CLIMATE CHANGE, SOCIAL INEQUALITY, AND GOVERNANCE

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Abstract

Climate change presents an urgent global challenge with deeply unequal consequences. In Nigeria, structural inequalities—rooted in poverty, gender disparity, and governance failures—intensify the vulnerability of marginalised groups, including rural smallholder farmers, the urban poor, and coastal communities. This article examines how social inequality and weak governance intersect with climate stressors to produce compounding risks across sectors, regions, and population groups within Nigeria's adaptation landscape. Drawing on conceptual frameworks such as climate justice, vulnerability theory, and environmental governance, the paper critically analyses Nigeria's climate policy instruments—including the 2021 Climate Change Act, the Nationally Determined Contributions (NDCs), and the National Adaptation Strategy and Plan of Action on Climate Change (NASPA-CCN). While these frameworks provide an important foundation for national climate resilience, their implementation remains constrained by institutional fragmentation, limited technical and financial capacity at subnational levels, and exclusionary decision-making processes that marginalise vulnerable communities. The article argues that without inclusive and decentralised governance mechanisms that prioritise procedural justice, meaningful community participation, and equitable resource allocation, climate policies risk reinforcing existing social and spatial disparities. It concludes by emphasising the importance of strengthened institutional coordination, gender-responsive and locally grounded planning, and participatory adaptation approaches that centre the voices of vulnerable populations in order to achieve socially just and sustainable climate outcomes in Nigeria.

Keywords: Climate Change, Social Inequality, Governance, Vulnerability, Equitable Adaptation, Inclusive Policy

Introduction

Climate change is no longer just an environmental issue—it is increasingly recognised as a profound social crisis. Rising temperatures, changing rainfall patterns, and more frequent extreme weather events deepen long-standing structural inequalities. In Nigeria, the most vulnerable groups—rural smallholder farmers, urban poor in coastal and informal settlements, and households led by women—are disproportionately affected. These impacts intensify poverty and weaken community resilience (Folorunso, 2024).

A landmark study by Ogbeide Osaretin et al. (2022) reveals a U-shaped connection between temperature increases and income inequality in Nigeria: both the poorest and wealthiest suffer consequences, but poorer groups endure the worst. These findings illustrate how inequality magnifies climate vulnerability and how climate shocks further entrench inequality—a tight feedback loop. This interaction between climate stressors and pre-existing inequality constitutes a critical development challenge for Nigeria.

Governance lies at the heart of whether these vulnerabilities are alleviated or reinforced. Research in Calabar by Adekola et al. (2020) explores flood governance, showing that while multiple levels of government exist, bureaucratic inertia, political interference, and limited community participation constrain

stronger responses. Adapting effectively demands not only technical expertise but also cross-level coordination, political will, and inclusive stakeholder involvement. The research problem, therefore, centres on how weaknesses in governance structures limit Nigeria's capacity to address the unequal social impacts of climate change.

Despite growing recognition of the threat, Nigeria's response capacity remains low. Folorunso (2024) finds that rural and coastal communities—especially women smallholders and informal settlers—have limited social networks, resources, and institutional support. Although the country's official climate plans, such as the Nationally Determined Contributions (NDCs) and the National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN), identify key sectors (e.g., agriculture, water, disaster management), implementation at state and local levels is weak (Oramah & Olsen, 2021).

Passed in 2021, Nigeria's Climate Change Act established a five-year carbon budget and set up a Climate Change Fund under the National Council on Climate Change (NCCC). Yet significant hurdles remain: many local governments lack climate units, state agencies are under-resourced, and federal mandates seldom trickle down effectively (Folorunso, 2024). This institutional gap underscores the broader challenge: policies often remain disconnected from ground-level realities. While existing studies document climate impacts and policy frameworks, there is limited integrated analysis of how climate change, social inequality, and governance intersect within Nigeria's adaptation landscape. This constitutes a key knowledge gap addressed by this paper.

In this context—where climate hazards meet entrenched inequality and weak governance—Nigeria faces a severe threat to sustainable development. The country's ecological diversity—from drought-prone northern regions to flood-vulnerable southern coastal zones (Oramah & Olsen, 2021; Folorunso, 2024)—compounds challenges like displacement, food insecurity, and infrastructure loss. Governance shortcomings further deepen these vulnerabilities (Nwanegwo et al., 2025).

This paper seeks to illuminate how climate change intensifies inequality in Nigeria, how governance structures shape this process, and what reforms are needed to promote climate justice. It integrates national-level statistical findings (Ogbeide Osaretin et al., 2022), qualitative assessments of flood governance (Adekola et al., 2020), and insights into community-led adaptation rooted in equity principles (Folorunso, 2024; Butu et al., 2022). Accordingly, the study is guided by the following research questions, which examine how climate change exacerbates existing social inequalities among vulnerable groups in Nigeria, in what ways governance structures and institutional capacity influence climate vulnerability and adaptation outcomes, and the extent to which Nigeria's climate policies and governance frameworks address issues of equity, inclusion, and climate justice in practice.

Situated within global conversations on climate justice, vulnerability theory, and environmental governance, this paper offers an in-depth look at a populous Global South nation wrestling with social inequality and adaptation deficits. It argues that without inclusive institutions anchored in justice, even well-designed climate policies risk falling short of meaningful change.

Conceptual Foundations and Theoretical Framework

Climate change refers to long-term shifts in temperature, rainfall, and the frequency of extreme events. These have cascading impacts on livelihoods, particularly where inequality and weak institutions prevail (Folorunso, 2024). Social inequality encompasses disparities in wealth, resource access, and power—factors that influence people's ability to weather climate shocks (Ogbeide Osaretin et al., 2022; Folorunso, 2024). Governance includes both formal and informal institutions, decision-making processes, power relations, and policy frameworks at national, state, and community levels. These structures determine

how adaptation is conceived, communicated, and enacted (Adekola et al., 2020).

The paper draws on three interrelated theoretical perspectives:

1. **Climate justice** highlights both who bears climate burdens and how decisions are made. Ikporukpo & Ikporukpo (2024) emphasise Nigeria's modest historical emissions and argue for fair access to adaptation funding and a voice for marginalised communities in planning.

2. **Vulnerability theory** (Adger, 2006) sees vulnerability as a function of exposure, sensitivity, and adaptive capacity. Anugwom & Anugwom (2022) locate this framework in the Nigerian context: groups with fewer assets, low social capital, and limited institutional inclusion—like rural women and coastal households—face greater climate risk (Folorunso, 2024).

Environmental governance theory underscores the importance of multi-level coordination and stakeholder engagement. In Lagos, Adekola et al. (2020) identify weaknesses in flood adaptation: slow bureaucratic response, poor intra-agency communication, and little community involvement.

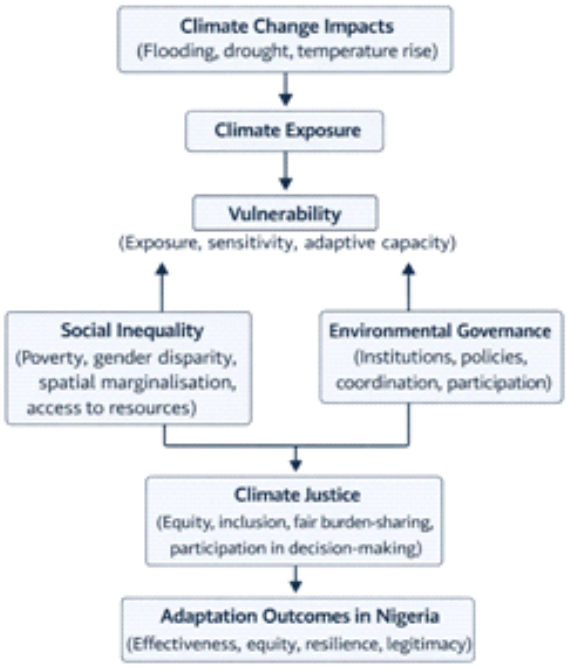

Figure 1:Integrated Theoretical Framework for Analysing Climate Vulnerability and Adaptation in Nigeria

Climate justice theory foregrounds questions of equity, responsibility, and participation in climate decision-making. Within the Nigerian context, Ikporukpo and Ikporukpo (2024) emphasise the country's limited historical contribution to global greenhouse gas emissions while highlighting persistent inequalities in access to adaptation finance and planning processes. Vulnerability theory conceptualises climate risk as a function of exposure, sensitivity, and adaptive capacity (Adger, 2006). Applied to Nigeria, this framework demonstrates that populations with limited assets, weak social networks, and marginal institutional inclusion—such as rural women, coastal communities, and informal urban residents—face heightened climate vulnerability (Anugwom & Anugwom, 2022; Folorunso, 2024). Environmental governance theory, in turn, draws attention to the institutional and procedural dimensions of adaptation, underscoring the importance of multi-level coordination, policy coherence, and stakeholder engagement. Empirical evidence from Lagos reveals that fragmented

bureaucratic structures, slow administrative responses, and minimal community participation undermine effective flood adaptation (Adekola et al., 2020).

Taken together, these perspectives converge on the argument that climate vulnerability in Nigeria is not solely the outcome of biophysical hazards but is socially and institutionally produced. Climate impacts intersect with entrenched inequalities, while governance structures mediate whether adaptation responses exacerbate or reduce vulnerability. This integrated framework therefore provides a robust analytical lens for evaluating Nigerian climate practice by assessing the extent to which adaptation policies address structural marginalisation, enhance institutional responsiveness, and embed principles of justice and equity within governance processes.

Disproportionate Impacts on Marginalised Communities

Climate change's disruptive effects in Nigeria are deeply intersectional. Rural women, smallholder farmers, urban poor, and coastal dwellers face compounded hardships.

In Ilorin South, Kwara State, rural women report livelihood losses tied to floods, erratic rainfall, and soil degradation. They rely on rain-fed crops and small-scale trade, and their resilience is limited by poor infrastructure, low capital, and restricted access to modern farming methods (Duru, Aro & Oladipo, 2022).

Ogbeide Osaretin et al.'s (2022) analysis over forty years documents a U-shaped curve linking rising temperature and income inequality. As climate warming accelerates, income gaps widen, particularly affecting low-income households. Wealthier segments may initially resist or mitigate loss—but poorer groups face spiralling vulnerability.

Gender and geography intersect sharply. A study in southeast Nigeria identifies land ownership issues, farming dependence, and lack of political influence as drivers of differential vulnerability—women-led households confront greater exposure due to constraints across land, finance, and support systems (Nnadi, Lyimo & Liwenga, 2020). Ume, Opata, & Onyekuru (2021) further note that female-headed households, those fully reliant on agriculture, are especially sensitive to climate shocks.

In Bayelsa State's riverine communities, researchers interviewed women traders who revealed how flood events break supply chains, damage goods, and limit market access. Damaged income and caregiving responsibilities exacerbate economic stress. While community-level solidarity and local adaptation practices offer some buffer, resilience remains fragile without external assistance (Michael, 2024).

A broader survey of farming households shows that over two-thirds face high susceptibility to drought, flooding, and crop failure. Key determinants of vulnerability include household income, land size, age of the household head, and marital status. Coping strategies—like diversifying crops or adjusting planting times—offer limited protection without institutional support (Aminu et al., 2023).

Region-specific threats further define differential risk. Small-scale farmers, coastal communities, and indigenous populations suffer repeated exposure to floods in the Niger Delta; nor is the north spared—desertification and land degradation persist. Poverty, limited infrastructure, and governance exclusion deepen this shared burden (Folorunso, 2024).

Urban development in Lagos also reveals governance-driven inequality. Mega-infrastructures, such as the Lekki Free Trade Zone and Eko Atlantic City, have displaced low-income coastal communities, increasing flood risk and housing precarity. Fragmented governance and bureaucratic delays in flood planning intensify exposure among the urban poor (Ekoh & Teron, 2023).

Together, these findings highlight intersectional vulnerabilities: rural women and households led by women face layered burdens; smallholders rely on fragile ecosystems; urban poor dwellers live on flood-prone margins; and Indigenous and coastal communities endure long-term marginalisation. Across these contexts, causes of vulnerability—poverty, gender inequality, location, and poor governance—interact to deepen risk and erode resilience.

Climate adaptation must therefore centre marginalised voices through gender-sensitive

agriculture, secure land rights, flood-resistant infrastructure, and diversified livelihoods. Bolstering community governance and social capital—especially among women and indigenous groups—is critical for narrowing the adaptive divide.

Governance and Policy Responses

Nigeria's climate policy toolkit includes legislative advances, institutions, and internationally aligned frameworks. The Climate Change Act of 2021 stands out: it mandates a five-year carbon budget, creates a Climate Change Fund, and establishes the NCCC, which coordinates climate action across federal, state, and local tiers (Hia & Achinge, 2023).

The NCCC is tasked with compliance monitoring, fund allocation, and coordinating adaptation and mitigation. It has powers to institute carbon taxes and emissions trading for large emitters—funds that are supposed to support equitable climate investments (Okafor et al., 2025).

Yet, the institutional reality falls short. Ministries and agencies frequently have overlapping mandates, weak coordination, and poorly funded state and local branches, all of which stymie practical policy implementation (Okara & Innocent, 2024). Key components like the carbon budget (due for approval in November 2022) remain unratified due to bureaucratic bottlenecks.

Financial resources are also constrained. Though the Climate Change Fund provides a domestic financing mechanism, Nigeria's fiscal dependence on fossil fuel revenues limits its capacity to support adaptation in impoverished regions. Moreover, weak oversight raises concerns about fund misuse toward non-climate goals (Olujobi & Odogbo, 2024).

In addition to the Act, policy frameworks like the NDCs and NASPA CCN outline Nigeria's climate commitments. The 2021 NDC aims to reduce emissions by 20% unconditionally and up to 47% with international support by 2030. It expands mitigation scope across energy, agriculture, water, and waste sectors (Okafor et al., 2025). NASPA CCN and sectoral plans (for water, forestry, drought, etc.) promote multi-level coordination across government tiers (Oramah & Olsen, 2021).

Programs like REDD+ and natural capital accounting are part of nature-based strategies encouraged under the law (Hia & Achinge, 2023). Similarly, the Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL) initiative supports northern semi-arid communities through ecosystem restoration, watershed development, and institutional strengthening (ACReSAL report, 2024).

Despite promising frameworks, climate justice remains elusive. Institutional capacity, political will, and coordination remain weak (Olujobi & Odogbo, 2024). Public participation and awareness—particularly among marginalised communities—are limited, causing gaps in procedural equity that undermine effective implementation.

Institutional Capacity and Community Participation

Institutional weakness remains a significant barrier. Agencies managing water, environment, and climate emergencies—such as the Federal Ministry of Environment, the Nigerian Meteorological Agency (NiMET), and the National Emergency Management Agency (NEMA)—continue to suffer from poor coordination and limited technical capacity. These deficiencies constrain comprehensive adaptation planning, particularly in flood-prone areas where integrated and timely responses are most critical (Ojo et al., 2020).

Despite the centrality of institutions to climate governance, adaptation research in Nigeria has devoted limited attention to institutional dimensions. Only about 13% of existing studies examine governance and institutional capacity, with the bulk of research focusing instead on agricultural or household-level social responses. This imbalance reflects broader under-investment in governance systems, human capital, and sustainable climate finance (Okafor, 2024). Although the Climate Change Act establishes institutional mechanisms in principle, implementation remains underdeveloped: climate units are absent in many local councils, budgetary allocations are inadequate, and the mandate of the National Council on Climate Change (NCCC) is still in the process of consolidation.

Community engagement is similarly weak. In

Port Harcourt, flood-affected communities report inadequate early warning systems, low levels of climate awareness, and minimal involvement in planning processes. While some civil society organisations have attempted to mobilise local action, formal institutional structures continue to limit meaningful participation, leaving local voices marginal to decision-making (Greenwalt et al., 2021).

In sharp contrast to these widespread governance and participation deficits, evidence from more integrated initiatives highlights markedly different outcomes. The Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL) project in northern Nigeria demonstrates how coordinated ministerial action, strengthened watershed governance, and the deliberate inclusion of local actors can enhance adaptive capacity. Unlike fragmented institutional arrangements elsewhere, ACReSAL illustrates the potential effectiveness of governance systems that combine cross-sectoral coordination with structured community involvement.

Among farming communities, climate-smart practices—such as crop diversification, mulching, and livestock integration—are not adopted uniformly but are closely tied to the availability of institutional support, including training, credit, and extension services. Where such support is weak or absent, adaptation efforts remain limited, inconsistent, and fragile (Chigozirim et al., 2022).

Non-governmental organisations and civil society actors frequently intervene to compensate for institutional gaps, facilitating community awareness, environmental conservation, and resilience-building, particularly among indigenous and marginalised groups. In these contexts, partnerships with credible NGOs enhance programme legitimacy and improve local uptake, even in the absence of strong state-led engagement (Onnoghen et al., 2023).

Nevertheless, fragmented mandates, overlapping agency responsibilities, and persistent coordination failures—many of which predate the Climate Change Act—continue to undermine state and local implementation (Ajayi, 2022). The NCCC has been slow to fully assert its coordinating role, and climate planning units at subnational levels remain the exception rather than the norm.

In summary, both institutional capacity and community participation remain inadequately developed, constraining adaptation efforts and reinforcing patterns of marginalisation. While initiatives such as ACReSAL and NGO-led community interventions demonstrate what is possible under more integrated governance arrangements, they also underscore the persistent gap between policy design and institutional capability in Nigeria's climate response framework.

Toward Inclusive and Just Governance

Although Nigeria has made legal strides—via the Climate Change Act, NDCs, and NCCC—justice-based governance goes beyond legislation. It requires:

1. **Procedural inclusion**. Basiru et al. (2022) show that in REDD+ pilot sites, over 97% of women were unaware of planning processes. Making participation meaningful requires gender-aware advisory councils, participatory consultations, and inclusive multi-sector forums.

2. **Multi-level integration**. NASPA CCN envisions alignment across federal, state, local, civil society, and communities (Oramah & Olsen, 2021). But Biu & Nwanegbo (2021) highlight delays and policy stagnation. Strengthening climate governance means empowering the NCCC, establishing climate units in all geographies, and allocating local budgets for climate action.

3. **Distributive justice**. Equity demands that resources—financial, technical, and infrastructural—flow preferentially to those most impacted: coastal dwellers, smallholder farmers, women, children, and indigenous groups. Arowolo (2024) emphasises children's vulnerability and the need for intergenerational justice in adaptation planning.

4. **Legal empowerment**. Nigeria's Supreme Court in COPW v. NNPC expanded NGO standing in environmental litigation (Oamen & Erhagbe, 2021). These legal pathways offer tools for communities and civil society to demand equitable planning and transparent climate finance.

5. Adaptive and evidence-based planning. Onwusameka et al. (2023) underscore collaborative methane mitigation efforts that combine community input, scientific data, and multilevel coordination. Nigeria's institutions—including the NCCC and academic networks—should formalise co-production of knowledge, participatory monitoring platforms, and ongoing stakeholder dialogues.

Conclusion

Nigeria faces intertwined challenges of climate risk, inequality, and weak governance. Despite progress through the Climate Change Act, NDCs, and NCCC, poor implementation and lack of inclusion limit their impact. Marginalised groups like women, rural farmers, and coastal and indigenous communities are often excluded from decision-making, widening adaptation gaps. To bridge these, Nigeria needs better-resourced institutions, climate-focused units at all government levels, climate education, and participatory planning that centres vulnerable voices. Local models like ACReSAL show the power of integrated, community-driven action for resilience. Scaling such efforts demands embedding justice and accountability into funding and governance. By aligning policies with climate justice, inclusion, and equity, Nigeria can close institutional and social gaps, ensuring climate action delivers real resilience and inclusive sustainable development.

Recommendations

To address the intertwined challenges of climate vulnerability, social inequality, and weak governance identified in this study, Nigeria's climate response requires targeted and institutionally grounded reforms. First, climate governance should be decentralised through the establishment and adequate resourcing of climate planning units at state and local government levels, ensuring that national policies translate into context-specific action. Strengthening the coordinating authority of the National Council on Climate Change (NCCC) is essential to reduce mandate overlaps, improve inter-agency collaboration, and enhance policy coherence.

Second, adaptation planning must institutionalise inclusive and participatory mechanisms. Structured community engagement—particularly involving women, smallholder farmers, coastal dwellers, and indigenous groups—should be embedded in policy design, implementation, and monitoring to advance procedural justice. Third, institutional capacity building is critical: sustained investment in technical training, extension services, early warning systems, and climate data dissemination will improve adaptive outcomes, especially in flood- and drought-prone regions.

Finally, climate finance should be transparently managed and preferentially directed towards the most vulnerable populations, aligning resource allocation with principles of distributive justice. Anchoring these measures within existing legal and policy frameworks will strengthen implementation and promote more equitable and resilient climate governance in Nigeria.

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