ISLAMIC UNIVERSITY JOURNAL OF SOCIAL SCIENCES VOL 4, NO 3, JULY 2025 ISSN: 2709-2429(Print), 2709-2437(Online)-Published 30th July 2025

Towards Environmental Governance: ECOWAS's Commitment to Sustainability in West Africa

by

IDRIS, Ridwan Tosho
Department of History and International Studies,
Al-Hikmah University, Ilorin, Kwara State
+234806135075/ rtidris@alhikmah.edu.ng

Abstract

Environmental governance has emerged as a crucial challenge in West Africa, with ECOWAS playing a central role in fostering sustainability. Despite policy frameworks like the ECOWAS Environmental Policy (2008) and the Environmental Action Plan (2020–2026), implementation remains inconsistent due to financial constraints, weak enforcement and misalignment between national and regional policies. The study examines ECOWAS's commitment to environmental governance using the secondary data from ECOWAS policy documents, reports, books and journals. The findings of the study reveal that deforestation, transboundary pollution and resource conflicts persist due to poor institutional capacity and governance inefficiencies. Climate change, rapid urbanisation and energy poverty exacerbate environmental degradation, while illegal activities such as oil spills and logging remain prevalent due to weak law enforcement. Although ECOWAS has established institutions like ECREEE and WASCAL to enhance governance, external economic pressures and inadequate funding hinder progress. The study recommends strengthening regional cooperation, enforcing environmental laws, integrating gender-inclusive policies and leveraging technology for sustainable resource management. Also, the political will and international collaboration are essential to bridging the gap between policy and practice. ECOWAS's effectiveness in environmental governance depends on aligning national efforts with regional sustainability goals while addressing socio-economic and political constraints.

Keywords: Climate Change, ECOWAS, Environmental Governance, Framework, Sustainability

Introduction

Since the post-independence era, governance and sustainable development have been the principal challenges in West Africa, with environmental challenges emerging as a critical dimension of this broader issue (Meadowcroft, 2013). The region's governance context involves various themes, such as leadership accountability, institutional functionality, and sustainability integration into national and regional policies. ECOWAS member states have faced substantial obstacles in achieving sustainable environmental governance, including the enduring legacies of colonial exploitation and contemporary issues such as climate change, biodiversity loss, and transboundary pollution (CEDEAO, n.d.). These challenges underscore the need for coordinated action and effective leadership to reorient the region's developmental path. In recent decades, climate change, deforestation, desertification and land degradation have intensified, posing serious threats to livelihoods across West Africa (IOM, 2016). The resurgence of resource conflicts and weak enforcement of environmental laws

highlight the fragile governance systems in addressing these interconnected crises (FAO, 2022). While ECOWAS has committed to fostering sustainability through frameworks such as the ECOWAS Environmental Policy (2008) and the ECOWAS Regional Climate Strategy (2022), implementation remains inconsistent due to structural and operational challenges (Ajaero, 2008). The gap between policy formulation and execution reflects broader governance issues that have historically hindered the region's progress.

A prevalent misconception is that the adoption of regional policies automatically translates into tangible results (ECOWAS, n.d). However, as demonstrated by the slow reversal of environmental degradation and the limited resilience improvements, frameworks such as the Supplementary Act on Environmental Standards and the Convergence Plan for Forest Ecosystem Management are insufficient without robust enforcement mechanisms and adequate resource mobilisation (ECOWAS, n.d.). Therefore, leadership and politics will become pivotal in redirecting the path toward sustainability, echoing Chinua Achebe's assertion that Africa's developmental challenges often stem from leadership failures (Achebe, 1983). ECOWAS's approach acknowledges that environmental governance is an ecological matter and a socio-economic and political imperative. The organisation has aimed to consolidate regional cooperation by tackling transboundary environmental issues, encouraging renewable energy adoption, and promoting biodiversity conservation (HACNP, 2024). For instance, its plan to protect 30% of the region from biodiversity reflects ECOWAS's commitment to safeguarding ecosystems while balancing economic goals (Bodunde, 2024; African Climate Wire, 2024). Yet, challenges such as insufficient funding, limited technical capacity and competing national interests impede progress toward these shared environmental objectives.

The environmental governance landscape in West Africa is further complicated by external pressures, such as global market dynamics and geopolitical tensions, which often prioritise short-term economic interests over long-term sustainability (Reiss, 2015). In addition, the impacts of climate change—exacerbated by historical emissions from industrialised nations—place a disproportionate burden on ECOWAS member states, many of which lack the resources for large-scale adaptation and mitigation projects (FAO, n.d.). As these challenges threaten the region's path to resilience, various stakeholders have stressed the need for strong leadership to drive transformative change. This aligns with ECOWAS's vision of fostering sustainable development through inclusive and participatory governance structures. By embedding environmental concerns into broader development agendas, ECOWAS seeks to address the root causes of environmental degradation while ensuring

equitable access to natural resources (Ajaero, 2008). However, these initiatives' effectiveness hinges on member states' ability to align national policies with regional objectives, ensuring coherence in environmental governance practices. This requires political commitment and active engagement from civil society, the private sector, and international partners.

Despite the proliferation of environmental policies and programmes, West African countries continue to struggle to enhance institutional capacities for environmental governance (IOM, 2016). This struggle has led to a growing recognition of the need for innovative solutions, such as leveraging technology for environmental monitoring and promoting public-private partnerships to scale up renewable energy deployment (ECOWAS, n.d.). These initiatives reflect a shift towards more collaborative and pragmatic approaches to addressing environmental challenges, even as structural barriers persist (ECOWAS, n.d). ECOWAS remains the centre of this transformation, championing sustainable environmental practices essential for achieving the region's developmental goals. Through its institutions and programmes, ECOWAS underscores the importance of functional governance systems built on transparency, accountability, and inclusivity. Consequently, ECOWAS has prioritised the creation of a resilient environment that supports human well-being and ecological integrity rather than perpetuating practices that exacerbate vulnerability and inequality (FAO, n.d.).

Put differently, ECOWAS has sought to reposition environmental governance as the foundation for sustainable development and regional integration rather than as a marginal concern. Rather than yielding to the pressures of economic growth and environmental degradation, ECOWAS, through its strategic frameworks and mandates, has focused on addressing the challenges stemming from environmental mismanagement. This study examines environmental governance in West Africa through the lens of ECOWAS, drawing on secondary data sources such as reports, policy documents, journal, books and internet sources to analyse West Africa's progress and prospects towards environmental sustainability.

West Africa and the Enduring Challenge of Environmental Governance

Environmental governance has long been a critical concern in the post-colonial development of West Africa, yet it remains a complex challenge for the region. The environmental aspect of nation-building was acknowledged as integral to achieving sustainable growth. However, despite this recognition, the region has struggled to implement effective governance mechanisms. The pressure of climate change, particularly erratic rainfall patterns and rising temperatures averaging 0.21°C per decade, has exacerbated the vulnerability of ecosystems to human activities (Taky et al., 2022). These challenges are

further compounded by weak institutions, insufficient resources and competing socio-economic priorities, creating significant obstacles to sustainable environmental management. The interplay of ethnicity and socio-economic disparities complicates efforts to address environmental degradation, particularly regarding shared resources such as coastal lagoons (Davies-Vollum, Koomson & Raha, 2024). These vital ecosystems, such as sea-level rise and shifting storm patterns, are increasingly vulnerable to climate change. However, human-induced factors like urbanisation, industrial pollution and deforestation often worsen the situation (IRD, 2023). This dual pressure from global climate change and local anthropogenic activities highlights the need for robust and coordinated governance frameworks capable of balancing diverse interests and fostering cooperation among stakeholders.

Despite regional initiatives like the ECOWAS Environmental Policy (2008) and the Environmental Action Plan (2020–2026), significant gaps remain in translating these policies into effective action. A core issue lies in the disconnect between the broad, regional environmental goals and the micro-decisions made at national and local levels (Adegboye et al., 2023). For instance, while ECOWAS has set ambitious renewable energy targets under the ECOWAS Renewable Energy Policy, many member states face challenges in implementation due to financial constraints, technical limitations and weak enforcement mechanisms. This mismatch between regional aspirations and national realities further complicates the path toward sustainable development (Tsitohery & Zafimahova, 2022). Moreover, the lack of transparency and accountability within environmental governance structures is a persistent issue across West Africa. Illegal logging, oil spills, and water pollution remain rampant due to the weak enforcement of environmental laws (Muigua, 2024). In Nigeria's Niger Delta, decades of oil extraction have caused severe environmental degradation, yet attempts to hold polluters accountable have been largely ineffective (Chijioke, Ebong & Ufomba, 2018). Transboundary environmental management is also hindered by inadequate data-sharing mechanisms and conflicting national interests, as seen in the ongoing pollution of the Niger River Basin (Tsitohery & Zafimahova, 2022).

The exclusion of vulnerable groups, particularly women, from environmental decision-making processes also weakens the region's environmental governance. Despite their central role in managing natural resources, women's perspectives are often absent from policy formulation and implementation (Takyi et al., 2022). This exclusion not only perpetuates gender inequality but also undermines the inclusivity and effectiveness of governance efforts. The rapid urbanisation and population growth further exacerbate environmental challenges. Cities like Lagos and Abidjan face severe issues related to waste

management, air pollution, and inadequate infrastructure, which threaten public health and environmental quality (Tsitohery & Zafimahova, 2022). Simultaneously, energy poverty remains a pressing concern, with over 80% of rural populations in countries like Mali and Burkina Faso relying on traditional biomass for cooking, contributing to deforestation and indoor air pollution (IOM, n.d). Global environmental policies add another layer of complexity as West African states navigate competition and solidarity within international frameworks. While these global agreements present opportunities for collaboration and funding, they often come with conditions that may not align with local needs or capacities (Ramutsindela & Büscher, 2019). External market dynamics and geopolitical tensions also drive unsustainable resource exploitation, further hindering efforts to achieve sustainable development goals (Dai et al., 2024; Guo et al., 2023). In light of these challenges, stronger regional solidarity and advocacy for environmentally sound policies at the global level are essential for West Africa to address both local and global environmental concerns effectively. However, some of the environmental frameworks and institutional mechanisms are discussed in the next sub-heading.

ECOWAS and Environmental Governance: Frameworks and Institutional Mechanisms

The Economic Community of West African States (ECOWAS) has been instrumental in creating environmental governance guidelines at the regional level. To encourage sustainable environmental management, ECOWAS has set up institutional procedures in response to the growing environmental issues that West Africa is confronting, such as pollution, deforestation, desertification and climate change. Terwase et al. (2015) state that these frameworks handle regional issues while adhering to international environmental agreements. Since its founding in 1975, ECOWAS has broadened its scope to encompass environmental governance, with a major focus on economic integration. The transboundary dimension of environmental concerns is acknowledged in this transition, which calls for a regional response. As a result of the realisation that sustainable development is essential to economic expansion, member states have adopted legal frameworks that impose environmental guidelines. These frameworks integrate environmental regulations, guaranteeing a unified strategy for managing natural resources that align with global goals and the African Union (AU) (Essien, 2006).

The ECOWAS Environmental Policy (ECOWEP), adopted in 2008, was a major step forward in ECOWAS's environmental governance. This policy offers a thorough framework for managing the environment sustainably, with an emphasis on waste management, biodiversity preservation, water resource protection, land degradation prevention and natural

resource conservation. ECOWEP's execution has been impeded by various obstacles, including insufficient finance, inadequate institutional capability and uneven commitment among member states (ECOWAS, 2020). ECOWAS introduced the Environmental Action Plan (EAP) 2020–2026 to increase climate resilience, encourage the use of renewable energy and support sustainable resource use to overcome these constraints. The EAP underscores the importance of coordinated regional efforts to combat climate change (ECOWAS, nd.). In 2010, ECOWAS created the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) in response to the energy and climate crises. Encouraging renewable energy alternatives and reducing dependency on fossil fuels helps mitigate climate change and enhances energy accessibility. In order to improve resilience and promote sustainable development, ECOWAS has also created policies, including the ECOWAS Climate Change Policy, the ECOWAS Renewable Energy Policy and Disaster Risk Reduction programs (Ali & Yu, 2021).

Transboundary environmental management is yet another essential aspect of ECOWAS' governance approach. Member states can collaborate collaboratively to manage common resources like rivers, forests and biodiversity hotspots with the organisation's efforts. When these resources are managed well, disputes are reduced and sustainable use is encouraged, which supports regional stability. The Protocol on the Prevention of Transboundary Environmental Pollution and the ECOWAS Framework for Environmental Assessment (EFA) support this endeavour. While the treaty describes member states' roles and responsibilities in managing shared resources, the EFA ensures that development projects follow regional environmental standards (OECD, 2024). ECOWAS has also prioritised energy efficiency and renewable energy as part of its comprehensive environmental governance framework. In order to improve energy efficiency and raise the proportion of renewable energy in the regional energy mix, the ECOWAS Energy Efficiency Policy (EEEP) and the ECOWAS Renewable Energy Policy (EREP) have set aggressive goals. The West African Power Pool (WAPP) supports these efforts by integrating regional power markets and improving energy security. All of these actions support fair access to energy and help mitigate the effects of climate change (World Bank, 2021).

The implementation of ECOWAS's environmental policy depends on institutional structures like the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) and the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE). To encourage the adoption of energy-efficient practices and renewable energy solutions, ECREEE provides member states with technical assistance and

capacity-building support. To promote sustainable energy transitions in the region, for instance, ECREEE and WASCAL have created the ECOWAS Green Hydrogen Policy (ECREEE, 2023). On the other hand, WASCAL improves the region's ability to adapt by conducting research and offering scientific expertise to address climate-related concerns. These institutions demonstrate ECOWAS' dedication to incorporating technical and scientific expertise into environmental regulation. ECOWAS's environmental governance structure is further reinforced by partnerships with other agencies, such as the United Nations Environment Programme (UNEP) and the African Union (AU). These partnerships make mobilising resources easier, exchanging knowledge and launching coordinated projects to address shared environmental issues. For instance, to promote environmental sustainability in West Africa, UNEP has pledged to deepen collaboration with ECOWAS (UNEP, 2016). ECOWAS ensures its current and efficient policies by coordinating its activities with international environmental objectives like the Paris Agreement and the Sustainable Development Goals (SDGs). In addition, the ECOWAS Environmental Monitoring and Evaluation Program facilitates ongoing evaluation and improvement of environmental programs, guaranteeing advancement towards regional and global objectives.

The Supplementary Act on Environmental Standards for ECOWAS Member States is essential to environmental governance. Encouraging regulatory harmonisation and wider collaboration, it establishes basic environmental criteria that all participating nations must follow. Addressing transboundary environmental concerns lowers the danger of environmental damage. Through the establishment of a legal framework for enforcement, ECOWAS demonstrates its dedication to fostering sustainable development and preserving healthy ecosystems (ECOWAS, 2022). Another goal of ECOWAS's environmental governance system is biodiversity conservation. The ECOWAS Biodiversity Action Plan seeks to maintain ecological balance and assist communities that depend on natural resources by preserving and restoring ecosystems. In addition, it aims to eradicate detrimental customs that contribute to environmental degradation, promoting an inclusive conservation strategy that aligns with global biodiversity objectives and ECOWAS's dedication to sustainable environmental management (Kanyamuna, Kotzé & Phiri, 2019).

The ECOWAS Commission supervises the implementation of environmental initiatives for the Environment and Natural Resources which coordinates member state initiatives. It supports democratic values, protects the rule of law, and protects human rights within the environmental governance framework. The commission promotes civil society participation and stakeholder interaction to increase transparency and inclusivity in

environmental decision-making. Furthermore, through efficient environmental governance, it tackles humanitarian crises and looks for long-term solutions to strengthen regional stability (ECOWAS, 2022). ECOWAS has made significant strides in creating a strong framework for environmental governance that combines institutional procedures, policymaking and regional collaboration. The organisation keeps creating and improving policies that support sustainable development despite obstacles, including financial limitations and differing levels of commitment among member states. ECOWAS promotes a resilient and environmentally sustainable West Africa by utilising scientific knowledge, encouraging cooperation with foreign partners and upholding legal frameworks.

ECOWAS, Environmental Sustainability and Governance

Promoting environmental sustainability and governance is one of the important ways the Economic Community of West African States (ECOWAS) addresses sustainability challenges in West Africa. As a comprehensive framework for addressing environmental degradation, advancing sustainable development and building resilience to climate change, the ECOWAS Environmental Policy (ECOWEP) of 2008 was a major turning point in regional environmental governance (ECOWAS, 2020). This policy has had far-reaching implications across member states, facilitating the integration of environmental considerations into national development agendas. The Nigerian National Policy on the Environment, which emphasises sustainable resource management and is in line with ECOWAS's principal objectives on poverty alleviation and long-term ecological balance, was partly shaped by ECOWEP (OECD, 2024). In Ghana, ECOWEP has also influenced policies like the National Climate Change Policy, which emphasises disaster risk reduction and ecological restoration. Through community-based natural resource management initiatives that mirror ECOWAS's emphasis on participatory governance, the strategy has aided efforts in The Gambia to counteract desertification and advance sustainable agriculture (ECOWAS, 2020). These instances demonstrate how ECOWEP has promoted national-level policy initiatives and regional cooperation, resulting in improved environmental governance throughout West Africa (ECOWAS, 2022).

Another major initiative to enhance environmental governance in West Africa is the Environmental Action Plan (EAP) 2020–2026, backed by the USAID-funded West Africa Biodiversity and Climate Change (WABICC) Project. In line with global sustainability goals, the EAP tackles important challenges such as pollution, biodiversity loss and climate change (ECOWAS, 2020). Notably, the strategy combines socio-economic development and environmental concerns by fostering food security and poverty reduction through

programmes such as sustainable land management and reforestation in Niger and Burkina Faso. Illegal logging has decreased in Ghana due to deforestation legislation and community-based monitoring (Asian Development Bank, 2024). Similarly, Senegal has created economic opportunities and decreased its reliance on fossil fuels through its investments in renewable energy, such as solar infrastructure projects (O'Gradaigh, 2019).

Furthermore, the Protocol on Transboundary Environmental Pollution and cooperative projects in the Niger River Basin are two examples of how the EAP enhances regional collaboration (Sangbana, 2020). Important instruments for climate governance have been made available to stakeholders through capacity-building initiatives supported by organisations such as the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL). Furthermore, via focused interventions in waste management and noise pollution, improvements in urban environmental management—particularly in Lagos and Abidjan—have improved living conditions (O'Gradaigh, 2019). Climate resilience has greatly increased in coastal countries like Guinea-Bissau and Sierra Leone thanks to early warning systems and disaster risk reduction measures (Ouma, 2020). The Paris Agreement and other international frameworks align with the EAP, highlighting its wider commitment to environmental sustainability on a regional and global scale.

Through the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), there has been a significant stride in advancing environmental governance (Hancock, 2015). Enhancing energy security, increasing access to contemporary energy services, and reducing the effects of climate change are the goals of ECREEE, a specialist agency (ADB, 2024). The region's adoption of renewable energy has been greatly aided by its major projects, including the ECOWAS Energy Efficiency Policy and the West Africa Clean Energy Corridor (Gatete & Dikko, 2024). The agency's dedication to boosting the proportion of renewable energy sources in national electricity networks while lowering carbon emissions is demonstrated by projects like the Taiba Ndiaye Wind Farm in Senegal. Initiatives like the Sustainable Energy for All (SE4ALL) Programme, which aims to provide universal access to contemporary energy services by 2030, are another way that ECREEE combats energy poverty (ECREEE, 2024). In Burkina Faso and Niger, the installation of off-grid solar systems has improved rural lives and promoted social justice. By 2024, 10.8 million individuals, mostly in rural regions, should have access to standalone solar systems, according to the Regional Off-Grid Electrification Project (ROGEP). In addition, it is anticipated that the Desert-to-Power (DtP) effort, which aims to develop 10 GW of solar photovoltaic capacity across 11 Sahelian countries by 2030, will supply energy to over 250

million people via both off-grid and on-grid devices (ADB, 2024). Table 1 below details the ECREE solar project implemented in West African nations from 2022 to 2024.

Table 1: ECREEE Solar Photovoltaic Capacity Awarded Contracts

Contract Award Date	Description of Contract	Contract Amount	Project	Source of funding
May 17, 2024	Consultancy Services for Clean Mini-Grid Feasibility Studies in Burkina Faso, Guinea Bissau, Liberia, Mali & Niger	$569,250.00	Desert to Power West Africa Regional Energy Program - Phase 1	African Development Bank
May 17, 2024	Consultancy to Develop Modules and Conduct Training on Mini-Grid Design, Installation & Inspection in West Africa	$149,280.00	Desert to Power West Africa Regional Energy Program - Phase 1	African Development Bank
May 31, 2024	Consultancy: Financial Audit	$9,970.44	Desert to Power West Africa Regional Energy Program - Phase 1	African Development Bank
Dec. 2023	Conduct Baseline Studies and Selection of Value Chains in Benin, Niger, Nigeria and Senegal - Regional Pilot Project on Circular Economy.	€44,000.00	Regional Pilot Project on Circular Economy	Spanish Agency for International Development CCo-operation (AECID)

	Transition to a Clean Energy Circular Economy through the Optimization of Energy-Intensive Value-Chains in the High-Impact Sectors			
Dec. 2023	Conduct Baseline Studies and Selection of Communities in Cabo Verde, Guinea Bissau and The Gambia - Water and Energy for Increased Food Security and Socio-Economic Development. Promoting Clean Cooking Solutions and Solar Technologies	€48,830.00	Water and Energy for Increased Food Security and Socio-Economic Development	Spanish Agency for International Development CCo-operation (AECID)
December 18, 2022	Supply of two sets of laptops with docking systems and monitors and VoIP Phones for the Project Implementation Unit	CVE 78,1078.00	Desert to Power West Africa Regional Energy Program - Phase 1	African Development Bank

Source: ECREEE, (nd.).

Furthermore, to improve the deployment of sustainable energy, ECREEE has promoted public-private collaborations. ECREEE's dedication to developing renewable energy infrastructure is demonstrated by feasibility studies on mini-grid development in Burkina Faso, Guinea-Bissau, Liberia, Mali, and Niger (Kappiah, 2019). Programs to increase capacity also guarantee that local organisations have the know-how to incorporate environmental concerns into regional and national development plans. ECREEE is essential to bolstering environmental governance and promoting sustainable development because it unifies energy policies and promotes regional cooperation. Concurrently, policies addressing ecosystem stability, environmental degradation, and fair access to natural resources have been largely developed and implemented by the ECOWAS Commission for the Environment

and Natural Resources. To address climate change, biodiversity loss and pollution, the ECOWAS Environmental Action Plan (EAP) 2020–2026, which WABICC supported, offers a strategic roadmap (ECOWAS, 2024). The EAP also initiated reforestation programs in Niger and Burkina Faso to counteract desertification, restore ecosystems, and improve food security for vulnerable communities (ECOWAS, 2020; Padgham et al., 2015).

Furthermore, the protocol on the Prevention of Transboundary Environmental Pollution (Ramutsindela & Büscher, 2019) demonstrates that transboundary environmental governance is a top concern for the commission. Joint water quality monitoring systems for the Niger River Basin have been established as a result of regional cooperation mechanisms, guaranteeing compliance with environmental regulations. In Ghana and Côte d'Ivoire, these initiatives have also helped curtail illicit logging, with community-based forest monitoring systems essential to enforcement (ECOWAS, 2024). The commission's dedication to participatory governance is a testament to its all-encompassing objective of environmentally responsible and sustainable management.

The West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) is an important research institution devoted to enhancing climate resilience in the area. Through partnerships with international partners, governments, and academic institutions, WASCAL offers policymakers data-driven insights. Significantly, WASCAL's Master Research Programme on Climate Change and Adapted Land Use at the Federal University of Technology Minna in Nigeria trains scientists to tackle urgent climate-related issues (WASCAL, 2019). Through climate-smart agriculture practices, its projects in Ghana and Burkina Faso have effectively restored degraded lands, improving food security and biodiversity conservation (PreventionWeb, n.d.). To improve national responses to extreme weather events, WASCAL has aided in developing early warning systems for climate hazards in coastal countries such as Senegal and Benin (Folley, 2019).

WASCAL continues to prioritise water resource management, especially in transboundary river basins like the Niger River Basin, where its studies have made integrated water resource management easier (Opitz-Stapleton et al., 2021). These initiatives have strengthened environmental governance by encouraging regional cooperation and the settlement of disputes over common resources. WASCAL aims to become a premier climatic and environmental services centre in West Africa through capacity-building programmes like the 2024 WRAP 2.0 workshop (FUTA, n.d.). WASCAL is a German government-backed project that exemplifies the value of global cooperation in tackling climate change issues (FUTA, 2023).

Furthermore, through the West African Power Pool (WAPP), the ECOWAS Renewable Energy Policy (EREP) has significantly promoted cross-border electricity trading and enabled the joint use of renewable energy resources like hydropower, wind and solar. Landlocked countries like Mali and Niger have benefited greatly from this regional integration, which has decreased their dependency on electricity (IREA, 2013). Furthermore, ECOWAS member states now have uniform renewable energy targets following the development of National Renewable Energy Action Plans (NREAPs), which has encouraged cooperative investments in massive solar projects in Senegal and Mauritania (Gatete & Dikko, 2024). These programs highlight ECOWAS's contribution to the transition of a low-carbon energy system and sustainable environmental governance.

Environmental Governance and the Problem Ahead of ECOWAS

Environmental governance within the Economic Community of West African States (ECOWAS presents a complex and evolving challenge, characterised by dynamic variables and emerging issues that have placed the regional body at a critical juncture. According to the environmental index in West Africa, it serves as a critical tool for assessing the region's environmental performance and its implications for sustainable development (Sasu, 2023). One of the key metrics used is the Environmental Performance Index (EPI), which evaluates countries based on their environmental health and ecosystem vitality. In 2020, the highest-ranking African country in the EPI was Seychelles, which was ranked 32 in the index, while Nigeria, the most populous nation in Africa, ranked poorly at 165 out of 180 countries (Pandey, 2022; Yale Center for Environmental Law & Policy, & Center for International Earth Science Information Network Earth Institute, 2022). Table 2 shows Environmental Performance Index (EPI) rankings for West African countries by the Yale Centre for Environmental Law and Policy.

Table 2: Environmental Performance Index of West African Countries 2022

Country	Rank	EPI Score	10-Year Change
Cabo Verde	91	41.90	4.80
Guinea-Bissau	98	40.20	3.50
Niger	110	37.70	-2.80
Gambia	122	36.40	5.60
Burkina Faso	127	35.50	2.00
Togo	135	34.00	-2.40
Senegal	136	33.90	-0.90

Côte d'Ivoire	138	32.80	-8.20
Sierra Leone	140	32.70	7.20
Guinea	146	31.60	0.20
Benin	155	29.60	-1.60
Mali	159	28.50	-1.80
Nigeria	162	28.30	-6.10
Chad	165	28.10	NA
Ghana	170	27.70	-6.10
Liberia	174	24.90	-4.00

Sources: Yale Center for Environmental Law & Policy, & Center for International Earth Science Information Network Earth Institute, (2022).

Also, evidence shows that the Environmental Performance in the West African Economy found a 48% optimal threshold of the Environmental Performance Index (EPI) for economic growth among ECOWAS countries (Musibau et al., 2021). Another key challenge facing ECOWAS in environmental governance is the influence of external economic and geopolitical factors, which drive unsustainable resource exploitation. Illegal logging alone costs African countries an estimated $17 billion annually, contributing to a global illicit market valued between $30 billion and $150 billion. The illegal charcoal trade in Africa generates net profits of up to $9 billion, surpassing the regional street value of heroin and cocaine. The demand for high-value timber, particularly rosewood, has surged, with Africa's share of exports to China rising from 40% in 2008 to 90% in 2018 (Browne, Kelly & Pilgram, 2022).

In addition, illegal logging, particularly in the tropical rainforests of West Africa, is driven by rising global demand, notably from China for hardwoods such as teak, redwood and mahogany. This trade has escalated deforestation and environmental degradation. Between 1995 and 2010, West African exports of high-quality hardwoods to China surged, exacerbating unsustainable resource exploitation (Browne, Kelly & Pilgram, 2022). The study revealed that over three million tonnes of rosewood, valued at over US$2 billion, was illicitly traded between West Africa and China (ENACT Africa, 2024). Furthermore, fluctuations in commodity prices and international trade agreements often prioritise economic gains over environmental sustainability. In Ghana and Liberia, dependence on extractive industries further accelerates ecological harm (Onuoha, Ojewale, & Akogwu, 2023). The management of human and material resources in pursuit of sustainable development in West

Africa is contingent upon the effectiveness of governmental and institutional actors. However, where policy formulation, implementation and enforcement processes lack transparency and credibility, public trust in environmental governance is compromised. ECOWAS's commitment to sustainability and progressive environmental conduct has been institutionalised through specialised agencies, policies and programmes. However, deficiencies in policy enforcement and implementation raise concerns regarding their efficacy. For instance, the Supplementary Act on Environmental Standards for the ECOWAS Member States establishes minimum environmental standards, yet weak institutional capacity and inadequate regulatory enforcement impede compliance (Onuoha, Ojewale, & Akogwu, 2023).

A fundamental limitation is the absence of robust enforcement mechanisms to ensure member states adhere to ECOWAS's environmental standards. In Nigeria, for example, illegal logging and deforestation persist due to weak governance structures that fail to regulate unsustainable practices. Similarly, pollution in the Niger River Basin affects multiple countries, yet the enforcement mechanisms under the Protocol on the Prevention of Transboundary Environmental Pollution remain underdeveloped (ECOWAS, 2020). These gaps illustrate how ECOWAS's inability to ensure compliance with environmental norms undermines its sustainability objectives. A particularly weak response to transboundary environmental issues, such as water pollution and desertification, has further exacerbated the degradation of shared natural resources (ECOWAS, 2023).

Climate change presents another formidable challenge, exacerbating existing environmental vulnerabilities within the region. According to the ECOWAS Regional Climate Strategy (RCS) and Action Plan (2022), many member states struggle to translate climate strategies into actionable programmes due to financial constraints and technical limitations (ECOWAS, 2022). Coastal nations, such as Sierra Leone and Guinea-Bissau, are particularly vulnerable to rising sea levels and coastal erosion, yet lack the resources to implement large-scale adaptation projects. This underscores the urgent need for increased financial support and capacity-building initiatives at both national and regional levels. Furthermore, the EAP 2020–2026 does not adequately address the interconnections between waste management and climate change, leaving key areas of environmental governance unaddressed (ECOWAS, 2022).

Energy poverty remains a major barrier to effective environmental governance within ECOWAS. Despite initiatives such as the ECOWAS Renewable Energy Policy (EREP), access to clean and affordable energy remains limited, particularly in rural areas. In Mali and Burkina Faso, for instance, over 80% of the rural population relies on traditional biomass for

cooking, contributing to deforestation and indoor air pollution (ECREEE, 2013). Scaling up renewable energy deployment and enhancing energy efficiency necessitate substantial investment and political commitment, both of which remain insufficient. Additionally, the lack of robust enforcement mechanisms for National Renewable Energy Action Plans (NREAPs) further exacerbates this challenge, as targets frequently go unmet (ECREEE, 2013).

Urbanisation and population growth exert increasing pressure on natural resources and infrastructure across the region. Rapid urban expansion in cities such as Lagos (Nigeria) and Abidjan (Côte d'Ivoire) has led to escalating waste generation, air pollution, and noise pollution (ECOWAS, 2023). While the EAP acknowledges these challenges, it lacks concrete measures for addressing them comprehensively. Without effective urban planning and waste management systems, these environmental pressures will likely intensify, posing significant risks to public health and environmental sustainability. For instance, Nigeria generates approximately 32 million metric tonnes of solid waste annually, yet less than 20% is properly managed, highlighting the issue's magnitude (Onuoha, Ojewale, & Akogwu, 2023).

Transparency and accountability in environmental governance also present significant challenges. The absence of comprehensive environmental monitoring and evaluation systems undermines ECOWAS's ability to assess the impact of its policies and programmes. Although the ECOWAS Framework for Environmental Assessment (EFA) mandates rigorous evaluations, inconsistent data collection and reporting across member states limit its effectiveness (ECOWAS, 2008). Without reliable metrics and accountability mechanisms, tracking progress toward environmental objectives and identifying areas for improvement become difficult. This lack of transparency erodes public trust and weakens the credibility of environmental governance efforts.

Gender inclusivity remains another critical deficiency within ECOWAS's environmental governance framework. Gender considerations are notably absent from key policy documents such as the ECOWAS Environmental Policy (2008), raising concerns about the exclusion of women—who often bear the brunt of environmental challenges—from decision-making processes (Ajaero, 2008). In rural communities across West Africa, women are pivotal in managing natural resources, yet their perspectives are frequently marginalised in policy formulation and implementation. This exclusion not only reinforces gender inequalities but also diminishes the inclusiveness and effectiveness of environmental governance. To address this, ECOWAS must strengthen regional cooperation, enforce stricter

environmental regulations, and advocate for sustainable economic models that balance development with conservation.

Conclusion

ECOWAS's commitment to environmental governance in West Africa reflects a growing recognition of sustainability as a regional priority, yet persistent challenges hinder its effectiveness. Climate change, weak institutions and socio-economic disparities continue to exacerbate environmental degradation, with urbanisation, deforestation and industrial pollution compounding the strain on ecosystems. While ECOWAS has introduced policies such as the Environmental Policy (2008) and the Environmental Action Plan (2020–2026), implementation gaps remain due to financial constraints, poor enforcement and misalignment between regional and national frameworks. The region's environmental governance is further undermined by illegal activities, weak regulatory structures and the exclusion of vulnerable groups, particularly women. Despite the establishment of institutions like ECREEE and WASCAL to address climate and energy challenges, enforcement inconsistencies and external economic pressures, such as global demand for resources, continue to impede progress. The Environmental Performance Index highlights the severity of these issues, with Nigeria ranking among the lowest in environmental health. To enhance sustainability, ECOWAS must strengthen regional cooperation, enforce stricter environmental regulations, integrate gender-inclusive policies and promote sustainable economic models that align with local realities. Only through coordinated and well-resourced governance mechanisms can West Africa achieve long-term environmental sustainability and resilience.

References

Adegboye, L. A., Zamani, A. P., Meyeyin-Bala, K., Amakiri, H. O., Haruna, M. L., & Adama, M. A. (2023). Assessing ECOWAS early warning response networks and stand by force in resolving challenges in West Africa. *International Journal of Social Science, Management, Peace and Conflict Research*, *1*(08), 163-177.

African Climate Wire. (2024, March 11). *ECOWAS to implement plan on securing biodiversity protection*. African Climate Wire. https://africanclimatewire.org/update/ecowas-to-implement-plan-on-securing-biodiversity-protection/.

African Development Bank. (2024, May 16). *Request for expression of interest: Financial management specialist, ECREEE Desert-to-Power Initiative projects' PIU*. African Development Bank. https://www.afdb.org/sites/default/files/documents/project-related-procurement/updated_reoi_financial_management_specialist_dtp_projects_ecreee_piu_16052024.pdf.

African Development Bank. (2024, November 20). *EOI - Multinational - Project Coordinator, ECREEE DtP Projects PIU*. African Development Bank. https://www.afdb.org/en/documents/eoi-multinational-project-coordinator-ecreee-dtp-projects-piu-ecreee.

Agence Régionale pour l'Agriculture et l'Alimentation de la CEDEAO. (n.d.). *Environment, forests, and biodiversity conservation*. Agence Régionale pour l'Agriculture et l'Alimentation de la CEDEAO. Retrieved February 8, 2025, from https://www.araa.org/en/environment-forests-and-biodiversity-conservation.

Ajaero, C. U. (2008, November 10). *Environmental statistics in the ECOWAS region*. United Nations Statistics Division. https://unstats.un.org/unsd/environment/envpdf/UNSD_UNEP_ECOWAS%20Workshop/Session%2001-1-2%20Environmental%20statistics%20in%20ECOWAS%20region%20(ECOWAS).pdf.

Ali, M. M. M., & Yu, Q. (2021). Assessment of the impact of renewable energy policy on sustainable energy for all in West Africa. *Renewable Energy*, *180*, 544-551. https://doi.org/10.1016/j.renene.2021.08.084.

Asian Development Bank. (2024). Environment action plan 2024–2030: Toward a nature-positive Asia and the Pacific. https://www.adb.org/sites/default/files/institutional-document/1010926/environment-action-plan-2024-2030.pdf.

Bodunde, D. (2024, February 22). *ECOWAS to implement plan on securing biodiversity protection*. TheCable. https://www.thecable.ng/ecowas-to-implement-plan-on-securing-biodiversity-protection/.

Browne, C., Kelly, C. L., & Pilgram, C. (2022, August 12). *Illegal logging in Africa and its security implications*. Africa Center for Strategic Studies. https://africacenter.org/spotlight/illegal-logging-in-africa-and-its-security-implications/.

Chijioke, B., Ebong, I. B., & Ufomba, H. (2018). The Impact of oil exploration and environmental degradation in the Niger Delta region of Nigeria: a study of oil producing communities in Akwa Ibom state. *Global journal of human social science*, *18*(3), 54-70.

Dai, J., Hiung, E. Y. T., Destek, M. A., & Ahmed, Z. (2024). Green policymaking in top emitters: assessing the consequences of external conflicts, trade globalization, and mineral resources on sustainable development. *International Journal of Sustainable Development & World Ecology*, 1-15. https://doi.org/10.1080/13504509.2024.2319136.

Davies-Vollum, K. S., Koomson, D., & Raha, D. (2024). Coastal lagoons of West Africa: a scoping study of environmental status and management challenges. 7(7) (2024). https://doi.org/10.1007/s44218-024-00039-9.

Economic Community of West African States (ECOWAS). (2008). *Official journal: Volume 53, May 2008* (pp. 1-100). https://archive.gazettes.africa/archive/aa-ecowas/2008/aa-ecowas-official-journal-dated-2008-05-01-vol-53.pdf.

Economic Community of West African States (ECOWAS). (2020). ECOWAS Environmental Action Plan 2020–2026. ECOWAS Commission. https://ecowap.ecowas.int/media/ecowap/file_document/2020_ECOWAS_ECOWAS_ENVIRONMENTAL_ACTION_PLAN_Final_Version_-_ENG.pdf.

Economic Community of West African States (ECOWAS). (2023). *ECOWAS green hydrogen policy* (21/11/2023). WASCAL. https://wascal.org/greenhydrogen/wp-content/uploads/2023/11/ecowas_green_hydrogen_policy_21112023.pdf.

Economic Community of West African States (ECOWAS). (2024, September 24). Cooperation between Economic Community of West African States (ECOWAS) and

United States Agency for International Development (USAID) to strengthen natural resource management in West Africa. CNBC Africa. https://www.cnbcafrica.com/wire/650364/.

Economic Community of West African States. (2020). *ECOWAS Disaster Risk Reduction Gender Strategy and Action Plan 2020-2030*. https://www.gfdrr.org/sites/default/files/publication/ECOWAS%20GSAP_EN_Final.pdf.

ECOWAP (nd.). Web Based Monitoring and Evaluation System. Retrieved from https://ecowap.ecowas.int/ecowap-sector/8.

ECOWAS Centre for Renewable Energy and Energy Efficiency. (2013, September 2). *ECOWAS National Renewable Energy Action Plans (NREAPs)*. ECREEE. https://www.ecreee.org/11994/.

ECOWAS Centre for Renewable Energy and Energy Efficiency. (n.d.). *Contracts*. ECREEE. Retrieved February 8, 2025, from https://www.ecreee.org/contracts/.

ECOWAS, (April 2022). ECOWAS Regional Climate Strategy (RCS) and Action Plan (2022-2030) Retrieved from https://disasterdisplacement.org/wp-content/uploads/2022/10/ECOWAS-Regional-Climate-Strategy_FINAL_compressed.pdf.

ECOWAS. (n.d.). *Institutional and organizational capacity building*. ECOWAP. Retrieved February 8, 2025, from https://ecowap.ecowas.int/ecowap-sector/6.

ECOWAS. (n.d.). *Pastoralism, livestock development and animal health*. ECOWAP. https://ecowap.ecowas.int/ecowap-sector/8.

ECREEE. (2023). Regional Validation Workshop on ECOWAS Green Hydrogen Strategy and Action Plans. Retrieved from https://www.ecreee.org/regional-validation-workshop-on-ecowas-green-hydrogen-strategy-and-action-plans/.

ENACT Africa. (2024, November 29). *Illegal logging cuts deep into The Gambia's ecology and economy*. ENACT Africa. https://enactafrica.org/enact-observer/illegal-logging-cuts-deep-into-the-gambia-s-ecology-and-economy.

Essien, V. (2006). Regional Trade Agreements in Africa: A Historical and Bibliographic Account of ECOWAS and CEMAC. GlobaLex Retrieved from https://www.nyulawglobal.org/globalex/cemac_ecowas.html.

FAO. (n.d.). FAOLEX. Food and Agriculture Organization of the United Nations. Retrieved February 8, 2025, from https://www.fao.org/faolex/results/details/en/c/LEX-FAOC214488/.

Folley, B. G. (2019, August 14). WASCAL to strengthen climate change research in West Africa. *Africa Sustainability Matters*. https://africasustainabilitymatters.com/wascal-to-strengthen-climate-change-research-in-west-africa/.

Food and Agriculture Organization of the United Nations (FAO). (2022). FAOLEX. Retrieved February 8, 2025, from https://www.fao.org/faolex/results/details/en/c/LEX-FAOC214488/.

FUTA Community. (2025, February 8). WASCAL, FUTA to strengthen collaboration with the West African Service Centre on Climate Change and Adapted Land Use. *Facebook*. https://www.facebook.com/futacommunity/posts/wascal-futa-to-strengthen-collaboration-the-west-african-service-centre-on-clima/890093329810401/.

FUTA. (2023, February 7). *WASCAL commends FUTA, assures of further collaboration*. Federal University of Technology, Akure. https://www.futa.edu.ng/home/newsd/916.

FUTA. (n.d.). *Wascal, FUTA to strengthen collaboration*. Federal University of Technology, Akure. Retrieved February 8, 2025, from https://www.futa.edu.ng/home/newsd/1051.

Gatete, C., & Dikko, H. (2024). Policy Framework and Regulations to Promote Clean Energy and Renewable Energy Transition in ECOWAS Countries. In *Energy Regulation in Africa: Dynamics, Challenges, and Opportunities* (pp. 131-150). Cham: Springer Nature Switzerland.

Gatete, C., & Dikko, H. (2024). Policy Framework and Regulations to Promote Clean Energy and Renewable Energy Transition in ECOWAS Countries. In: Ackah, I., Gatete, C. (eds) Energy Regulation in Africa. Advances in African Economic, Social and Political Development. Springer, Cham. https://doi.org/10.1007/978-3-031-52677-0_6.

Grean Climate Fund, (28 April, 2023). Strengthening ECOWAS institutional capacities and Member States' access to climate finance to support the implementation of the agriculture sectoral priorities of the ECOWAS Regional Climate Strategy. Retrieved from https://www.greenclimate.fund/document/strengthening-ecowas-institutional-capacities-and-member-states-access-climate-finance.

Guo, Q., Abbas, S., AbdulKareem, H. K., Shuaibu, M. S., Khudoykulov, K., & Saha, T. (2023). Devising strategies for sustainable development in sub-Saharan Africa: the roles of renewable, non-renewable energy, and natural resources. *Energy*, *284*, 128713. https://doi.org/10.1016/j.energy.2023.128713.

Hancock, K. J. (2015). Energy regionalism and diffusion in Africa: How political actors created the ECOWAS Center for Renewable Energy and Energy Efficiency. *Energy Research & Social Science*, *5*, 105-115.

High Ambition Coalition for Nature and People. (HACNP). (2024, February 22). ECOWAS member states take an ambitious approach to protect at least 30% of their land and sea areas by 2030. *High Ambition Coalition for Nature and People*. https://www.hacfornatureandpeople.org/ecowas-member-states-take-an-ambitious-approach-to-protect-at-least-30-of-their-land-and-sea-areas-by-2030/.

International Organization for Migration (IOM). (2016). *Regional workshop on land degradation, climate change, and migration in West Africa: Policy implications for building resilience and preventing security challenges*. International Organization for Migration. https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/Agenda%20ENG%206.04.16.pdf.

International Organization for Migration. (2016). *Regional workshop on land degradation, climate change and migration in West Africa: Policy implications for building resilience and preventing security challenges*. International Organization for Migration. https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/Agenda%20ENG%206.04.16.pdf.

International Organization for Migration. (n.d.). *Migration, environment, and climate change: West and Central Africa*. International Organization for Migration. https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/documents/factsheet-mecc-wca-1.pdf.

International Renewable Energy Agency. (2013). *West African Power Pool: Planning and prospects for renewable energy*. Abu Dhabi: IRENA. Retrieved from https://www.irena.org/Publications/2013/Jun/West-African-Power-Pool-Planning-and-Prospects-for-Renewable-Energy.

International Research and Development. (IRD). (2023, February 8). Socio-economic development on the West African coast: A key factor in increasing flood risks. International Research and Development. https://en.ird.fr/socio-economic-development-west-african-coast-key-factor-increasing-flood-risks.

Kanyamuna, V., Kotzé, D. A., & Phiri, M. (2019). Monitoring and evaluation systems: The missing strand in the African transformational development agenda. *World Journal of Social Sciences and Humanities*, *5*(3), 160-175.

Kappiah, M. (2019). *Attaining the ECOWAS Sustainable Energy Targets*. ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE). https://www.ecreee.org/wp-content/uploads/2024/01/ecreee_-_ecowas_sustainable_energy_targets.pdf.

Meadowcroft, J. (2013). Who is in charge here? Governance for sustainable development in a complex world. In *governance for sustainable development* Routledge, (pp. 107-122).

Muigua, K. (2024). *Embracing sound environmental governance in Africa*. Kariuki Muigua & Co. Retrieved from http://kmco.co.ke/wp-content/uploads/2024/01/Embracing-Sound-Environmental-Governance-in-Africa-1.pdf.

Musibau, H. O., Yanotti, M., Vespignani, J., & Nepal, R. (2021). *Environmental performance in the West African economy: MM-quantile and 2SLS approach* (Discussion Paper No. 2021-05). University of Tasmania. Retrieved from https://www.utas.edu.au/__data/assets/pdf_file/0011/1543178/2021-05_Musibau_Yanotti_Vespignani_Nepal.pdf.

O'Gradaigh, L. (2019, October 11). Submission to Dublin Airport Local Area Plan 2020-2026: Variation to Fingal Development Plan. Fingal County Council. https://consult.fingal.ie/ga/system/files/materials/13459/13917/Submission%20-%20Liam%20O%27Gradaigh_Redacted.pdf.

OECD. (2024). Sustainable investment policy perspectives in the Economic Community of West African States (ECOWAS). OECD Publishing. https://www.oecd.org/en/publications/sustainable-investment-policy-perspectives-in-the-economic-community-of-west-african-states-ecowas_654e2de5-en.html.

Onuoha, F., Ojewale, O., & Akogwu, C. J. (2023). *Climate change and natural resource conflict in ECOWAS and ECCAS regions: Implications for state security forces*. *African Journal on Conflict Resolution*, 23(2). Retrieved from https://www.accord.org.za/ajcr-issues/climate-change-and-natural-resource-conflict-in-ecowas-and-eccas-regions-implications-for-state-security-forces/.

Opitz-Stapleton, S., Cramer, L., Kaba, F., Gichuki, L., Borodyna, O., Crane, T., ... & Seck, E. (2021). Transboundary climate and adaptation risks in Africa: perceptions from 2021. *Overseas Development Institute: London, UK*.

Organisation for Economic Cooperation and Development (OECD). (2024). *Sustainable investment policy perspectives in the Economic Community of West African States (ECOWAS)*. OECD Publishing. https://doi.org/10.1787/654e2de5-en.

Ouma, G. O. (2020). Disaster Risk Management: Early Warning Systems, Response, and Reduction. In *Zero Hunger* (pp. 219-231). Cham: Springer International Publishing.

Padgham, J., Abubakari, A., Ayivor, J., Dietrich, K., Fosu-Mensah, B., Gordon, C., Habtezion, S., Lawson, E., Mensah, A., Nukpezah, D., Ofori, B., Piltz, S., Sidibé, A., Sissoko, M., Totin, E., & Traoré, S. (2015). Vulnerability and adaptation to climate change in semi-arid areas in West Africa. Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA).Retrieved from https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/9447d617-6f3c-48f2-80ca-edd3d8c387ce/content.

Pandey, K. (2022, June 9). *Nigeria fares poorly in the Environment Performance Index 2022*. Down To Earth. https://www.downtoearth.org.in/environment/nigeria-fares-poorly-in-the-environment-performance-index-2022-83218.

PreventionWeb. (n.d.). *The West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)*. PreventionWeb. Retrieved February 11, 2025, from https://www.preventionweb.net/organization/west-african-science-service-centre-climate-change-and-adapted-land-use-wascal.

Ramutsindela, M., & Büscher, B. (2019). Environmental governance and the (re-) making of the African State. In *Oxford research encyclopedia of politics*. https://doi.org/10.1093/acrefore/9780190228637.013.903.

Ramutsindela, M., & Büscher, B. (2019). Environmental governance and the (re-) making of the African State. In *Oxford research encyclopedia of politics*. https://doi.org/10.1093/acrefore/9780190228637.013.903.

Reiss, K. (2015). *ECOWAS programs addressing gender and energy in climate change mitigation*. ECREEE. https://unfccc.int/files/gender_and_climate_change/application/pdf/06_reiss_technology.pdf.

Sangbana, K. (2020). African Basin Management Organizations: Contribution to Pollution Prevention of Transboundary Water Resources. *Brill Research Perspectives in International Water Law*, *5*(1), 3-76.

Sasu, D. D. (2023, September 6). *Environmental Performance Index (EPI) ranking in Africa 2020, by country*. Statista. Retrieved February 12, 2025, from https://www.statista.com/statistics/1300291/epi-ranking-in-africa-by-country/.

Takyi, R., El Mahrad, B., Nunoo, F. K. E., Adade, R., ElHadary, M., & Essandoh, J. (2022). Adaptive management of environmental challenges in West African coastal lagoons. *Science of The Total Environment*, *838*, 156234. https://doi.org/10.1016/j.scitotenv.2022.156234.

Terwase, I. T., Abdul-Talib, A. N., & Zengeni, K. T. (2015). The role of ECOWAS on economic governance, peace and security perspectives in West Africa. *Mediterranean Journal of Social Sciences*, *6*, (3): 257-261.

Tsitohery, M., & Zafimahova, C. (2022). Environmental Governance in The Division of Roles International Institutions and Government Institutions in African Countries. *Journal of Management and Administration Provision*, *2*(2), 58-64.

UNEP. (2016). UN Environment Strengthens Ties with ECOWAS to Advance Environmental Sustainability in West Africa. Retrieved from https://www.unep.org/news-and-stories/news/un-environment-strengthens-ties-ecowas-advance-environmental-sustainability.

West African Science Service Centre on Climate Change and Adapted Land Use. (2019). *Consolidated report for WASCAL MRP on climate change and adapted land use: October 2012 – March 2018*. Federal University of Technology, Minna, Nigeria. Retrieved from https://wascal.futminna.edu.ng/wp-content/uploads/2019/03/CONSOLIDATED-REPORT-FOR-WASCAL-MRP-ON-CLIMATE-CHANGE-AND-ADAPTED-LAND-USE-OCTOBER-2012-MARCH-2018.pdf.

World Bank. (2021). World Bank engagement in transboundary waters in West Africa: Retrospective and lessons learned. Washington, DC: World Bank. Retrieved from https://www.ciwaprogram.org/wp-content/uploads/CIWA_World-Bank-Engagement-Transboundary-Waters-West-Africa.pdf.

Yale Center for Environmental Law & Policy, & Center for International Earth Science Information Network Earth Institute, Columbia University. (2022). *2022 Environmental Performance Index*. Yale University. https://epi.yale.edu/epi-results/2022/component/epi.