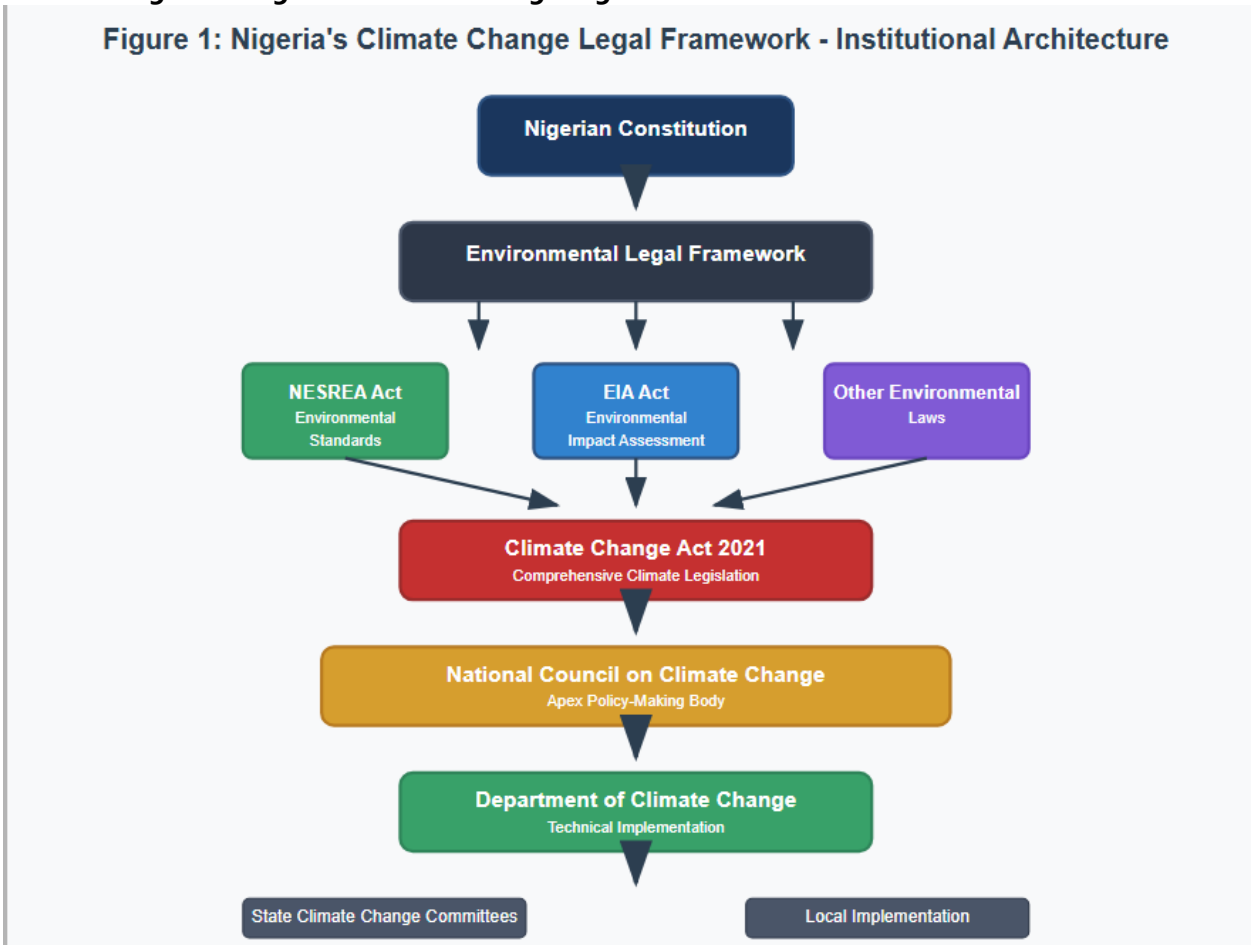
Nigeria's climate change legal framework does not exist in isolation but builds upon a extensive body of existing environmental legislation that has evolved over several decades. The National Environmental Standards and Regulations Enforcement Agency (NESREA) Act, the Environmental Impact Assessment Act, and various sector-specific environmental regulations provide the foundation upon which climate-specific legislation operates (Ogunkan, 2022).

The integration between climate change law and existing environmental legislation creates both opportunities and challenges for effective implementation. On one hand, the existence of established environmental institutions and regulatory frameworks provides institutional capacity and experience that can be leveraged for climate action. Environmental impact assessment procedures, for instance, can be enhanced to include climate risk assessments and adaptation planning requirements, creating synergies between environmental protection and climate resilience objectives.

However, the proliferation of environmental laws and regulations also creates potential for institutional fragmentation and regulatory overlap, particularly where jurisdictional boundaries between agencies are unclear or where mandates overlap significantly. The Climate Change Act attempts to address these challenges by establishing clear coordination mechanisms and requiring integrated planning approaches, but the effectiveness of these coordination mechanisms will depend largely on political commitment and institutional capacity.

The relationship between federal and state environmental legislation presents additional complexities, given Nigeria's federal structure and the concurrent nature of environmental regulation under the Nigerian constitution. While the federal government has primary responsibility for international environmental commitments, state governments play crucial roles in implementation, particularly in areas such as land use planning, natural resource management, and local environmental protection.

Figure 1: Nigeria's Climate Change Legal Framework - Institutional Architecture



2.3 Sectoral Integration and Mainstreaming

The Climate Change Act's requirement for sectoral integration represents one of its most ambitious and potentially transformative aspects. The legislation mandates that all relevant sectors, including energy, agriculture, transportation, industry, and urban development, integrate climate considerations into their planning and implementation processes. This mainstreaming approach recognizes that effective climate action requires transformation across all sectors of the economy rather than isolated environmental interventions.

In the energy sector, the Act's provisions align with Nigeria's broader energy transition objectives, including the development of renewable energy capacity and improved energy efficiency measures. The legislation provides legal backing for policies aimed at increasing the share of renewable energy in Nigeria's energy mix, supporting the development of solar, wind, and hydroelectric power projects, and promoting energy efficiency in both industrial and residential applications (Elum, Modise, & Nhamo, 2017; Gungah, Emodi, & Dioha, 2019).

The agricultural sector, which employs a significant portion of Nigeria's population and contributes substantially to the country's greenhouse gas emissions, is given particular attention in the Climate Change Act. The legislation recognizes agriculture's dual role as both a contributor to and victim of climate change, establishing provisions for promoting climate-smart agricultural practices, supporting smallholder farmers in adopting resilient farming techniques, and developing early warning systems for climate-related agricultural risks.

Transportation sector integration focuses on promoting low-carbon transportation options, including public transportation systems, electric vehicle adoption, and sustainable urban mobility planning. The Act provides legal

support for policies aimed at reducing transportation emissions while improving mobility access for Nigeria's rapidly growing urban population.

3. The Paris Agreement and Nigeria's Nationally Determined Contributions

3.1 Evolution of Nigeria's Climate Commitments

Nigeria's engagement with international climate governance has evolved significantly since the country's initial participation in the United Nations Framework Convention on Climate Change (UNFCCC) process. The country's approach to climate commitments has been shaped by the principle of common but differentiated responsibilities, which recognizes that while all countries must contribute to global climate action, developing countries have different capabilities and responsibilities compared to developed nations (Noah, 2022).

Nigeria's first Nationally Determined Contribution (NDC), submitted in 2015 as part of the Paris Agreement process, established both conditional and unconditional targets for emissions reductions. The unconditional target committed Nigeria to reducing emissions by 20% below business-as-usual levels by 2030, using domestic resources and capabilities. The conditional target, dependent on international support in terms of finance, technology transfer, and capacity building, committed to a 45% reduction below business-as-usual levels by 2030.

The updated NDC, submitted in 2021, reflects Nigeria's enhanced understanding of its climate vulnerabilities and mitigation potential, incorporating lessons learned from initial implementation efforts and updated scientific assessments of climate risks. The revised commitments demonstrate greater ambition in several sectors while maintaining the distinction between conditional and unconditional targets that reflects Nigeria's development priorities and resource constraints.

Table 2: Nigeria's NDC Targets and Sectoral Contributions

Sector	Unconditional Target (2030)	Conditional Target (2030)	Key Measures
Energy	15% emission reduction	35% emission reduction	Renewable energy, efficiency
Agriculture	10% emission reduction	25% emission reduction	Climate-smart agriculture
Forestry	5% emission reduction	15% emission reduction	Reforestation, REDD+
Transportation	8% emission reduction	20% emission reduction	Public transport, efficiency
Industry	7% emission reduction	18% emission reduction	Energy efficiency, cleaner production
Total	**20%**	**45%**	Comprehensive mitigation

3.2 Implementation Challenges and Opportunities

The translation of Nigeria's NDC commitments into concrete implementation actions presents significant challenges related to institutional capacity, financing, technology access, and coordination across multiple levels of government. The ambitious nature of Nigeria's conditional targets, in particular, requires substantial international support that has proven difficult to mobilize at the scale and speed required for effective implementation.

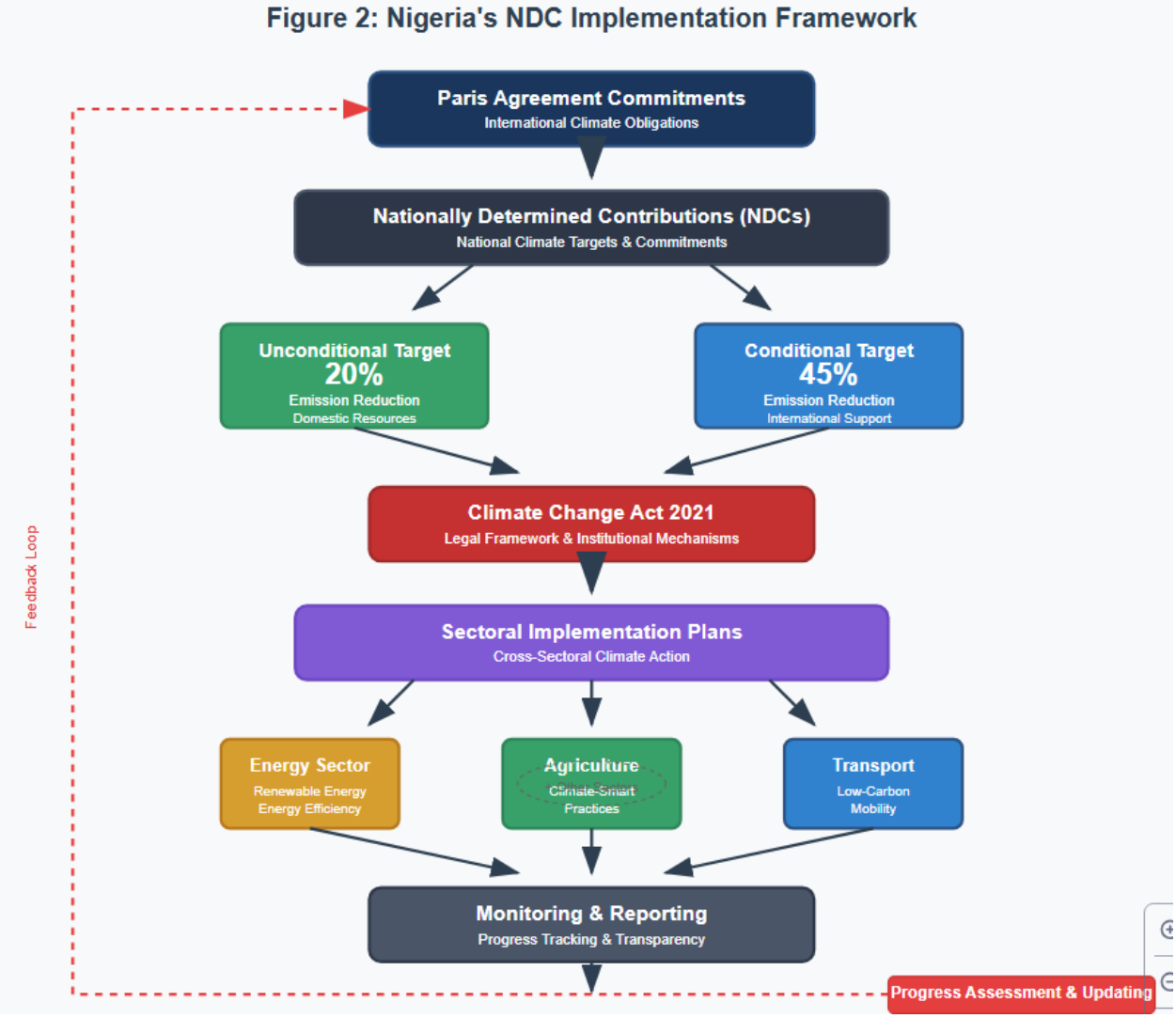
One of the primary challenges facing NDC implementation is the need for enhanced data collection and monitoring systems that can track progress toward emissions reduction targets. Nigeria's current greenhouse gas inventory systems, while improving, still face significant data gaps and methodological challenges that make accurate emissions tracking difficult. The Climate Change Act addresses this challenge by establishing requirements for regular greenhouse gas inventories and emissions reporting, but building the technical capacity for effective implementation remains an ongoing challenge.

The financing requirements for achieving Nigeria's NDC targets are substantial, with estimates suggesting that full implementation of the conditional targets would require billions of dollars in additional investment across all sectors. While the Climate Change Fund established under the 2021 Act provides a mechanism for mobilizing

domestic resources, the scale of financing required far exceeds what can be generated through domestic sources alone.

Access to appropriate technology represents another significant challenge, particularly in sectors such as renewable energy, industrial efficiency, and climate-smart agriculture where Nigeria lacks domestic technological capacity. The NDC recognizes this challenge by explicitly linking conditional targets to technology transfer support, but accessing and adapting appropriate technologies remains a complex process requiring enhanced international cooperation and private sector engagement.

Figure 2: Nigeria's NDC Implementation Framework



3.3 Sectoral Analysis of Mitigation Potential

The energy sector represents the largest opportunity for emissions reductions in Nigeria's NDC, reflecting both the country's current dependence on fossil fuels and the significant potential for renewable energy development. Nigeria's abundant solar, wind, and hydroelectric resources provide substantial opportunities for clean energy deployment, but realizing this potential requires addressing regulatory, financial, and technical barriers that have historically limited renewable energy development.

Nigeria's renewable energy potential is particularly significant in the solar sector, where the country receives an average of 4-7 kWh/m^2/day of solar radiation across different regions. This solar potential, combined with

improving technology costs and supportive policy frameworks, creates opportunities for both grid-connected and distributed solar energy development. However, realizing this potential requires addressing challenges related to grid integration, energy storage, and financing for renewable energy projects.

The agricultural sector's contribution to Nigeria's NDC reflects the sector's importance both as an emissions source and as a sector vulnerable to climate impacts. Climate-smart agriculture approaches, including improved crop varieties, sustainable intensification practices, and enhanced livestock management, offer opportunities for reducing emissions while building resilience to climate impacts. The sector's mitigation potential is particularly significant in areas such as rice cultivation, livestock management, and agricultural waste management.

Forestry and land use changes represent both significant challenges and opportunities for Nigeria's climate commitments. Deforestation and forest degradation contribute substantially to Nigeria's emissions, but the country's participation in REDD+ (Reducing Emissions from Deforestation and forest Degradation) mechanisms offers opportunities for generating revenue while protecting forest resources. The NDC's forestry targets recognize the importance of addressing deforestation while supporting reforestation and afforestation efforts.

4. Domestic Legal Implications and Implementation Mechanisms

4.1 Institutional Coordination and Governance

The implementation of Nigeria's climate commitments requires sophisticated institutional arrangements that can coordinate action across multiple sectors, levels of government, and stakeholder groups. The Climate Change Act establishes a hierarchical governance structure that attempts to balance centralized coordination with decentralized implementation, recognizing that effective climate action requires both national policy coherence and local adaptation to specific circumstances.

The National Council on Climate Change serves as the apex coordination body, bringing together key decision-makers from federal, state, and non-governmental sectors to ensure policy coherence and strategic direction. The Council's composition reflects the cross-cutting nature of climate change impacts, including representatives from ministries responsible for environment, energy, agriculture, finance, and other relevant sectors. This multi-sectoral approach is essential given that climate action requires transformation across all sectors of the economy rather than isolated environmental interventions.

State-level implementation mechanisms represent a crucial component of Nigeria's climate governance architecture, given the significant roles that state governments play in areas such as land use planning, natural resource management, and service delivery. The Climate Change Act requires states to establish Climate Change Committees that mirror the structure and functions of the National Council, creating institutional mechanisms for coordinating climate action at sub-national levels.

The effectiveness of these coordination mechanisms will depend largely on the clarity of institutional mandates, the availability of technical and financial resources, and the political commitment of key stakeholders. Early experience with implementing the Climate Change Act suggests that while the institutional framework is well-designed, challenges remain in terms of ensuring effective coordination between different agencies and levels of government.

Table 3: Multi-level Climate Governance Structure in Nigeria

Level	Institution	Key Responsibilities	Coordination Mechanisms
Federal	National Council on Climate Change	Policy formulation, strategic direction	Inter-ministerial coordination
Federal	Department of Climate Change	Technical implementation, monitoring	Agency coordination
State	State Climate Change Committees	Local implementation, adaptation	Federal-state coordination
Local	Local Government Areas	Community-level implementation	State-local coordination
Sector	Sectoral Climate Units	Mainstreaming climate considerations	Cross-sectoral coordination

4.2 Legal Instruments and Enforcement Mechanisms

The legal framework for climate action in Nigeria encompasses a range of instruments, from binding legislation to regulatory guidelines and voluntary standards. The Climate Change Act serves as the primary legal instrument, but its effectiveness depends on the development of detailed regulations, guidelines, and enforcement mechanisms that can translate broad legislative mandates into specific, actionable requirements.

Regulatory development under the Climate Change Act is an ongoing process that requires careful attention to ensuring that regulations are both technically sound and practically implementable. The Act provides broad frameworks for areas such as emissions reporting, climate risk assessment, and adaptation planning, but detailed regulations are needed to specify requirements, procedures, and compliance mechanisms.

Enforcement mechanisms represent one of the most challenging aspects of climate law implementation, given the technical complexity of climate issues and the limited experience of regulatory agencies with climate-specific enforcement. The Climate Change Act includes provisions for penalties and sanctions for non-compliance with climate obligations, but developing effective enforcement capacity requires substantial investment in technical training, monitoring systems, and coordination between enforcement agencies.

The integration between climate law and existing environmental enforcement mechanisms offers both opportunities and challenges. On one hand, existing environmental agencies have experience with environmental monitoring and enforcement that can be adapted for climate purposes. On the other hand, climate issues often require different technical expertise and enforcement approaches compared to traditional environmental problems.

4.3 Rights-Based Approaches and Human Rights Integration

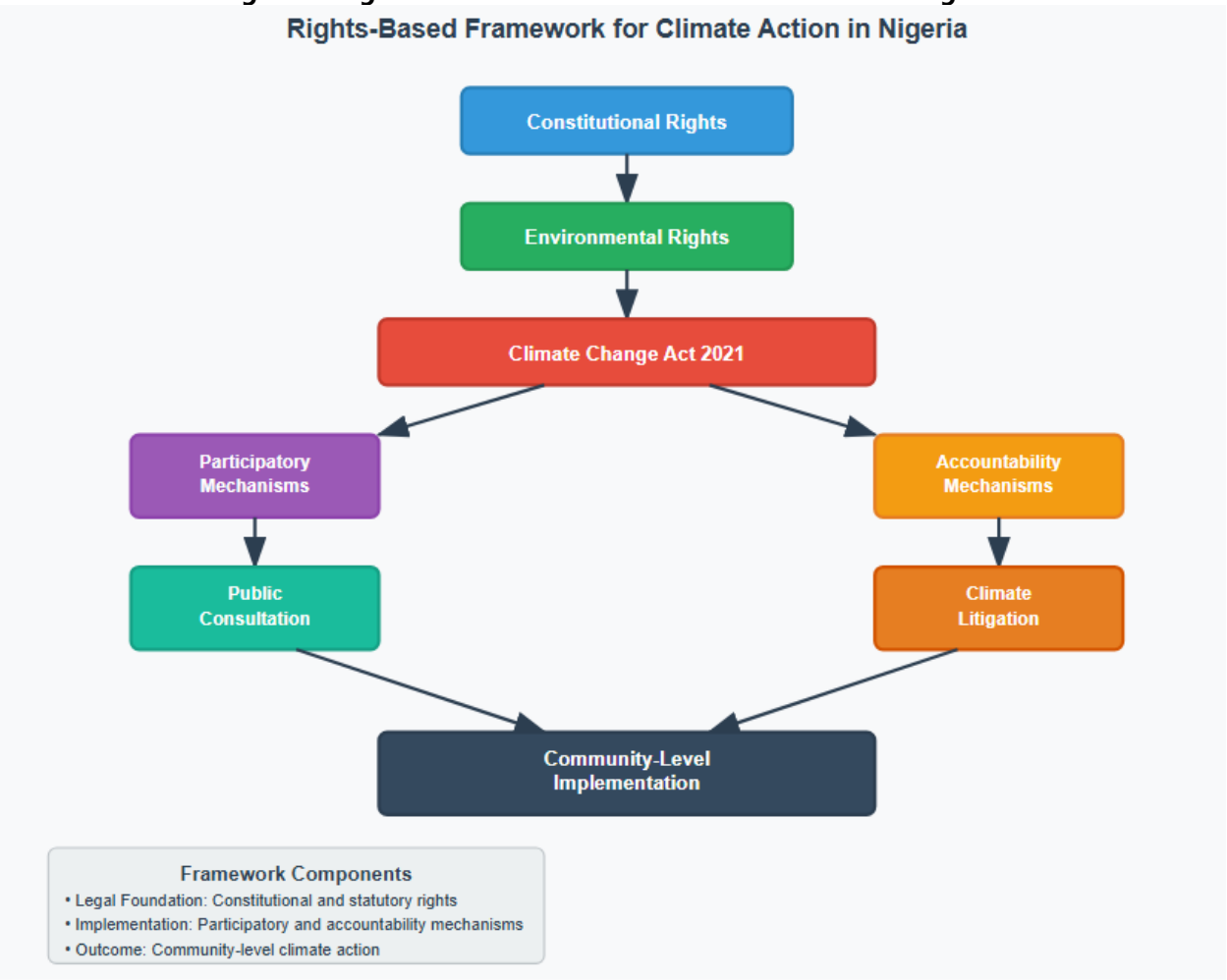
Nigeria's approach to climate governance increasingly recognizes the human rights dimensions of climate change, reflecting growing international recognition that climate impacts have profound implications for fundamental human rights including rights to life, health, food, water, and adequate housing (Oamen & Erhagbe, 2021; Adigun, 2022). The integration of human rights perspectives into climate law and policy represents both a normative imperative and a practical opportunity for enhancing the effectiveness of climate action.

The Climate Change Act includes provisions that recognize the particular vulnerabilities of certain groups to climate impacts, including women, children, indigenous peoples, and persons with disabilities. These provisions create legal foundations for ensuring that climate policies and programs address differential vulnerabilities and promote inclusive approaches to climate resilience.

Rights-based approaches to climate action also create opportunities for enhancing accountability and participation in climate governance. The Act includes provisions for public participation in climate policy development and implementation, creating mechanisms for civil society organizations and affected communities to engage in climate governance processes. These participatory mechanisms are essential for ensuring that climate policies reflect the needs and priorities of those most affected by climate impacts.

The emergence of climate litigation in Nigeria represents another important dimension of rights-based approaches to climate action. Cases such as Centre for Oil Pollution Watch v. Nigerian National Petroleum Corporation demonstrate the potential for judicial proceedings to drive climate policy development and hold government and corporate actors accountable for climate-related harms (Amechi & Ihua-Maduenyi, 2022; Etemire, 2021).

Figure 3: Rights-Based Framework for Climate Action in Nigeria



5. Climate Litigation and Judicial Responses

5.1 The Landmark Centre for Oil Pollution Watch v. NNPC Case

The Centre for Oil Pollution Watch v. Nigerian National Petroleum Corporation case represents a watershed moment in Nigeria's climate litigation landscape, demonstrating the potential for judicial proceedings to drive climate policy development and corporate accountability (Amechi & Ihua-Maduenyi, 2022; Etemire, 2021). This landmark case, which addressed issues related to gas flaring and environmental degradation in Nigeria's oil-producing regions, established important precedents for climate-related litigation in Nigeria and provided insights into how Nigerian courts approach climate issues.

The case's significance extends beyond its immediate legal outcomes to its broader implications for environmental justice and corporate accountability in Nigeria's extractive industries. The litigation challenged the continued practice of gas flaring by oil companies operating in Nigeria, arguing that this practice violates constitutional rights to a healthy environment and contributes to global climate change. The court's decision to recognize the environmental and climate implications of gas flaring represents an important step in judicial recognition of climate issues.

The litigation also addressed procedural issues related to standing in environmental cases, with the Supreme Court's decision liberalizing the requirements for bringing environmental litigation creating opportunities for expanded climate litigation in the future (Oluwatubosun & Onu, 2020). This procedural development is particularly significant given that climate litigation often involves complex questions about causation, standing, and remedies that require flexible approaches to traditional legal doctrines.

The case demonstrates the potential for strategic litigation to complement legislative and regulatory approaches to climate action, creating additional pressure for government and corporate actors to take climate issues seriously. However, the case also highlights challenges related to remedy and enforcement in climate litigation, given the complex and long-term nature of climate problems and the difficulty of crafting judicial remedies that can effectively address climate-related harms.

5.2 Emerging Patterns in Nigerian Climate Litigation

While the Centre for Oil Pollution Watch case represents the most prominent example of climate litigation in Nigeria, emerging patterns suggest that climate-related legal challenges are likely to become more common as awareness of climate issues increases and legal frameworks for addressing climate problems develop. Several factors contribute to this trend, including enhanced legal frameworks under the Climate Change Act, increased civil society capacity for strategic litigation, and growing international experience with climate litigation that provides models for domestic cases.

The development of climate litigation in Nigeria is occurring within a broader context of enhanced environmental activism and increased judicial recognition of environmental rights. The Nigerian constitution's provisions related to environmental protection, combined with growing judicial awareness of environmental issues, create legal foundations for climate litigation that were not available in earlier periods.

International developments in climate litigation also influence the Nigerian context, with successful climate cases in other jurisdictions providing legal precedents and strategic approaches that can be adapted to Nigerian circumstances. The growing body of international climate jurisprudence offers insights into legal theories, evidentiary approaches, and remedy structures that can inform Nigerian climate litigation strategies.

The potential for future climate litigation in Nigeria is enhanced by several factors, including the Climate Change Act's establishment of specific legal obligations related to climate action, enhanced civil society capacity for strategic litigation, and growing scientific understanding of climate impacts that can support causal arguments in litigation. However, significant challenges remain, including limited judicial experience with climate issues, complex questions about causation and remedy in climate cases, and resource constraints that limit access to legal remedies.

Table 4: Climate Litigation Framework in Nigeria

Legal Foundation	Key Cases	Procedural Developments	Future Potential
Constitutional environmental rights	COPW v. NNPC	Liberalized standing requirements	Enhanced access to justice
Climate Change Act 2021	Gbemre v. Shell	Strategic litigation opportunities	Accountability mechanisms
International climate law	Emerging cases	Procedural innovations	Rights-based approaches

5.3 Judicial Capacity and Climate Science Integration

One of the significant challenges facing climate litigation in Nigeria relates to judicial capacity for addressing complex climate science and policy issues that arise in climate cases. Climate litigation often requires courts to engage with sophisticated scientific evidence about climate causation, risk assessment, and impact attribution that goes beyond traditional judicial expertise. Building judicial capacity for addressing these issues requires targeted

training programs, expert witness procedures, and institutional support for courts handling environmental and climate cases.

The integration of climate science into judicial proceedings also raises questions about evidentiary standards, expert testimony, and the appropriate role of courts in evaluating scientific uncertainty. Nigerian courts, like their counterparts in other jurisdictions, must navigate the challenge of making legal determinations based on scientific evidence that involves uncertainty and complexity. Developing appropriate frameworks for evaluating climate science evidence is essential for ensuring that climate litigation can contribute effectively to climate governance.

The relationship between judicial proceedings and policy development represents another important dimension of climate litigation in Nigeria. While courts can play important roles in enforcing legal obligations and holding actors accountable for climate-related harms, the complex and long-term nature of climate problems means that effective climate action ultimately requires coordinated policy responses across multiple institutions and sectors.

6. Comparative Perspectives: Nigeria and Regional Approaches

6.1 Nigeria-Kenya Comparative Analysis

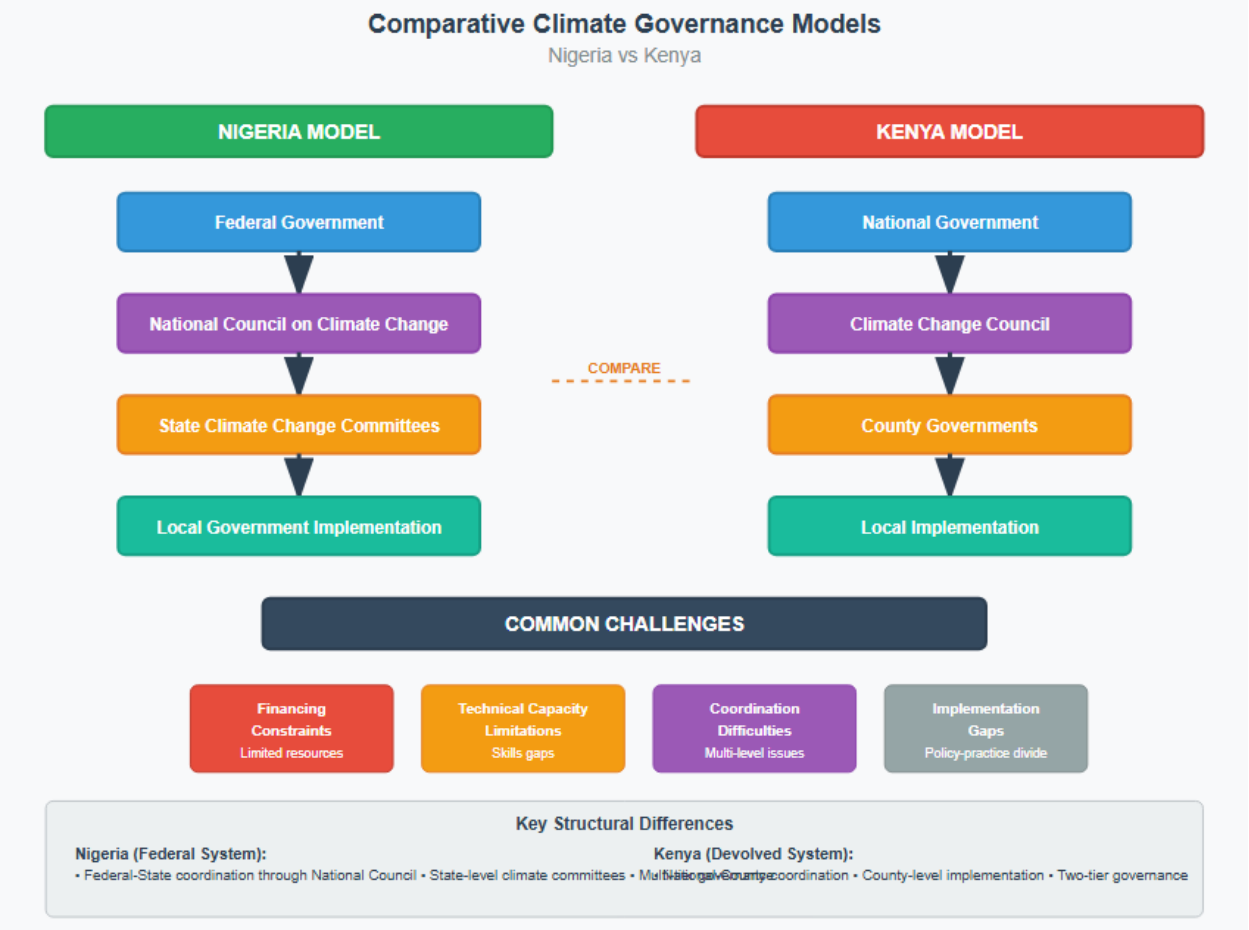
A comparative analysis between Nigeria and Kenya's climate change regimes reveals important insights into different approaches to domesticating international climate commitments and addressing implementation challenges (Okoli, 2022; Naeku, 2020). Both countries face similar challenges related to climate vulnerability, development imperatives, and resource constraints, but their legal and institutional approaches to climate governance reflect different priorities and strategies.

Kenya's approach to climate governance has been characterized by early adoption of comprehensive climate legislation, with the country's Climate Change Act predating Nigeria's legislation by several years. Kenya's experience with implementing climate legislation provides valuable lessons for Nigeria regarding institutional design, coordination mechanisms, and implementation challenges. Kenya's establishment of a Climate Change Council and National Climate Change Action Plan demonstrates approaches to institutional coordination that have influenced Nigeria's own institutional design.

The comparison between Nigeria and Kenya also reveals different approaches to integrating climate considerations into development planning processes. Kenya's emphasis on mainstreaming climate change into county-level development planning reflects the country's devolved governance structure, while Nigeria's approach emphasizes coordination between federal and state levels within a federal system. These different approaches reflect the importance of adapting climate governance frameworks to specific constitutional and institutional contexts.

Both countries face similar challenges related to financing climate action, with limited domestic resources and difficulties in accessing international climate finance constraining implementation of ambitious climate commitments. However, their experiences with different financing mechanisms, including climate funds, carbon markets, and international partnerships, provide insights into effective approaches to climate finance mobilization.

Figure 4: Comparative Climate Governance Models - Nigeria vs Kenya



6.2 Regional Integration and ECOWAS Perspectives

Nigeria's climate governance occurs within the broader context of regional integration efforts under the Economic Community of West African States (ECOWAS), which has developed regional frameworks for addressing climate change that influence national-level approaches. The ECOWAS Climate Change and Adaptation Strategy provides a regional framework for coordinating climate action across member states, creating opportunities for shared learning, resource mobilization, and coordinated approaches to climate challenges that transcend national boundaries.

Regional coordination on climate issues is particularly important given that many climate impacts, such as changes in rainfall patterns, desertification, and sea-level rise, affect multiple countries in the region. Coordinated approaches to addressing these shared challenges can enhance the effectiveness of national climate action while creating opportunities for shared resource mobilization and technical cooperation.

The potential for regional climate litigation also represents an emerging area of interest, with the ECOWAS Court of Justice providing a forum for addressing climate-related human rights violations that may transcend national boundaries (Adigun, 2022). Regional litigation mechanisms create additional avenues for accountability and enforcement that can complement national-level legal frameworks.

Nigeria's leadership role within ECOWAS creates both opportunities and responsibilities for advancing regional climate action. As the region's largest economy and most populous country, Nigeria's climate policies and practices have significant influence on regional approaches to climate governance. Nigeria's experience with implementing

comprehensive climate legislation can provide models and lessons for other ECOWAS member states developing their own climate governance frameworks.

7. Economic Dimensions and Financing Mechanisms

7.1 Climate Finance Architecture

Nigeria's approach to financing climate action reflects the broader challenges facing developing countries in mobilizing adequate resources for implementing ambitious climate commitments. The establishment of the Climate Change Fund under the 2021 Act represents an important step toward creating dedicated financing mechanisms for climate action, but the scale of financing required for achieving Nigeria's NDC targets far exceeds current resource availability.

The Climate Change Fund is designed to mobilize resources from multiple sources, including government budgetary allocations, international climate finance, carbon market revenues, and private sector contributions. This multi-source approach reflects recognition that no single financing mechanism can provide adequate resources for comprehensive climate action, requiring innovative approaches to blending different types of finance and leveraging private sector investment.

International climate finance represents a crucial component of Nigeria's climate financing strategy, particularly for achieving the conditional targets outlined in the country's NDC. However, accessing international climate finance has proven challenging, with complex application procedures, limited grant financing, and misalignment between donor priorities and national needs constraining effective resource mobilization.

Carbon markets offer potential opportunities for generating revenue from climate mitigation activities, but Nigeria's participation in carbon markets has been limited due to technical capacity constraints, regulatory uncertainties, and challenges in developing bankable carbon credit projects. The Climate Change Act provides legal frameworks for engaging with carbon markets, but realizing this potential requires substantial investment in technical capacity and project development.

Table 5: Nigeria's Climate Finance Sources and Mechanisms

Finance Source	Current Status	Potential Contribution	Key Challenges
Government Budget	Limited allocation	20-30% of needs	Competing priorities
International Climate Finance	Slow disbursement	40-50% of needs	Access complexities
Carbon Markets	Minimal participation	10-15% of needs	Technical capacity
Private Sector	Limited engagement	20-25% of needs	Risk perceptions

7.2 Economic Transformation and Green Growth

Nigeria's climate commitments are increasingly being framed within broader economic transformation objectives that emphasize the potential for climate action to drive economic growth, job creation, and industrial development. This green growth approach recognizes that climate action and economic development are not competing objectives but can be mutually reinforcing when appropriate policies and investments are implemented.

The renewable energy sector represents one of the most significant opportunities for green growth in Nigeria, with potential for substantial job creation, industrial development, and export opportunities. Nigeria's abundant renewable energy resources, combined with supportive policy frameworks and improving technology costs, create opportunities for developing a competitive renewable energy industry that can contribute to both climate objectives and economic development goals.

The agricultural sector's transformation toward climate-smart practices also offers opportunities for productivity improvements, resilience building, and value chain development that can contribute to economic growth while reducing emissions. Climate-smart agriculture approaches can enhance productivity, reduce post-harvest losses, and create opportunities for value addition that benefit both farmers and the broader economy.

Industrial transformation toward cleaner production processes and energy efficiency improvements can enhance competitiveness while reducing emissions, creating win-win opportunities for economic and environmental objectives. The development of green industrial zones, clean technology manufacturing, and circular economy approaches can position Nigeria as a regional leader in sustainable industrial development.

8. Implementation Challenges and Future Directions

8.1 Institutional Capacity and Coordination

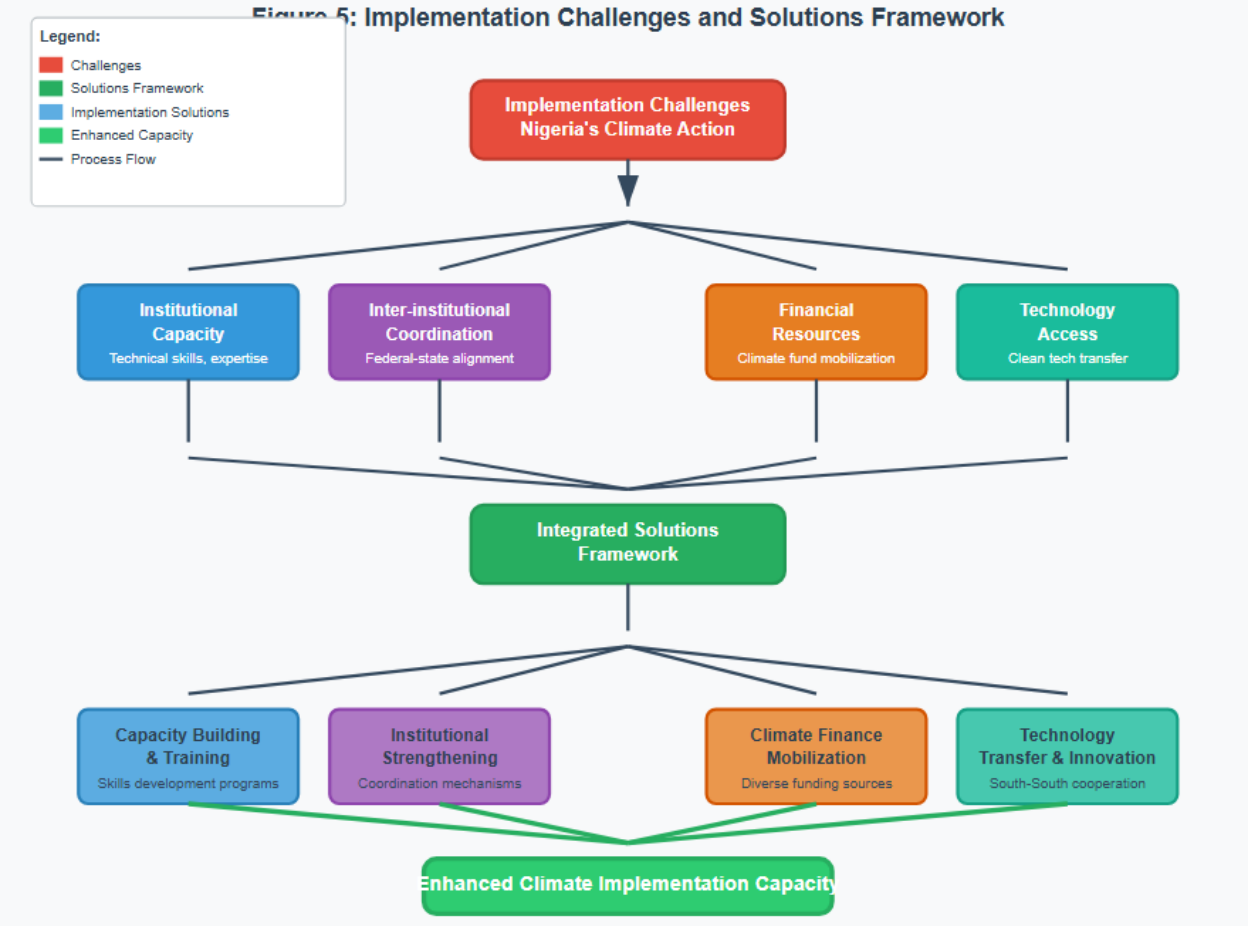
The implementation of Nigeria's comprehensive climate governance framework faces significant challenges related to institutional capacity, coordination mechanisms, and resource availability. While the Climate Change Act establishes a sophisticated institutional architecture for climate governance, translating this framework into effective action requires substantial investment in capacity building, technical training, and institutional development.

Coordination between different levels of government remains one of the most significant challenges, given Nigeria's federal structure and the concurrent nature of environmental regulation under the Nigerian constitution. The Climate Change Act's coordination mechanisms provide frameworks for addressing these challenges, but effective implementation requires sustained political commitment and clear delineation of roles and responsibilities across different institutions.

Technical capacity for implementing climate policies and programs represents another significant challenge, particularly in areas such as greenhouse gas inventory development, climate risk assessment, and project monitoring and evaluation. Building this technical capacity requires targeted training programs, institutional partnerships, and long-term investment in human resource development.

The integration of climate considerations into existing government planning and budgeting processes requires significant changes to established procedures and practices. Mainstreaming climate change into sector planning, development budgeting, and project implementation requires both technical capacity and institutional commitment that may take considerable time to develop.

Figure 5: Implementation Challenges and Solutions Framework



8.2 Technology Transfer and Innovation

Nigeria's climate commitments require access to and deployment of technologies that are often not available domestically or are available only at high costs that constrain widespread adoption. Technology transfer mechanisms, including international partnerships, technology cooperation agreements, and private sector engagement, are essential for accessing appropriate technologies for climate mitigation and adaptation.

The development of domestic technological capacity represents a long-term objective that can reduce dependence on technology imports while creating opportunities for innovation and industrial development. Investment in research and development, technical education, and innovation systems can enhance Nigeria's capacity to develop and deploy climate technologies suited to local conditions and needs.

South-South cooperation offers particular opportunities for technology transfer, given that other developing countries may have developed technologies and approaches that are more appropriate for Nigerian conditions than technologies developed in industrialized countries. Regional cooperation within ECOWAS and broader Africa-wide partnerships can facilitate technology sharing and joint development efforts.

Private sector engagement in technology transfer requires supportive policy frameworks, risk mitigation mechanisms, and financing arrangements that can make technology deployment commercially viable. Public-private partnerships, blended financing mechanisms, and policy incentives can help create enabling environments for private sector investment in climate technologies.

8.3 Monitoring, Reporting, and Accountability

Effective implementation of Nigeria's climate commitments requires robust monitoring and reporting systems that can track progress toward targets, identify implementation challenges, and provide information needed for adaptive management approaches. The Climate Change Act establishes requirements for regular reporting on climate action, but developing the technical capacity and institutional systems for effective monitoring and reporting requires substantial investment.

Greenhouse gas inventory development represents a fundamental requirement for tracking emissions reductions and assessing progress toward NDC targets. Nigeria's current greenhouse gas inventory systems, while improving, face significant challenges related to data availability, methodological consistency, and institutional capacity for regular inventory preparation.

The development of monitoring systems for adaptation actions presents particular challenges, given the difficulty of measuring adaptation outcomes and the long-term nature of many adaptation benefits. Nigeria's approach to adaptation monitoring requires indicators and metrics that can capture progress in building resilience while being practically measurable with available data and resources.

Accountability mechanisms, including regular reporting to international bodies, domestic oversight procedures, and civil society monitoring, are essential for ensuring that climate commitments are translated into effective action. The Climate Change Act includes provisions for accountability, but implementing these mechanisms requires institutional capacity and political commitment that may take time to develop fully.

9. Conclusion

Nigeria's journey toward implementing its climate commitments under the Paris Agreement represents both a remarkable achievement in legal and institutional development and an ongoing challenge requiring sustained commitment and innovative approaches. The adoption of the Climate Change Act 2021 established a comprehensive legal framework that positions Nigeria among the leaders in climate legislation among developing countries, but the translation of legal frameworks into effective implementation remains a work in progress.

The analysis presented in this article demonstrates that Nigeria has created a solid foundation for climate action through its legal and institutional frameworks, but significant challenges remain in areas of financing, technical capacity, coordination, and enforcement. The country's experience with early implementation of the Climate Change Act provides valuable insights into both the potential and limitations of legislative approaches to climate governance.

The emergence of climate litigation in Nigeria, exemplified by the Centre for Oil Pollution Watch v. NNPC case, demonstrates the potential for judicial proceedings to complement legislative and regulatory approaches to climate governance. However, the development of effective climate litigation requires continued investment in judicial capacity, legal expertise, and procedural innovations that can address the unique challenges presented by climate cases.

Nigeria's approach to integrating international climate commitments with domestic legal frameworks offers important lessons for other developing countries grappling with similar challenges. The country's emphasis on institutional coordination, multi-level governance, and sectoral integration provides a model that can be adapted to different national circumstances while addressing common challenges related to climate governance in developing countries.

The comparative analysis with Kenya and regional perspectives within ECOWAS reveals the importance of learning from different approaches to climate governance while adapting frameworks to specific national contexts. Regional cooperation offers opportunities for shared learning, resource mobilization, and coordinated approaches to climate challenges that transcend national boundaries.

Looking forward, the success of Nigeria's climate governance framework will depend on continued political commitment, adequate resource mobilization, enhanced institutional capacity, and innovative approaches to addressing implementation challenges. The country's experience provides valuable insights into how developing countries can translate international climate commitments into effective domestic action while addressing development imperatives and resource constraints.

The legal pathway to Nigeria's low-carbon future remains a work in progress, requiring sustained effort across multiple fronts including policy development, institutional capacity building, financing mechanisms, and accountability systems. However, the foundation established through the Climate Change Act and related legal frameworks provides a solid basis for continued progress toward achieving Nigeria's climate objectives while contributing to global efforts to address the climate crisis.

The implications of Nigeria's climate governance approach extend beyond the country's borders, given its significance as Africa's most populous nation and largest economy. Nigeria's success in implementing its climate commitments will have important implications for regional climate action, continental sustainable development objectives, and global efforts to limit temperature increases to safe levels.

Ultimately, Nigeria's legal pathway to a low-carbon future demonstrates both the potential and challenges inherent in using legal frameworks to drive climate action in developing countries. While legal frameworks provide essential foundations for climate governance, their effectiveness depends on broader factors including political commitment, institutional capacity, resource availability, and social acceptance that require sustained attention and investment.

References

[1] Adesete, A. A., Olanubi, O. E., & Dauda, R. O. (2022). Climate change and food security in selected Sub-Saharan African countries. *Environment, Development and Sustainability*, 25(12), 14623-14657. https://doi.org/10.1007/s10668-022-02681-0

[2] Adigun, M. (2022). A human rights approach to climate litigation before the ECOWAS court. *Environmental Law Review*. https://doi.org/10.1177/14614529231199378

[3] Akindele, A., & Chabinga, R. (2021). Navigating climate change and sustainability solutions: Nigeria's role in international environmental law. *African Journal of Climate Change and Resource Sustainability*, 3(1), 331-344. https://doi.org/10.37284/ajccrs.3.1.2188

[4] Akpodiogaga-a, P., & Odjugo, O. (2010). General overview of climate change impacts in Nigeria. *Journal of Human Ecology*, 29(1), 47-55. https://doi.org/10.1080/09709274.2010.11906248

[5] Amechi, E. P., & Ihua-Maduenyi, A. (2022). Greening the judiciary in Nigeria: Centre for Oil Pollution Watch v. NNPC in perspectives. *African Journal of Law and Justice System*, 1(2), 39-60.

[6] Ani, K. J., Anyika, V. O., & Mutambara, E. (2021). The impact of climate change on food and human security in Nigeria. *International Journal of Climate Change Strategies and Management*, 14(2), 148-167. https://doi.org/10.1108/IJCCSM-11-2020-0119

[7] Dioha, M. O., Kumar, A., & Emodi, N. V. (2020). Exploring the energy system impacts of Nigeria's Nationally Determined Contributions and low-carbon transition to mid-century. *Energy Policy*, 144, 111703. https://doi.org/10.1016/j.enpol.2020.111703

[8] Edomah, N. (2018). Politics of energy transitions: A decade after Nigeria's biofuels crusade, a tale of non-commercialization and lost opportunities. *Environmental Economics and Policy Studies*, 20(2), 437-462. https://doi.org/10.1002/eet.1783

[9] Edomah, N., Foulds, C., & Jones, A. (2016). The role of policy-makers and institutions in the energy sector: The case of energy infrastructure governance in Nigeria. *Sustainability*, 8(8), 829. https://doi.org/10.3390/su8080829

[10] Elum, Z. A., Modise, D. M., & Nhamo, G. (2017). Climate change mitigation: The potential of agriculture as a renewable energy source in Nigeria. *Environmental Science and Pollution Research International*, 24(4), 3260-3273. https://doi.org/10.1007/s11356-016-8010-3

[11] Etemire, U. (2021). The future of climate change litigation in Nigeria: COPW v NNPC in the spotlight. *Carbon and Climate Law Review*, 15(2), 158-170. https://doi.org/10.21552/cclr/2021/2/12

[12] Gungah, A., Emodi, N. V., & Dioha, M. O. (2019). Improving Nigeria's renewable energy policy design: A case study approach. *Energy Policy*, 130, 89-100. https://doi.org/10.1016/j.enpol.2019.03.059

[13] Hamman, I. K., Majid, M. R., & Daud, N. M. (2021). Systematic review of climate change impact research in Nigeria: Implication for sustainable development. *Heliyon*, 7(9), e07941. https://doi.org/10.1016/j.heliyon.2021.e07941

[14] Kehinde, A. O., & Abifarin, O. (2022). Legal framework for combating climate change in Nigeria. *Kutafin Law Review*, 9(3), 395-414. https://doi.org/10.17803/2713-0525.2022.3.21.395-414
[15] Ladan, M. T. (2022). A review of Nigeria's 2021 Climate Change Act: Potential for increased climate litigation. *IUCN Environmental Law Programme*.
[16] Morocco-Clarke, A. (2021). The case of Gbemre v Shell as a catalyst for change in environmental pollution litigation? *Nnamdi Azikiwe Journal of International Law and Jurisprudence*, 12, 28-45.
[17] Naeku, M. J. (2020). Climate change governance: An analysis of the climate change legal regime in Kenya. *Environmental Law Review*, 22(4), 285-302. https://doi.org/10.1177/1461452920958398
[18] Noah, I. A. (2022). Nigeria's Climate Change Act, conditional and unconditional nationally determined contributions, and the principle of common but differentiated responsibilities. *Environmental Law Review*. https://doi.org/10.1177/14614529241272183
[19] Oamen, P. E., & Erhagbe, E. O. (2021). The impact of climate change on economic rights realisation in Nigeria: International cooperation and assistance to the rescue? *African Human Rights Law Journal*, 21(2), 1080-1108. https://doi.org/10.17159/1996-2096/2021/v21n2a46
[20] Ogunkan, D. V. (2022). Achieving sustainable environmental governance in Nigeria: A review for policy consideration. *Urban Governance*, 2(1), 212-220. https://doi.org/10.1016/j.ugj.2022.04.004
[21] Okoli, P. N. (2022). In search of a sustainable future: A comparative assessment of climate change regimes in Nigeria and Kenya. *Review of European, Comparative & International Environmental Law*, 33(2), 245-263. https://doi.org/10.1111/reel.12545
[22] Olujobi, O. J. (2021). Nigeria's Climate Change Act 2021: A pathway to net-zero carbon emission, energy security and sustainability. *Environmental Science and Pollution Research*, 31(25), 36834-36848. https://doi.org/10.1007/s11356-024-33347-1
[23] Oluwatubosun, A. I., & Onu, K. O. N. (2020). The liberalisation of locus standi in environmental cases in Nigeria: An appraisal of the Supreme Court's decision in Centre for Oil Pollution Watch v NNPC. *Gravitas Review of Business and Property Law*, 11, 1-20.
[24] Oramaha, C. P., Olsen, O. E., & Gould, K. A. P. (2022). Assessing the impact of the securitization narrative on climate change adaptation in Nigeria. *Environmental Politics*, 31(6), 1037-1057. https://doi.org/10.1080/09644016.2021.1970456
[25] Watts, N., Amann, M., Arnell, N., et al. (2021). The 2020 report of The Lancet Countdown on health and climate change: Responding to converging crises. *The Lancet Planetary Health*, 5(2), e56-e94. https://doi.org/10.1016/S2542-5196(20)30249-7