

WATER DIPLOMACY AND DISASTER MANAGEMENT: EVALUATING THE IMPACT OF LAGDO DAM ON NIGERIA-CAMEROON RELATIONS

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Abstract

This study explores how the Lagdo Dam continues to shape Nigeria–Cameroon relations, particularly by intensifying flooding and humanitarian challenges in downstream Nigerian communities. The study employs transboundary water governance theory. Using a qualitative research approach, the study relies solely on secondary sources, including academic literature, institutional reports, policy documents, and official publications. A descriptive analytical method is applied to understand patterns of cooperation, environmental impacts, and institutional responses. The findings show that although the Benue River is a shared resource requiring close coordination, collaboration between both countries remains weak. The construction and long-term operation of the Lagdo Dam without a robust, binding bilateral framework has contributed to repeated flood disasters in Benue, Taraba, Adamawa, and Kogi States. The study also notes that regional bodies, including the Lake Chad Basin Commission and the Nigeria–Cameroon Mixed Commission, lack sufficient authority and operational capacity to enforce effective transboundary water management. Nigeria’s inability to complete the planned Dasin Hausa Dam further heightens its vulnerability and fuels diplomatic strain. The study concludes that strengthening water diplomacy, creating a functional joint river-basin management mechanism, and improving disaster-response coordination are critical for reducing transboundary flood risks and improving bilateral relations between Nigeria and Cameroon.

Keywords: *Water diplomacy, Disaster Management, Nigeria-Cameroon relations, Lagdo Dam*

Introduction

Water increasingly influences international relations, acting as a foundation for both collaboration and conflict, particularly in regions where rivers traverse multiple nations. Global shared rivers are vital for sustaining life and fostering economic development; however, they may also incite competition when cooperative frameworks are inadequate or absent. In such circumstances, the efficacy of governmental diplomatic engagement regarding shared water resources frequently determines whether nations achieve mutual benefits or encounter recurring crises (Adebayo, 2021).

In Africa, these challenges are especially pronounced in West and Central Africa, where increasing populations, changing climate conditions, and inadequate infrastructure exert further strain on water governance. The Benue River originates in northern Cameroon and traverses Nigeria, exemplifying a significant transboundary river in the region. The governance exemplifies the precarious balance between opportunity and risk, as decisions made in the upper river regions directly impact environmental integrity and community safety in the lower regions.

Transboundary rivers are at the heart of both regional collaboration and political tensions, particularly in regions facing rapid environmental changes. The Benue River, which originates in northern Cameroon and flows into eastern Nigeria, is a prime example in West and Central

Africa. It offers considerable promise, yet also presents serious challenges. Since Cameroon began using the Lagdo Dam in the 1980s, the impact on Nigerian communities downstream has been considerable. The lack of coordinated planning for water releases has repeatedly caused devastating flooding in Nigeria. These recurring crises highlight the shortcomings of the existing bilateral water management framework, underscoring the need for greater political commitment and improved diplomatic communication between the two nations (Adebayo & Ibe, 2021).

The Lagdo Dam's construction in northern Cameroon during the 1980s highlighted these governance problems. While the dam was intended to bolster Cameroon's power generation and agricultural needs, its operation has consistently posed seasonal threats to Nigeria, especially in Benue, Taraba, Adamawa, and Kogi States. Inadequate management of water releases has been tied to devastating floods, with 2012 and 2022 standing out as particularly destructive years, displacing many and crippling local economies. Nigeria's failure to complete the Dasin Hausa Dam, designed to mitigate the effects of uncontrolled water flow, has further exposed communities along the lower river to risk and heightened their long-term vulnerability.

The Lagdo Dam's construction in northern Cameroon, a project that began in the 1980s, heightened worries about how Cameroon and Nigeria managed their shared water resources. While the dam was built mainly to boost Cameroon's power production and irrigation, its operation has consistently posed security threats downstream for Nigeria. The states of Benue, Taraba, Adamawa, and Kogi have felt the brunt of these impacts. Uncoordinated reservoir releases have led to flooding, including the significant events of 2012 and 2022, which caused widespread displacement and considerable economic damage. Nigeria's ongoing failure to finish the Dasin Hausa Dam, designed to manage water flow downstream, has left communities at greater risk and worsened their existing problems (Adebayo & Ibe, 2021).

The social and environmental fallout from these recurring floods has strained diplomatic relations, highlighting the shortcomings of regional and bilateral coordination efforts. This includes the Lake Chad Basin Commission and the Cameroon–Nigeria Mixed Commission. Despite continued diplomatic talks, practical collaboration on early warning systems, controlled water release, and data sharing has been inconsistent and often disjointed. This has undermined joint disaster preparedness and fuelled feelings of distrust between the two nations.

Historically, the interaction between Nigeria and Cameroon concerning the management of transboundary water resources has been shaped by pre-existing administrative frameworks, disparities in infrastructure development, and enduring political mistrust. A notable deficiency in this governance dynamic is the protracted delay in the construction of the Dasin Hausa Dam. This dam was initially conceived as a hydraulic safeguard against uncontrolled discharges from the Lagdo reservoir. Consequently, this infrastructural shortcoming continues to expose communities reliant on river systems in Benue, Taraba, Adamawa, and Kogi States to recurrent flooding, which precipitates significant humanitarian and ecological repercussions, encompassing population displacement, economic hardships, and enduring environmental strain (Okpara et al 2021).

- i. Building on this context, this study assesses the effects of the Lagdo Dam on Nigeria–Cameroon relations, emphasizing the extent to which gaps in water diplomacy have

intensified disaster impacts. It also examines the institutional and diplomatic adjustments required to reposition transboundary water governance as a tool for reducing disaster risks while strengthening bilateral cooperation. The study further identifies governance reforms capable of shifting shared water management from a recurring source of vulnerability toward a structured framework that supports long-term stability, risk mitigation, and improved interstate trust.

The objectives are as follows:

Examine Nigeria and Cameroon's historical and diplomatic relations regarding managing transboundary water resources, particularly the Lagdo Dam.

- ii. To investigate the environmental and humanitarian impacts of ineffective water governance between Nigeria and Cameroon, particularly in vulnerable Nigeria communities
- iii. Assess the effectiveness of current bilateral agreements, policies, and institutional frameworks governing Nigeria-Cameroon water cooperation.

Review of Literature

Water diplomacy has recently become an essential interdisciplinary strategy for tackling the intricate political, technological, and environmental issues associated with the management of transboundary water resources. This method transcends conventional diplomatic practices by integrating technical expertise, engaging pertinent stakeholders, and employing environmental governance to foster collaboration among nations that share a waterway. With the exacerbation of climate change, population expansion, and environmental degradation, global water insecurity is intensifying, hence rendering water diplomacy crucial for regional peace and sustainable development (Zeitoun et al., 2021).

Recent studies underscore the necessity of integrating technical and political dimensions in talks over shared water resources. Schmeier and Hasenkamp (2020) contend that effective water diplomacy involves more than just political will. The cooperation of hydrologists, legal specialists, and civil society organizations is also crucial, since they furnish essential data and facilitate the bridging of knowledge gaps.

A major strand in current scholarship examines how institutional arrangements shape the effectiveness of water diplomacy. Akhmouch and Clavreul (2021) note that formal river basin bodies including cooperative platforms in Asia and West Africa function as stabilizing structures that enable sustained political and technical engagement. By institutionalizing dialogue, dispute settlement procedures, and shared development planning, such organizations reduce governance uncertainty and create predictable channels for negotiation. Their value becomes even more evident in regions marked by political sensitivities, where they also narrow knowledge and capacity imbalances through coordinated investment models and jointly managed data systems.

Notwithstanding this optimism, research equally points to structural constraints that continue to weaken transboundary water cooperation. A recurring limitation identified in regional studies is the absence of binding legal instruments, particularly in areas where water allocation is still shaped by political goodwill rather than treaty-based obligations. In parts of West and Central Africa, agreements often remain loosely defined, lacking legal specificity and enforcement

provisions, which increases their susceptibility to domestic political transitions and unilateral policy shifts (Ezeh et al., 2023; Ezeh et al., 2023). In the Nigeria–Cameroon context, the long-term operation of the Lagdo Dam in the absence of a bilateral treaty with clearly negotiated rules for reservoir discharge continues to expose downstream Nigerian communities to seasonal flood risks, population displacement, and recurring humanitarian distress. This situation demonstrates how non-binding governance models, even when diplomatically acknowledged, remain institutionally fragile and operationally unreliable in delivering disaster prevention and political trust.

Climate change has intensified the strategic significance of water diplomacy, thereby generating increased political impetus for collaborative risk management. Pohl et al. (2020) note that climate-induced disturbances, evidenced by more frequent and intense floods and droughts, have exacerbated competition over water resources and broadened the security threats linked to transboundary rivers. As a result, evolving adaptive diplomacy models now incorporate proactive tools such as early warning risk-sharing instruments and coordinated disaster management frameworks are increasingly integral to transboundary water interactions. The incorporation of collaboratively devised emergency responses, organised risk mitigation pathways, and collective disaster governance indicates a significant diplomatic shift. This developing practice embodies a transition towards preventive diplomacy an approach that emphasises the alleviation of shared vulnerabilities and proactive disaster management, rather than limiting negotiations to resource distribution alone.

Contemporary research, in addition to climate adaptation, increasingly highlights the social aspects of water diplomacy. Boisson de Chazournes and Tignino (2022) and other scholars emphasise that the longevity of water agreements is significantly influenced by the composition of the negotiating parties. The literature on inclusive diplomacy posits that broadening negotiation arenas to include women, indigenous populations, and local communities reliant on river systems enhances both procedural legitimacy and sustained adherence to agreements. This perspective situates water governance within broader normative frameworks concerning environmental justice, human security, and civic accountability, thereby reinforcing the notion that collaborative water management must also foster social trust, political transparency, and community-level resilience.

The examined literature characterises water diplomacy as an interdisciplinary governance domain, situated at the convergence of foreign policy, environmental science, and participatory institutions. Despite demonstrable progress in institutional coordination and technical collaboration, persistent impediments including the lack of legally binding agreements, ongoing political reservations, and disparities in infrastructural capabilities continue to hinder effective cooperation in areas like West Africa. Addressing these deficiencies necessitates a diplomatic approach that is anticipatory, scientifically grounded, socially inclusive, and explicitly designed to incorporate climate-adaptive disaster risk reduction, underpinned by enduring bilateral and regional political dedication.

Transboundary Environmental Disaster

Transboundary environmental disasters have emerged as a central concern within international environmental governance, especially in regions where ecological systems and waterways span

national borders. These events, including flooding, prolonged droughts, uncontrolled wildfires, and cross-border pollution, initiate within a single nation yet precipitate far-reaching environmental, social, and economic consequences for adjacent countries. Current academic discussions highlight that the prevalence and severity of these incidents expose considerable shortcomings in interstate cooperation, disaster warning systems, shared risk communication protocols, and institutional alignment.

Academics argue that the most significant shortcomings are evident when agreements are politically acknowledged but are deficient in practical implementation, technical coherence, and proactive disaster readiness. This perspective reinforces the notion that transboundary disasters extend beyond environmental events, functioning as indicators of fragile diplomatic and governance structures, particularly in regions where collaborative institutional frameworks struggle to translate dialogue into effective action (UNECE, 2021; Olorunfemi & Ezeh, 2023).

Transboundary flooding, often associated with unilateral decisions on reservoir discharge from upstream dam facilities, is one of the most well-documented instances of cross-border environmental problems. This difficulty is most pronounced in areas where rivers are shared, yet governance frameworks lack treaty-based commitments or collaboratively managed operational protections. A significant issue in West and Central Africa is the recurrent discharge of excess water from Cameroon's Lagdo Dam, which has consistently caused extensive flooding in the Nigerian riparian states, particularly Benue and Taraba. The repetition of these events is commonly linked to mass migration and significant damage of agricultural systems, underscoring how foreseeable risks transform into recurring disasters without coordinated early warning systems and legally established water-release strategies. Scholars assert that the lack of institutionalised discharge schedules exacerbates dangers to human security and undermines bilateral trust and political stability among neighbouring governments. The legal and institutional aspects of environmental crises that cross national borders have been a persistent subject of scholarly investigation. Despite the existence of international legal frameworks, such as the UN Watercourses Convention and the Helsinki Convention, which provide a foundation for interstate accountability and cooperative resource management, their practical application varies significantly across different geographical areas. In many regions of Africa, transboundary river systems are governed through informal diplomatic channels, rather than through formal, legally enforceable agreements specifically designed to address disaster prevention. This institutional shortcoming intensifies the unequal vulnerability experienced by countries situated both upstream and downstream, consequently heightening risk in areas characterised by insufficient infrastructure, regulatory ambiguity, and inadequate operational coordination (UNECE, 1992).

The consequences are particularly evident in West Africa, where insufficient hydraulic buffering, unreliable data sharing, and inadequate institutional collaboration hinder both disaster prevention and the execution of timely response strategies. Cross-border disasters initiate a cascade of humanitarian and economic effects, which subsequently impact political and social stability. Communities along the Nigeria-Cameroon border have experienced continuous population displacements, heightened strain on local resources, and an increased probability of food system instability stemming from flooding. The widespread displacement

caused by recurring flooding has intensified pressures on host communities, thereby escalating inter-communal tensions and creating conditions where environmental shocks lead to more significant human-security challenges.

These results reinforce the concept that transboundary environmental disasters should be regarded not merely as ecological crises but also as amplifiers of risk for regional peace, development strategies, and diplomatic confidence. The examined literature consistently characterises transboundary environmental disasters as difficulties that are technical, institutional, and diplomatic in nature. Despite significant advancements in identifying shared risks and highlighting governance deficiencies, operational limitations such as the lack of enforceable implementation protocols, inadequate institutional capacity, and increasing climate instability persist in rendering West and Central Africa vulnerable to repeated cross-border environmental disturbances. Durable solutions, as outlined in the literature, must transcend mere dialogue by integrating treaty-based operational frameworks, regional technical collaboration, predictive disaster signalling systems, and socially inclusive governance models that enhance resilience while averting prolonged humanitarian and diplomatic decline.

Lagdo Dam Flooding

The Lagdo Dam, located in northern Cameroon along the Benue River, has become a focal point in discussions concerning transboundary water management and the mitigation of environmental disasters within West Africa. Constructed in the early 1980s to support hydroelectric power production and irrigation in Cameroon, the dam's unanticipated downstream consequences for Nigeria, particularly the recurrent flood events, have been thoroughly documented. The regular or emergency release of excess water from Lagdo continues to cause substantial flooding in Nigerian states such as Benue, Taraba, Adamawa, and Kogi, thereby necessitating critical assessments of the adequacy of diplomatic, infrastructural, and institutional responses (Adebayo & Ibe, 2021).

Recent studies highlight the absence of a formal agreement for water transfer between Nigeria and Cameroon as a key factor in the persistent humanitarian crises stemming from the Lagdo Dam's activities. Ezeh et al. (2023) contend that while Cameroon occasionally issues warnings prior to water releases, these notifications are often delayed or insufficient, leaving Nigerian agencies and communities unprepared. This lack of collaboration is exacerbated by Nigeria's failure to complete the Dasin Hausa Dam, which was originally conceived as a complementary structure to Lagdo, designed to alleviate floodwaters before they reached vulnerable downstream areas.

The 2022 flooding event constituted a severe outcome stemming from the unregulated release of water from the Lagdo Dam. According to the National Emergency Management Agency (NEMA, 2023), the disaster resulted in over 600 fatalities, the displacement of 1.4 million people, and the submergence of more than 300,000 hectares of farmland. Obeta and Udeke (2022) argue that the calamity's origins extended beyond mere rainfall accumulation, pointing to inadequacies in both transboundary water diplomacy and the design of domestic infrastructure. Consequently, the continued reliance on emergency response mechanisms, as opposed to proactive infrastructure development and policy alignment, has fostered a recurring cycle of susceptibility.

Furthermore, recent research has established a correlation between Lagdo Dam flooding and broader trends in climate variability and extreme weather events. Oladipo and Agba (2021) observe that changing rainfall patterns and heightened storm strength have rendered dam water levels more unpredictable, resulting in more frequent and sudden water discharges. Without a collaborative forecasting and data-sharing infrastructure between Nigeria and Cameroon, the management of flood threats from Lagdo has become more reactive and politically charged. The environmental and socio-economic ramifications of Lagdo-induced flooding are increasingly a focus of scholarly attention. Floodwaters have persistently devastated residences, agricultural grounds, roadways, and public infrastructure in impacted Nigerian communities, resulting in consequential implications on food security, displacement, and poverty levels (Okpara et al., 2021). Research has demonstrated that marginalised groups, particularly rural farmers, disproportionately suffer from these disasters, frequently receiving little or delayed assistance from state and federal agencies (Akinola & Bakare, 2022).

Empirical Review

Adebayo and Ibe's (2021) in their research titled, *"Transboundary Hydropolitics and the Lagdo Dam Crisis: Governance Gaps in the Benue River Basin,"* undertaken in Benue and Adamawa States, utilised Political Ecology Theory to examine the relationship between dam-related flooding and deficient institutional governance. Their research indicated that the water releases from Cameroon's Lagdo Dam frequently occurred without timely and coordinated communication with Nigerian officials, thereby causing significant downstream flooding. Furthermore, the study underscored Nigeria's infrastructural shortcomings, specifically the protracted delay in the construction of the Dasin Hausa Dam, which had been originally intended to mitigate the effects of Lagdo. The study's recommendations advocate for the establishment of a binding bilateral agreement concerning dam water release protocols, alongside the completion of the Dasin Hausa Dam, with the aim of mitigating flood susceptibility. This particular investigation is pertinent to the ongoing research, as it illuminates the infrastructural and diplomatic deficiencies that intensify the humanitarian and ecological repercussions stemming from the operations of the Lagdo Dam.

Obeta and Udeke's (2022) titled, *"Flood Risk and Infrastructural Inadequacy in Nigeria's Middle Belt: Revisiting the Dasin Hausa Dam Proposal,"* utilised Systems Theory and focused on Adamawa and Taraba States. Their findings indicated that the persistent flooding, intensified by water released from the Lagdo Dam, stems largely from Nigeria's inadequate water infrastructure and a systemic neglect of disaster preparedness measures. Moreover, they noted that, despite the enduring history of substantial flood occurrences, both state and federal responses remain predominantly reactive. The authors advocated for integrated flood control strategies, which would include both structural methods, like building dams and dredging, and non-structural methods, such as community-based early warning systems. Their research contributes to this study by highlighting the local effects of poor management of water across borders, as well as the problems that arise from not following infrastructure agreements between Nigeria and Cameroon.

Ezeh, Obeta, and Nwankwo's (2023) in their study titled, *"Disaster Governance and Hydrological Vulnerability in Nigeria's Middle Belt,"* examined the preparedness and response

capabilities of Nigerian institutions concerning cross-border floods originating from Cameroon. Utilising the Disaster Risk Governance Framework, the researchers found that, notwithstanding the clear mandates of national agencies like NEMA and NIHSA to oversee flood responses, their efficacy is undermined by bureaucratic fragmentation, inadequate data accessibility, and poor inter-governmental collaboration. Moreover, they observed that most affected communities, especially those in rural Taraba and Benue, are ill-equipped to cope, largely because of the lack of operational early warning systems and comprehensive disaster education initiatives.

The researchers proposed establishing a centralised hydrological monitoring system, coupled with initiatives to bolster community resilience via educational programs and infrastructure enhancements. This investigation holds particular significance for contemporary scholarship, as it elucidates the internal vulnerabilities that exacerbate the external threats posed by transboundary environmental disasters associated with the Lagdo Dam.

Akinola and Bakare's (2022) in their study titled, *"Human Security Implications of Transboundary Disasters in West Africa: A Focus on Nigeria-Cameroon Borderlands,"* utilised the Human Security Framework to assess the socio-economic ramifications of persistent flooding in border regions. Their analysis, conducted along the Benue River, revealed a pattern of displacement, food scarcity, and inter-communal conflict, all of which were linked to unregulated water releases from the Lagdo Dam. They found that the absence of a regional disaster management system exposes border communities to intensified effects of environmental disturbances and governance shortcomings. Their recommendations included the creation of a Nigeria-Cameroon joint environmental disaster response unit and improved multilateral collaboration through the Lake Chad Basin Commission. The present study's importance lies in its positioning of flooding within the broader contexts of regional stability, security, and international cooperation.

Okpara, Stringer, and Dougill (2021), in their work *"Hydropolitics and Flood Risks in Nigeria-Cameroon Relations: The Case of the Lagdo Dam,"* utilised Environmental Security Theory to analyse the impact of political and institutional power dynamics on the management of shared water resources between Nigeria and Cameroon. Focussing on the Benue River Basin, the authors found that Cameroon's upstream position provides hydrological benefits, a circumstance exacerbated by Nigeria's lack of legally binding agreements or collaborative water management institutions. The researchers suggested that this unequal dynamic has created an unfair situation, where flood management decisions are solely made by Cameroon. The study proposed creating a transboundary water governance body, characterised by fair representation and shared decision-making, along with including climate adaptation strategies in national water policies. This research directly adds to existing studies by offering a framework for understanding how poor water diplomacy contributes to ongoing environmental injustice and disaster in Nigeria.

Abubakar and Kamaru's (2021) in their study, *"Regional Institutions and the Governance of Transboundary Flood Risks in West Africa,"* examined the functions of regional entities, including the Lake Chad Basin Commission and the Niger Basin Authority. Employing Institutionalism Theory, their study revealed that although these organisations facilitate

collaborative efforts, they are deficient in enforcement capabilities, sufficient financial resources, and operational autonomy. Their analysis, which incorporated interviews with regional specialists and community members, indicated that current protocols are insufficient in managing emergency water release protocols and collaborative flood risk mitigation strategies. The authors recommended changes to institutions to improve regional enforcement and urged member states to invest in infrastructure for sharing data in real-time. This study is important because it shows how current diplomatic methods in West Africa could be changed to prevent water-related disasters, such as those caused by the Lagdo Dam.

Theoretical Framework

This study utilises Transboundary Water Governance Theory (TWGT) as its primary theoretical perspective. Originating within the broader domain of global environmental governance, this framework was first developed by Oran R. Young in the early 2000s. Young (2002) emphasized the importance of institutional interactions, regime effectiveness, and collaborative behavior in the management of shared natural resources, including international river systems. Following this initial work, scholars such as Susanne Schmeier (2013), Mark Zeitoun (2020), and Naho Mirumachi (2015) have built upon the theory by incorporating perspectives on river basin organizations, hydro-political dynamics, and multi-level water diplomacy. Essentially, the theory asserts that rivers and water bodies shared by multiple states cannot be effectively managed through unilateral actions; instead, they require cooperative frameworks that surpass political boundaries.

The theory further argues that sustainable and equitable water management can be achieved through well-designed institutional mechanisms, clear legal frameworks, inclusive stakeholder participation, and transparent systems of data sharing. It emphasizes the need to integrate technical processes, such as hydrological management, with political and diplomatic engagement, while also addressing concerns of equity, environmental sustainability, and conflict prevention among riparian states. One of the key strengths of this theoretical approach lies in its strong focus on institutions, as it provides clear guidance on how treaties, agreements, and cooperative arrangements can support sustainable water governance. Additionally, the theory highlights the importance of multi-level governance that brings together states, civil society actors, and technical experts, thereby promoting inclusivity and adaptive management in the face of climate change and environmental uncertainty.

Despite these strengths, scholars have identified notable limitations within the theory. First, critics argue that it places excessive emphasis on formal institutional structures, often neglecting informal arrangements, grassroots negotiations, and cultural practices that significantly influence water use in many developing regions (Cascão, 2009). Second, the theory has been criticized for not adequately engaging with issues of power politics and hydro-hegemony, where dominant riparian states may leverage their upstream position to impose unequal outcomes on weaker downstream neighbors (Zeitoun & Warner, 2006).

In this study, the Transboundary Water Governance Theory is applied to analyse Nigeria–Cameroon water relations, particularly in relation to the recurrent flooding associated with water releases from Cameroon’s Lagdo Dam. The absence of a binding bilateral agreement governing the operation of the dam represents a major institutional gap, directly reflecting the

theory's concern about the consequences of weak governance structures. Similarly, limited data transparency, inconsistent notifications from Cameroonian authorities, and the exclusion of affected local communities illustrate the very governance deficiencies highlighted by the theory.

Informed by this theoretical framework, the current study examines how environmental challenges in Nigerian states downstream are intensified by institutional shortcomings, inadequate collaboration, and limited engagement across different governance levels. Moreover, this theoretical lens facilitates an understanding of the broader consequences of climate change and the imperative for adaptive governance, thus highlighting the importance of coordinated diplomatic and institutional approaches to alleviate flood risks and strengthen resilience throughout Nigeria.

Methodology

This research utilizes a qualitative research methodology, which is considered most suitable given the nature of the research questions and the specific data requirements. Qualitative methods are particularly appropriate for investigations that rely on non-statistical and non-quantifiable data.

The empirical basis of this investigation is principally derived from documentary and secondary sources. These include official publications from international organizations such as the United Nations, governmental policy documents, and relevant institutional records. Moreover, the research integrates academic texts, peer-reviewed journal articles, conference proceedings, and credible online academic resources. The analytical methodology utilized is qualitative descriptive analysis, which focuses on discerning patterns, significant attributes, and interconnections within the collected data (Kerlinger, 1973; Selltiz et al., 1979; Holton & Burnett, 1997). As a result, this approach seeks to clarify the fundamental relationships between diplomatic failures and the persistent environmental crises associated with the Lagdo Dam's management, thereby offering a more comprehensive and sophisticated understanding of Nigeria–Cameroon water relations.

Presentation of Findings

Nigeria and Cameroon Diplomatic Relations on the Management of Transboundary Water

This investigation utilizes transboundary water governance as its primary theoretical perspective. Originating within the broader domain of global environmental governance, this framework was first developed by Oran R. Young in the early 2000s. Young (2002) emphasized the importance of institutional interactions, regime effectiveness, and collaborative behavior in the management of shared natural resources, including international river systems. Following this initial work, scholars such as Susanne Schmeier (2013), Mark Zeitoun (2020), and Naho Mirumachi (2015) have built upon the theory by incorporating perspectives on river basin organizations, hydro-political dynamics, and multi-level water diplomacy. Essentially, the theory asserts that rivers and water bodies shared by multiple states cannot be effectively managed through unilateral actions; instead, they require cooperative frameworks that surpass political boundaries.

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The Environmental and Humanitarian Impacts of Ineffective Water Governance Between Nigeria and Cameroon

The environmental and humanitarian consequences of ineffective water governance between Nigeria and Cameroon are profound and far-reaching, affecting millions of people across ecological zones and national boundaries. At the heart of this governance failure lies the inability of both countries to establish a coherent, enforceable, and mutually beneficial framework for managing shared water resources, particularly those arising from the Benue River and Lake Chad Basin systems. This institutional weakness manifests in recurring natural disasters, ecological degradation, and the cyclical displacement of vulnerable populations.

The environmental toll of such flooding is enormous. Large-scale inundation of riverine ecosystems leads to soil erosion, destruction of riparian vegetation, and contamination of freshwater systems. Floodwaters often carry pollutants from urban and agricultural runoff, exacerbating waterborne diseases and damaging biodiversity hotspots. Wetlands, which should act as natural buffers and habitats for migratory birds and fish, are overwhelmed or permanently altered. The absence of coordinated wetland management between Nigeria and Cameroon has left these ecosystems vulnerable to degradation. In areas such as the Hadejia-Nguru wetlands and the lower Benue Basin, repeated flood pulses from unmanaged dam releases have changed the ecological balance, contributing to habitat loss and reduced fishery productivity (Ramsar Secretariat, 2020).

The humanitarian impact is equally severe. Recurrent displacement erodes livelihoods, particularly for rural populations dependent on agriculture and fishing. Communities in Adamawa, Taraba, and Benue States have reported multiple cycles of rebuilding and destruction, with many residents forced into internally displaced persons (IDP) camps after each major flood. Access to potable water, sanitation, and healthcare in these settings is often limited, creating fertile ground for cholera outbreaks, malaria, and other communicable diseases. The Nigerian Red Cross and international humanitarian agencies have repeatedly warned about the long-term mental health and nutritional consequences for affected children and women in these flood-prone areas (UNICEF, 2022).

Beyond emergency response, the lack of long-term joint infrastructure planning contributes to these consequences. Nigeria's failure to complete the Dasin Hausa Dam, designed as a buffer to Lagdo's discharges, has left the country vulnerable. Meanwhile, Cameroon continues to operate Lagdo without input from Nigeria, reinforcing structural inequality in water control. The absence of a joint river basin organization specifically for the Benue River further weakens institutional accountability. By contrast, other African regions such as the Senegal River Basin have developed shared governance institutions that prioritize equitable water use and ecosystem protection (Diop, 2012).

Climate change is intensifying the crisis. Rising temperatures and altered precipitation patterns have increased the unpredictability of river flows, making effective governance even more urgent. Models predict that rainfall intensity across the Upper Benue Basin will increase in the coming decades, further heightening flood risks unless adaptive governance mechanisms are implemented (Niang et al., 2014).

The social implications are also political. Disasters arising from water mismanagement have led to growing distrust in government institutions, particularly in Nigeria where affected communities perceive neglect and abandonment. Civil unrest and agitation for compensation often follow major floods. There is also a growing regional perception of diplomatic asymmetry, where Cameroon is seen as exploiting its upstream advantage without accountability.

The environmental and humanitarian consequences of ineffective water governance between Nigeria and Cameroon are not merely episodic tragedies but systemic failures. These failures are embedded in weak institutional frameworks, asymmetrical power dynamics, a lack of data transparency, and poor treaty enforcement.

Implementation and Effectiveness of Bilateral Agreements, Policies, and Institutional Framework on Nigeria-Cameroon Water Corporation

The implementation and effectiveness of bilateral agreements, policies, and institutional frameworks governing water cooperation between Nigeria and Cameroon remain uneven, fragile, and constrained by asymmetrical power relations, legal ambiguity, and insufficient political commitment. Despite sharing significant transboundary water resources, including the Benue River and parts of the Lake Chad Basin, the two countries have yet to institutionalize a comprehensive and binding cooperative regime capable of ensuring equitable water governance, sustainable development, and environmental security.

One of the earliest and most critical gaps in Nigeria-Cameroon water diplomacy is the absence of a binding water-sharing treaty specific to the Benue River Basin. The construction of the Lagdo Dam by Cameroon in 1982 without consultation with Nigeria exemplifies this institutional vacuum. Cameroon's unilateral decision violated the principle of prior notification and consultation enshrined in customary international law and later codified in the 1997 UN Convention on the Non-Navigational Uses of International Watercourses. While Nigeria has ratified the convention, Cameroon has not, limiting the enforceability of shared water obligations under international law (McCaffrey, 2001). This legal asymmetry continues to impede the development of a bilateral framework grounded in the principles of equitable and reasonable utilization and the obligation not to cause significant harm.

In response to increasing transboundary tensions following the 2012 floods, both countries signed a Memorandum of Understanding (MoU) in 2016 to improve communication and coordination regarding the release of water from the Lagdo Dam. The MoU outlined procedures for prior notification, data sharing, and cooperative flood management. However, implementation has been hampered by poor institutional coordination, lack of technical infrastructure, and limited capacity at subnational levels. Nigerian officials, particularly from flood-prone states such as Adamawa and Benue, have repeatedly lamented the failure of Cameroonian authorities to provide timely warnings before dam releases. In many cases, the warnings arrive too late to facilitate meaningful evacuation or flood preparedness, turning what should be routine hydrological operations into humanitarian emergencies (NEMA, 2013; OCHA, 2022).

Institutionally, the Nigeria-Cameroon Mixed Commission (NCMC), established in 2002 under the supervision of the United Nations following the International Court of Justice (ICJ) ruling on the Bakassi Peninsula, has served as the primary diplomatic platform for addressing cross-border issues. While the NCMC has achieved notable progress in border demarcation and peacebuilding, its role in water governance has been marginal. The commission lacks a technical sub-body or secretariat dedicated to transboundary water issues, and its agenda has remained focused on territorial and resettlement concerns rather than sustainable water cooperation (UNOWAS, 2019). This institutional limitation reflects the broader failure to mainstream environmental and hydrological governance into the bilateral political architecture. Regional mechanisms such as the Lake Chad Basin Commission (LCBC), to which both Nigeria and Cameroon belong, offer additional institutional frameworks for cooperation. However, the LCBC's mandate is geographically and functionally limited, focusing

predominantly on the restoration of Lake Chad and not the management of the Benue River system. Moreover, the commission faces persistent financial, technical, and political challenges, including overlapping national interests and weak enforcement capacity.

Domestically, the effectiveness of Nigeria's institutional framework is undermined by bureaucratic fragmentation and limited integration between federal and state agencies. The Nigerian Hydrological Services Agency (NIHSA), the Nigeria Meteorological Agency (NiMet), and the River Basin Development Authorities (RBDAs) often operate in silos, resulting in duplication of efforts and inefficient resource use. Additionally, disaster risk reduction policies formulated at the federal level are rarely translated into actionable frameworks at the community level, leaving local governments underprepared despite repeated exposure to climate and water-related hazards (Ishaya & Abaje, 2008). Cameroon faces similar challenges, with centralized water governance structures that limit local agency participation and transparency.

The implementation and effectiveness of bilateral agreements, policies, and institutional frameworks between Nigeria and Cameroon regarding water cooperation remain limited in scope, fragmented in practice, and reactive in orientation. Despite formal commitments and sporadic diplomatic gestures, there is a pressing need for a legally binding, ecologically sound, and institutionally robust water governance regime. Such a regime must go beyond symbolic MoUs and diplomatic commissions to include operational early warning systems, joint basin planning, and inclusive community-based mechanisms.

Conclusion

The findings of this study indicate that the current Nigeria-Cameroon approach to transboundary water governance remains ineffective in addressing the recurring flood crises triggered by water releases from the Lagdo Dam. While institutional and diplomatic arrangements do exist, they are largely underutilized, poorly enforced, and disconnected from the real-time needs of downstream Nigerian communities. The situation is further compounded by Nigeria's failure to implement critical infrastructural countermeasures, such as the long-delayed Dasin Hausa Dam, which was conceived as a balancing mechanism for the Lagdo Dam but remains unrealized decades later. The absence of functional early warning systems, operational emergency protocols, and bilateral communication channels has created a governance void in which rural communities are left to face the consequences of international water releases with little or no support.

Despite these structural weaknesses, the study found that affected communities are not passive victims. Rather, they have demonstrated resourcefulness, social cohesion, and a deep understanding of their environmental realities. Through informal river monitoring, peer communication, and advocacy for institutional reform, they have articulated a vision for participatory governance that could meaningfully reshape transboundary water management if given institutional backing. The study, therefore, concludes that the continued exposure of Nigerian communities to the adverse impacts of water mismanagement along the Benue River is not an inevitable outcome of geography but rather a product of policy neglect, weak institutions, and diplomatic inertia. Moving forward, a more inclusive, transparent, and

responsive governance model must be adopted to ensure the equitable and sustainable management of the Benue Basin's transboundary waters.

Recommendation

- i. **Establish a Functional and Inclusive Bilateral Water Governance Framework:** Nigeria and Cameroon should move beyond symbolic diplomacy and develop a fully operational transboundary water agreement that includes real-time data sharing, joint dam release protocols, and clearly defined accountability mechanisms.
- ii. **Invest in Flood Mitigation Infrastructure and Early Warning Systems:** The Nigerian government must prioritize the construction of the Dasin Hausa Dam and other infrastructural projects that serve as buffers against flooding. In addition, it should develop a decentralized early warning and communication system that links national agencies with state emergency units and local communities. This should include real-time hydrological monitoring, SMS alerts, radio communication, and training of local personnel to ensure rapid response and preparedness during high-risk periods.
- iii. **Strengthen Community Participation and Environmental Governance:** A bottom-up governance approach must be institutionalized by empowering local monitoring committees and civil society actors in flood-prone areas. These groups should be involved in emergency planning, environmental education, and the formulation of community resilience strategies.

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