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Thematic REPORT



WEST AFRICA NETWORK FOR PEACEBUILDING
BUILDING RELATIONSHIPS FOR PEACE



**CLIMATE CHANGE
AND HUMAN SECURITY IN
COASTAL COMMUNITIES
OF WEST AFRICA**



Climate change & Human Security

in coastal communities of West Africa

Introduction

West Africa's coastal areas are facing new environmental threats from rising sea levels, intensifying storm surge, extreme precipitation and accentuated erosion occasioned by climate change. It constitutes substantial damage to the marine ecosystems, and biodiversity, with significant socioeconomic impacts on human security in coastal communities of the region. The geostrategic importance of West Africa's coastal zones is reflected in its 'blue economy'¹ that is critical to the socio-economic and political development of the region. A recent research report on climate and coastal resilience suggests that by 2050, climate change will worsen floods and erosion of West Africa's coast². It further projects that by 2100, West Africa will witness a sea level rise of up to 1.06m, higher incidences of extreme rainfall, a temperature increase of 2°C, and 5,500 km² of coast flooded³. This reveals that climate change will exacerbate the environmental stresses along the coast, increasing the socioeconomic vulnerability of coastal populations, especially the poor, whose well-being and livelihoods depend on natural resources.

Climate change's impact on coastal areas does not only threaten coastal resources and human security, but also regional development and stability. Despite these threats, the impacts of climate change on coastal zones have not yet been adequately assessed and interrogated⁴. Regional climate change conversations appear to have focused primarily on security in the Sahel and the Lake Chad Basin, while attention to its effects on coastal communities has been relatively



• A map of West Africa showing coastal countries
Credit: Google Images

lopsided. Given the security volatility and complex humanitarian emergencies prevailing in the region, climate-induced threats to coastal zones have the potential to accentuate human security and States fragility in West Africa. Therefore, there is the need to probe the level of threat it poses to coastal zones and effectiveness of responses to the scourge.

This thematic report assesses the risks, vulnerabilities and threats of climate change, and its implications for human security in coastal communities in West Africa. It also examines the effectiveness of climate adaptation and response strategies, highlighting existing gaps and pitfalls. The report further explores policy recommendations for stakeholders' intervention to strengthen climate adaptation and response mechanisms that enhance the resilience of coastal zones.

¹The World Bank defines the 'blue economy' as the sustainable use of water and sea resources for economic growth and improved livelihoods and jobs while preserving the health of the ocean ecosystem.

²World Bank Group (2020). Effects of Climate Change on Coastal Erosion and Flooding in Benin, Cote D'Ivoire, Mauritania, Senegal, and Togo. Technical Report. May 2020.

³Ibid.

⁴Op. cit. (World Bank Group, 2020).

Strategic Importance of Coastal Zones, Risks and Vulnerabilities to Climate Change

Coastal areas are strategically important to the socio-economic development of States and livelihoods of populations in West Africa. This is evident in a wide range of ecosystems and diverse natural resources, including extensive mangrove forests, oil, gas, sandy beaches, lagoons, coastal wetlands, and fisheries. Most of the population (85 per cent) and economic activity (93 per cent) in the ECOWAS Member States is concentrated in the 12 coastal countries with only 49 per cent of the area⁵. Coastal zones and commerce annually generate 56 per cent of the region's Gross Domestic Product (GDP)⁶. Major ports and industrial facilities account for more than \$150 billion in annual trade which forms the backbone of the economies of coastal countries⁷. Value added to agro-economy ranges from 9 per cent to 67 per cent of GDP while ecotourism accounts for an average of 2 per cent of GDP, at an annual value of about \$130 and \$7.3 billion respectively⁸. Fisheries, for example, play multiple roles in the livelihood and economic security of the populations. It forms a source of internal and external trade in West Africa and beyond with an annual catch of over 1.85 million metric tons which accounts for more than \$600 million of exports⁹. West Africa's small-scale fisheries' landed value is estimated at \$3.5 billion a year.¹⁰ Aside from this, over 6.7 million people in West Africa, or 16 per cent of coastal populations, mostly women and youth directly depend on small-scale fisheries to sustain their livelihoods.¹¹

In terms of nutrition and health security, fish protein constitutes more than 30 per cent of total protein intake in Senegal, The Gambia, Guinea, Sierra Leone, Cote D'Ivoire, Liberia, Ghana, Togo, and Nigeria.¹² Fisheries in

coastal areas of West Africa contribute to the global fishmeal and oil industry and also a source of employment for coastal communities.¹³ In Senegal, for instance, fish oil and fish meal factories employ 129 permanent and 264 temporary staff, while 600,000 people are engaged in the artisanal fishing sector.¹⁴

These coastal resources, are increasingly threatened by extreme weather events including storm surge, rising sea level, erosion, floods, drought, tidal waves, warming temperature, acidification, and salinization, among others. The West African coast between Mauritania and Nigeria is predicted to experience sea level rise considerably above the global average of 0.76 metres, and the region's sea levels could rise by up to 1.06 metres by 2100¹⁵. Erosion rates are particularly high in Benin, with an average annual loss of 4 metres of land along 65 per cent of the coast.¹⁶ Senegal was also severely affected with the highest coastal degradation costing 7.6 per cent of the country's GDP.¹⁷ Extreme weather events in coastal zones increases the risks of salinization of water and soil, with debilitating impact on the ecosystem and infrastructure loss. This further has potential to heighten the reduction in economic activities that could lead to forced migration. Already, the coastal region has witnessed many of these changes. Coastal erosion along Ghana's 580km coastline has destroyed more than half of Keta city and has transformed the nearby coastal town of Fuveme into an island, forcing thousands of families to migrate to the mainland¹⁸. Similarly, in Senegal's UNESCO World Heritage city of Saint-Louis, rising seas have destroyed houses, flooded streets and damaged crops¹⁹. Not only coasts are flooding but as many as 760,000 people were also hit by severe riverine flooding between August and September 2020.²⁰

Op. cit. ECOWAS (2013).

Schmidt, P., and Mugah, R. (2021). Climate Change and Security in West Africa. IGRAPÉ INSTITUTE. Strategic Paper 52. February 2021.

Ibid.

Ibid.

Ibid.

Belhabib, D., Sumaila, R. and Pauly, D. (2015). Feeding the Poor: Contribution of West Africa Fisheries to Employment and Food Security. *Ocean and Coastal Management*. Vol. 111. July 2015. Pp. 72-81.

Ibid.

Ibid.

McVeigh, K. (2022). "Fish oil and fishmeal industry harming food security in West Africa, UN warn". *The Guardian*. 10 February 2022.

Ibid.

World Bank, 2018. "West Africa's Coast: Losing Over \$3.8 Billion a Year to Erosion, Flooding and Pollution." <https://www.worldbank.org/en/region/afr/publication/west-africas-coast-losing-over-38-billion-a-year-to-erosion-flooding-and-pollution>.

Op. cit. Schmidt, P., and Mugah, R. (2021).

Ibid.

Ibid.

Ibid.

Boureima, B., 2020. "Severe Floods Hit 760,000 People in West and Central Africa." *Reuters*. <https://www.reuters.com/article/us-westafrica-floods/idUSKBN2613B5>. (Accessed on 23 June 2022).

Climate Change's Impact and Human Security Implications on Coastal Communities.

The coastal ecosystems provide a substantial source of potable water, wood resources, and fish stocks for local fishing businesses and other necessities.²¹ However, consistent rising sea levels has adversely affected over 5,500 kilometres of the region's coastline exposing low-lying communities to storms, flooding, and water-borne diseases.²² This trend continues to impact on the human security of coastal communities. The impact on livelihoods, poverty, environmental degradation, displacement of people, desecration of cultural heritage, and outright loss of traditional communities, have been established. In Nigeria, Niger Delta alone which has an estimated 1m rise in sea level by 2100, is capable of engulfing 18,000 square kilometres of the country's coastline (about 26 per cent of the Niger Delta)²³. Also, rising sea level has led to an annual estimated death of over 13,000 persons in Benin, Cote D'Ivoire, Senegal, and Togo, as well as extensive property damage.²⁴

The increasing loss of vast agricultural land due to coastal erosion and sea encroachment has heightened concerns within the broader issues of livelihoods and food insecurity across coastal communities. Between June and August

2022, more than 38 million people were projected to face acute food insecurity in major hotspots in coastal communities, especially along the Gulf of Guinea.²⁵ As of May 2022, in Cabo Verde, severe drought conditions for the fifth consecutive year resulted in marginal levels of cereal production.²⁶ In addition, weather forecasts for the 2022 rainy season, indicate a likelihood of below-average rainfall in Southern parts of several coastal states, which could adversely affect crop production. These conditions contribute to lower income-earning opportunities, increase food prices, and push many households to resort to crisis or emergency coping strategies.

Critical resources such as mangroves, fresh water and fish varieties have also been endangered by the depletion and decline of stocks.²⁷ As of May 2022, more than 27 million people in coastal areas are projected to confront acute food insecurity and unemployment.²⁸

In Senegal, rising temperatures have already led to the northward migration of sardinella, the region's most important species in terms of economic value and food security.²⁹ Also, Senegal's coastal town of Saint-Louis has experienced a significant decline in its annual catch from 650,000 to 70,000 over the past five years.³⁰ Given this, artisanal fishermen face the challenge of competing



The growth of fishmeal factories in West Africa has increased pressure on stocks of small pelagic fish, particularly overexploited sardinella, which are the staple food of the region's populations.

Photo: Mamadou Aliou Diallo/REJOPRA.

²¹ Groundswell Africa: Internal Climate Migration in West African Countries (October 2021).

<https://www.worldbank.org/en/news/infographic/2021/10/27/groundswell-africa-internal-climate-migration-in-west-african-countries> (Accessed 12/06/2022).

²² Climate Change and Security in West Africa (2021). <https://igarape.org.br/en/climate-security-in-west-africa/> (Accessed 13/06/2022).

²³ Climate Change, Insecurity, and Conflict in Niger Delta, Nigeria (Research Report 2022). (Accessed 28/07/2022).

²⁴ Ibid.

²⁵ FAO/GIEWS Special Alert No. 349: West Africa - Sahel, 16 May 2022.

<https://reliefweb.int/report/world/faogiews-special-alert-no-349-west-africa-sahel-16-may-2022> (Accessed 12/06/2022).

²⁶ Ibid.

²⁷ Op. Cit. Climate Change and Security in West Africa

²⁸ FAO/GIEWS Special Alert No. 349: West Africa - Sahel, 16 May 2022.

<https://reliefweb.int/report/world/faogiews-special-alert-no-349-west-africa-sahel-16-may-2022> (Accessed 12/06/2022).

²⁹ Ibid.

³⁰ Ibid.

against commercial fishing trawlers due to shrinking depletion of fish stock which has raised market scarcity in the country. Women are especially affected as it exacerbates their economic vulnerability and health concerns.³¹ Research by the Food and Agricultural Organisation (FAO) indicates that high levels of saline water harm pregnant women through reported increase in blood pressure levels and higher infant mortality rates. Also, children are exposed to malnutrition from low quality food intake.³²

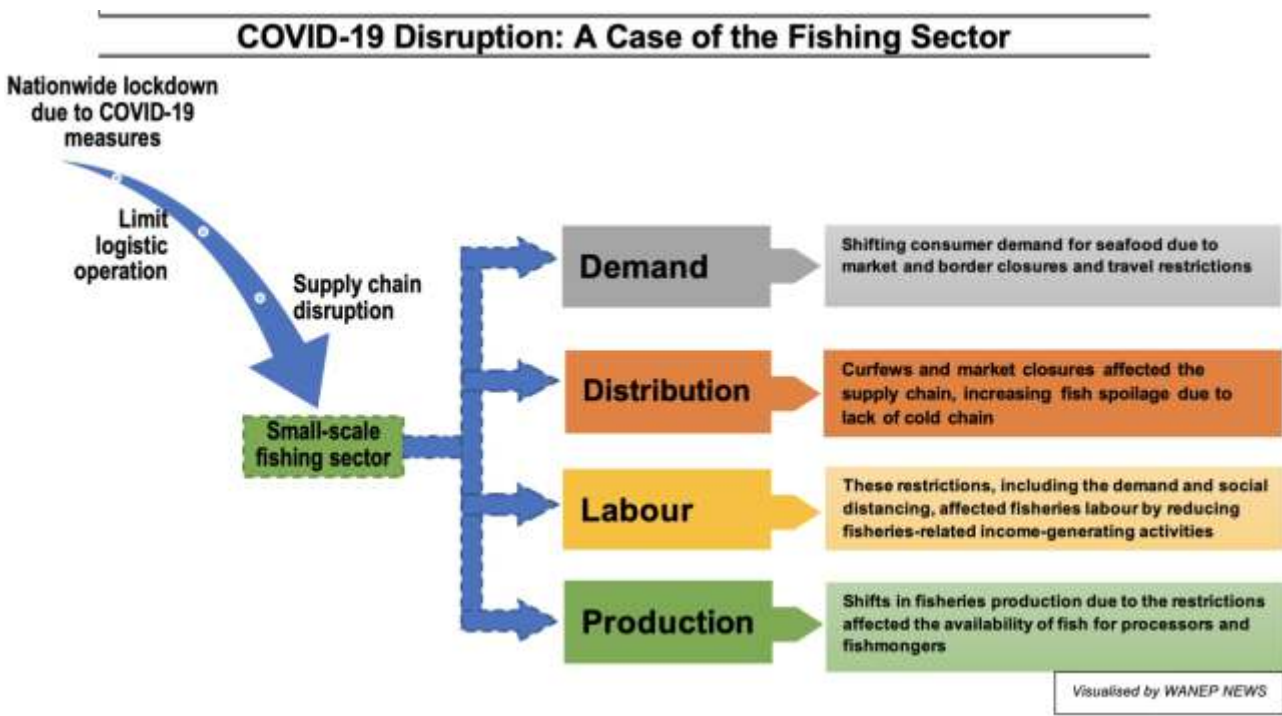
The COVID-19 pandemic has further amplified the challenges confronting women in the small-scale fishing sector, as the health restrictions disrupted the seafood value-chain including labour, demand, supply and consumption. As a result, some female fish traders in coastal locations are forced to engage in risky sexual behaviour for economic benefit which undermines their physical wellbeing.

There are reports that during the pandemic in Ghana, women fish traders were exchanging sex for fish to ensure continued access to fish, and sometimes credit from fishermen,³³ with payment to be made after the sale of the

fish.³⁴ In Keta community in the Volta region, some women gave themselves to migrant fishermen, especially those from Accra and Ada area, to buy fish on credit from them.³⁵ In Nigeria, some female fish traders have also resorted to the practice of fish for sex to support their families.³⁶ With women pushed further towards transactional 'sex for fish' practices in coastal communities, they are exposed to Sexually Transmitted Infections and other health risks. Also, the sex economy of fisheries reveals the murky depths of gender inequity within the fisheries sector, as hierarchical and patriarchal power relations push women to commodify their bodies to meet their livelihood needs and household responsibilities.

Climate-induced Security Challenges and Implications

Climate change creates social, economic and environmental conditions that indirectly result in conflict, mostly at community levels. The elements of these conditions include growing food insecurity, migration and displacement of people, declining fish catch, poor agricultural yield and poverty.³⁷ This has heightened



³¹Ibid.

³²State of the Climate in Africa (2019). https://library.wmo.int/index.php?lvl=notice_display&id=21778#.Yqc3jy-1p8 (Accessed 12/06/2022).

³³Ocean Optimism and Resilience: Learning from Women's Responses to Disruptions caused by COVID-19 to Small-Scale Fisheries in the Gulf of Guinea (June 2022).

https://www.frontiersin.org/articles/10.3389/fmars.2022.862780/full?utm_source=Email_to_authors&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field=&journalName=Frontiers_in_Marine_Science&id=862780 (Accessed 28/06/2022).

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷Op. Cit. Climate Change, Insecurity, and Conflict in Niger Delta, Nigeria (Research Report 2022).

environmental and fisheries crimes including Illegal, Unreported and Unregulated (IUU) fishing, which reduces the fishing stocks that are traditionally the basic source of income for many fishing communities in coastal areas in the Gulf of Guinea. As a result, low-intensity disputes and tensions are escalating between and among artisanal fishermen, foreign fishing vessels and coastguards in the region. Between January and May 2022, violent protests were recorded in coastal communities of The Gambia, Ghana and Sierra Leone.³⁸ In Nigeria, illegal cross-border fishing aggravated violence and the deaths of about 100 people in Bakasi along the border of Nigeria and Cameroon.³⁹

In addition, declining fish stocks and arable land have pushed young men in Agbavi, Togo to join criminal syndicates involved in fuel smuggling, beach-sand mining and destruction of mangroves, which exacerbate erosion in coastal areas.⁴⁰ These dynamics are further complicated by other maritime crimes such as Illicit drug trafficking and child labour by industrial and fishing vessels which have been recorded in the region. For instance, in May 2022, the French Navy operation Corymbe seized two tonnes of cocaine from a fishing vessel along the Gulf of Guinea.⁴¹ While in April 2022, authorities in Cape Verde arrested a fishing vessel from Brazil with five tonnes of cocaine.⁴² The combination of these threats and a decline in trust-building practices exposes communities to insecurity and conflicts.

Another threat of climate change to security in coastal areas is the patterns of migration and displacement across the region. Towns along the coast remain the most developed and therefore a steady destination for migrants, especially young people.⁴³ This pattern of migration to cities is expected to continue due to the rise in urbanization.⁴⁴ Many of the region's main cities along the coastline like Lagos, Abidjan, Dakar and Accra are experiencing rapid growth. Ongoing projections indicate that 70 to 94 million people will inhabit West Africa's low-lying cities by 2050.⁴⁵ This will increase competition for



The map shows high-low risk areas of illegal and criminal activities in the Gulf of Guinea region
Credit: CEMLAWS Africa Report, Vol 2.

land, water, food and other natural resources, with potentials for violent conflicts.

Niger Delta on Nigeria's coastline is another prime example that reflects these dynamics. The area is a hotspot for environmental related conflict and degradation as a result of climate induced shocks. This has reinforced militancy, armed attacks, piracy, kidnapping and other crimes that exacerbate the already fragile social issues.⁴⁶ Access to pastoral resources and availability of fodder across the region have been affected by insecurity and poor weather conditions, resulting in reduced livestock production and an early start of the pastoral lean season in 2022. This has caused unpredictable patterns of transhumance movements, with consequent negative impact on accessible grazing areas and increasing tensions between farmers and herders in Nigeria.⁴⁷

Moreover, these environmental changes and insecurities have contributed to new internal displacement in the region. As of March 2022, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), recorded

³⁸WANEP NEWS Bulletin (January – May 2021). Available at: www.wanep.org (Accessed 12/06/2022).

³⁹Ibid.

⁴⁰Climate Security in West Africa (2021). <https://igarape.org.br/en/climate-security-in-west-africa/> (Accessed 13/06/2022).

⁴¹New Drug Seizure by French Navy in the Gulf of Guinea (May 2022). <https://www.navalnews.com/naval-news/2022/05/new-drug-seizure-by-the-french-navy-in-the-gulf-of-guinea/> (Accessed 13/06/2022).

⁴²Cape Verdean Police seize over 5 tons of Cocaine (April 2022). <https://www.africanews.com/2022/04/07/cape-verdean-police-seizes-over-5-tonnes-of-cocaine/> (Accessed 13/06/2022).

⁴³Migration, Youth, and Land in West Africa: Making the Connections Work for Inclusive Development (April 2019). <https://www.mdpi.com/2073-445X/8/4/60/htm> (Accessed 12/06/2022).

⁴⁴Climate Change Impact and Adaptation: Lagoonal Fishing Communities in West Africa https://link.springer.com/chapter/10.1007/978-3-030-45106-6_221 (Accessed 12/06/2022).

⁴⁵West Africa – The Coastal Threat (2022). https://earthtime.org/stories/west_africa_the_coastal_threat (Accessed 12/06/2022).

⁴⁶WANEP NEWS Bulletin (January – December 2021). Available at: www.wanep.org (Accessed 12/06/2022).

⁴⁷Op. cit. FAO/GIEWS Special Alert No. 349: West Africa – Sahel.

about 6 million new displacements, while 1.17 million people sought shelter as refugees across the region. These concerns are supported by the increase in research that explores the potential links between environmental migration and terrorism. The rapid migration to the coasts could be exploited by violent extremists to accelerate the spillover of terrorism from the Sahel to littoral states.

Existing Mechanisms for Response: Opportunities and Pitfalls

There is existing political goodwill to address climate change at international, regional and national levels by States, non-state actors and inter-governmental bodies. In this respect, the Paris Agreement of 2015 frames the global climate response through Nationally Determined Contributions (NDCs)⁵⁰. Although the NDCs are voluntary and serve to guide the development of national climate change responses, they define mitigation and adaptation pathways as well as domestic and international finance cooperation between states and international institutions that funds jointly agreed actions. In this regard, regular review and implementation of NDCs by state parties could be a tool to enhance climate adaptation initiatives and progress toward achieving global obligations to the UN Framework Convention on Climate Change (UNFCCC) and the Sustainable Development Goals (SDG) targets by 2030.

Adaptation to climate change is Africa's top priority, as evidenced by the prominence of adaptation in their NDCs – post-2020 climate action. Most African countries indicated the need for early warning systems in their NDCs to assist them in responding to weather, water and climate-related risks, which are more frequent and severe.⁵¹ These priorities are also emphasized in the AU's Agenda 2063, which recognizes climate change as a critical issue for the continent's development. Among other initiatives is the Yaounde Code of Conduct, which committed 25 signatories from ECOWAS and ECCAS to repress piracy, armed robbery at sea, and illicit maritime activity in West and Central Africa. This Code of Conduct has been the main framework for regional cooperation and information



sharing to address the maritime insecurity in the region.

Also, as part of its Vision 2050, ECOWAS has reinforced its commitment to making climate change mitigation a priority for political action in the region. In line with this, the ECOWAS Commission and its Member States have developed a Regional Climate Strategy to integrate and harmonise initiatives in response to climate change.⁵² ECOWAS has signed a Memorandum of Understanding (MoU) with the Fisheries Committee of West-Central Gulf of Guinea and the Sub-Regional Fisheries Commission to strengthen collaboration, partnership and cooperation to implement regional fisheries and aquaculture policies.⁵³ ECOWAS Member States have also produced legislations and policies to ensure implementation of required climate change mitigation efforts in the region. Furthermore, states and non-state actors have received financial and technical assistance from institutions such as the World Bank, African Development Bank and other donor organizations in developing and implementing integrated climate adaptation strategies, particularly in coastal areas of the region. The West Africa Coastal Area Management Program (WACA) of the World Bank Group is one such intervention, which establishes partnerships and provides long-term support to rescue and safeguard coastal assets. States have embarked on joint-outreach activities with development partners, Civil Society Organisations, youth and women's groups intended to enhance prevention mechanisms through community orientation and awareness education as well as multi-stakeholder dialogue on climate change and variability. For instance,

⁴⁸Op. cit. FAO/GIEWS Special Alert No. 349: West Africa – Sahel.

⁴⁹Moving into Terrorism: How Climate-Induced Rural-Urban Migration May Increase the Risk of Terrorism (June 2022). <https://www.tandfonline.com/doi/abs/10.1080/09546553.2022.2069447?src=&journalCode=itpv20> (Accessed 12/06/2022).

⁵⁰Paris Agreement. https://unfccc.int/sites/default/files/english_paris_agreement.pdf (Accessed on 17/06/2022).

⁵¹The State of climate in Africa (2020). https://www.uneca.org/sites/default/files/ACPC/State-of-the-Climate-in-Africa/WMO_State%20of%20the%20Climate%20in%20Africa%202020_Report_en.pdf (Accessed on 17/06/2022).

⁵²ECOWAS Regional Climate Strategy validated in April 2022, Accra, Ghana. <https://ecowas.int/?p=54976> (Accessed on 17/06/2022).

⁵³FCWC and SRFC Sign MOU with ECOWAS. <https://fcwc-fish.org/our-news/fcwc-and-srfc-sign-mou-with-ecowas> (Accessed on 17/06/2022).

the Government of Ghana is constructing a five-kilometre sea wall in Ningo-Prampram to reclaim coastal land and prevent erosion, salinization and flooding.⁵⁴ Other preventive action include the temporary ban on fishing from May to July every year which contributes to replenishing fish stocks in Ghana and the planting of 22 million trees as part of its National Tree Planting Day exercise of June 10, 2022.⁵⁵ In Liberia, the Monrovia Metropolitan Climate Change Resilience project was developed to provide 250,000 local populations with a diverse range of climate-resilient livelihoods while also improving coastal defenses that protect mangrove ecosystems.⁵⁶ Senegal's Ministry of Environment and Sustainable Development launched the second phase of a Climate Change and Integration Coastal Zone Management project to combat coastal erosion by planting trees and building breakwaters.⁵⁷

In Sierra Leone, a five-year multi-donor partners' project on "Adapting to Climate Change Induced Coastal Risks Management" was launched in 2018. The project provides support to address risks related to climate change in six coastal communities.⁵⁸ Cote d'Ivoire's National Climate Change program builds the capacity of national actors, including women and youth on gender-climate nexus to improve coordination and ecosystem service delivery in coastal communities.⁵⁹ In The Gambia, the World Bank's WACA project provides support against flooding near the Kotu stream and surrounding floodplains. The activities include social, economic and environmental interventions to strengthen infrastructure and improve frameworks on integrated coastal management and climate risk management.⁶⁰ These efforts strengthen resilience and climate change adaptation mechanisms at community and national levels in these countries.

Despite these achievements by states and non-state actors, the effectiveness of climate resilience and natural disaster preparedness in the coastal zones have been fraught with challenges of weak state capacity to prevent or mitigate climate change impacts. The environmental sector in coastal countries in the region are constrained by

limited resources and competing resources that limit their ability to develop and fully implement climate change policies and strategies. The relevant sectors are ill-equipped to generate climate early warning data and analysis to inform responses.⁶¹ There is also a limited availability and access to existing data as a result of limited communication and data management systems, as well as data policy issues in some countries.⁶² The implications of this is the recurrence of climate-related disasters including flash floods, coastal erosion, mud and landslides, salinization, food insecurity and climate-induced humanitarian challenges in the region.

Related to the above, existing limitations to information and technology knowledge transfer at regional, state and community levels are critical to climate prevention and mitigation efforts. State actors and local communities need to understand the trans-regional nature of the threat to appropriately prevent potential disasters or mitigate the effects to the coastal population.

Coordination, cooperation and synergy among relevant environmental agencies within States is imperative. A study conducted by the Environmental Justice Foundation (EJF) in Ghana on fishery crimes revealed lack of cooperation between marine security threats, Police, the Navy, fishing and drug agencies. In some instances, security agencies in coastal countries are reluctant to share intelligence with other agencies in the same deployment area, which undermines efforts to curtail marine crimes and illegal activities along the coast.⁶³ This translates to weak law enforcement and delay in response to intelligence on fishery crimes.

Another key challenge is weak maritime governance and lack of policy implementation and coherence in fisheries management. There are adequate laws to regulate fishing activities but their enforcement is weak due to poor logistics and inadequate law enforcement personnel, limited education, greed, gaps in the prosecution of fishery infractions and political interference.⁶⁴ These constrain the ability of coastal states to enforce standards

⁵⁴Ghana News Agency (February 2022). <https://www.gna.org.gh/1.21036182> (Accessed 22/06/2022).

⁵⁵Green Ghana Exceeds Target (June 2022). <https://www.graphic.com.gh/news/general-news/ghana-news-green-ghana-exceeds-target-over-22m-trees-planted.html> (Accessed 22/06/2022).

⁵⁶UNDP Climate change Adaptation <https://www.adaptation-undp.org/GCF-Monrovia> (Accessed 22/06/2022).

⁵⁷Senegal: Government Launches Coastal Zones Management project (2020). <https://www.afrik21.africa/en/senegal-government-launches-coastal-zone-management-project/> (Accessed 22/06/2022).

⁵⁸Sierra Leone Coastal Resilience Project (2018). <https://revitalization.org/article/sierra-leones-new-10-million-coastal-resilience-project-includes-mangrove-restoration/> (Accessed 22/06/2022).

⁵⁹NAP Global Network (2022). <https://napglobalnetwork.org/2021/12/cote-divoire-accelerating-gender-mainstreaming-in-climate-change/> (Accessed 22/06/2022).

⁶⁰The Gambia WACA Project. <https://www.wacaprogram.org/country/gambia> (Accessed 22/06/2022).

⁶¹Op. cit. The State of climate in Africa (2020).

⁶²Ibid

⁶³Ghanaian 'Saiko': An Ecological Catastrophe. <https://ejfoundation.org/news-media/ghanaian-saiko-an-ecological-disaster> (Accessed 22/06/2022).

⁶⁴Op. Cit. Illegal, Unreported, and Unregulated (IUU) fishing: The 'Saiko' Story.

and ensure compliance. The fact that coastal states do not have effective maritime institutional structures gives rise to other emerging threats like disregard for maritime regulation and laws, poverty and deprivation in coastal areas. In this regard, corruption, and discontent among the coastal population are exemplified by inadequate or skewed fishing agreements and fragmented institutional frameworks that results in fishery crimes and illegal activities such as abuse of vessel registration, illegal fishing and evasion of taxes by foreign vessels. These instances are counterproductive to revenue generation, security and stability of coastal countries.

Governments and local leadership of coastal communities have not adequately leveraged public-private partnerships and other alternative sources of financing for prevention, mitigation and adaptation to climate change. The perspectives of the local population are not well integrated into responses to climate change, as evident in poor fishing practices and non-adherence to regulations and safeguards that help to protect the environment and sea resources. In addition, public education on climate change variability is limited in coastal states. Inadequate knowledge of prevention and mitigation measures has affected the day-to-day livelihoods of local communities. The poor and ineffective methods of managing plastic waste and the pollution of water bodies are further causes for concern. This has a direct impact on the clogging of drainage systems and pollution of metropolitan areas, which contributes to recurrent flooding. There is a need for a greater public understanding of the significance of preserving mangrove forests for the maintenance of the aquatic biodiversity and the ocean ecosystem, which is essential to the effective management of coastal cities and towns.

Recommendations

Based on these analysis, the following recommendations are relevant for response and mitigation:

The Littoral States

- Governments through INTERPOL, the Gulf of Guinea Commission and international partners should intensify collaboration and coordination on intelligence sharing, improve sea patrols, security of sea vessels and counter activities of illegal fishing, child labour and drug trafficking at high sea.

- The Governments through relevant environmental protection agencies should strengthen community environmental structures to adequately respond to threats such as coastal erosion, mangroves destruction and waste management to mitigate their impact on coastal communities.
- The Governments in Senegal and Cote d'Ivoire should intensify implementation of existing policies on plastic waste, while countries without such policy should be encouraged to adapt best practices on plastic waste to prevent the pollution of coastal water bodies and protect aquatic plants and animals that are vital in preserving ocean biodiversity.

International and Regional Partners

- ECOWAS Commission and Member States should intensify implementation of Regional Climate Strategy and Action Plan to integrate and harmonise initiative in response to environmental migration, displacement, protection and preservation of coastal lines in the region.
- International and Regional partners should strengthen engagement with Government and CSOs in fighting IUU fishing and other unsustainable activities through research, advocacy and awareness programmes.
- Encourage and support countries to intensify implementation of policies and enhance transparent structures in fisheries operations including fishing licencing and registry systems in line with applicable international rules that can provide swift verifications by a competent authority in response to law enforcement inquiries.
- Provide support to the maritime forces of INTERPOL member countries that are assisting fisheries enforcement operations of coastal states to offer investigative support and to provide specialised training and analysis for relevant agencies.

The Civil Society Organisation and the media

- There is a need for concerted and sustained public campaigns against environmental threats such as illegal fishing, illegal sand mining, waste disposal and destruction of mangroves among others at the local and national levels by environmental agencies and institutions, traditional authorities, CSOs, NGOs, the media and other relevant advocacy groups.



- CSOs and communities should remain engaged in public awareness, advocacy and research on illegal fishing as a form of transnational and organised crime.
- WANEF, ECOWAS and AU Early Warning System indicators should be reviewed to include the illegal fishing, depletion of mangroves, coastal erosions, and waste disposal as a mechanism to inform policy direction at the national, regional and international levels.
- There is a need to intensify public education and coverage of national and international laws on the sea and maritime resources to assure adherence and collective action on the issues of overexploitation and respect for coastal boundaries, especially around internal waters, territorial waters and the Exclusive Economic Zones.

Conclusion

The impact of climate change on coastal areas of West Africa is exacerbated by the current trend of coastal erosion, rising sea levels, unpredictable rainfall patterns, excess heat, sea encroachment on land, rainstorm and flooding. This demonstrates that climate change is increasingly threatening strategic resource and biodiversity that play important role in the socio-economic lives of populations and ultimate development of littoral

communities and States in the region. This is evident in the depletion of fisheries, food insecurity, displacement of people, environmental migration and destruction of infrastructure among others. Importantly, climate-induced depletion of fisheries has adversely affected employment in small-scale fishing activities, with disproportionate negative impact on livelihoods of women and youth who constitute the majority of populations engaged in the fishing value-chain in coastal communities. Admittedly, there are existing national, regional and international response mechanisms contributing to mitigating the effects of climate change on coastal communities. However, such response strategies are fraught with challenges comprising weak maritime governance; lack of coherence and complementarity of strategies; limited space for local perspectives to be harnessed in responses; inadequate knowledge; and weak state capacity, which all hinder the effectiveness of climate resilience efforts. It has shown that given the already evolving cauldron of insecurity in West Africa largely occasioned by socio-economic and political challenges, rising sea level impact on resources and biodiversity and adverse effects on human security have the potential to aggravate security volatility in the region. Accordingly, addressing the evolving climate change threats to coastal zones critically requires a multi-faceted approach, prioritization and securitization of threats to coastal zones from national and external actors to address the identified gaps in the existing responses to enhance effectiveness and resilience.



The report interprets data in countries of the region where climate change, crime and conflict are serious threats to human security. Therefore, for the sake of analysis, it considers only the absolute value of incidence instead of the values compared to population size of the affected countries.

Thematic REPORT

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