

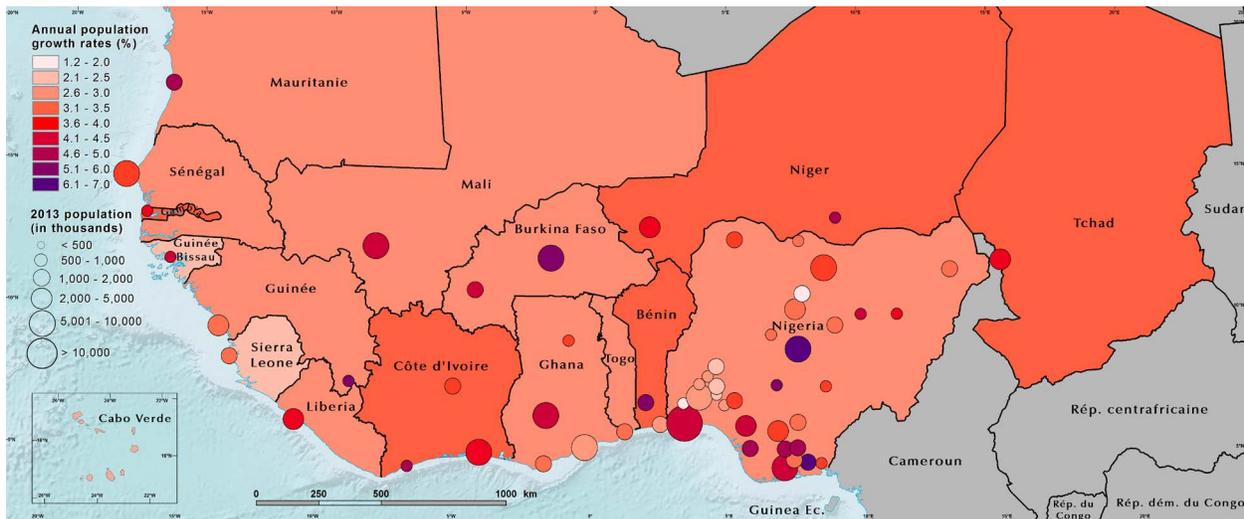


West Africa Coastal Areas Management Program

KNOWLEDGE SHEET 8C | POLITICAL

Governments' role in Safeguarding the West African Coasts from Climate Change

Engaging Public Institutions on Safeguarding West African Coasts from Climate Change.



Population figures in West Africa showing the high population density in the Coastal regions (source: USGS 2015)

- Environmental conditions of the coastal regions in West Africa continue to deteriorate steadily, in part due to rapid population growth and coastal migration and the unsustainable use of natural resources
- Projected increase of flooding in low and coastal areas, which are already undergoing erosion, might severely impact marine ecosystems and coastal livelihoods

- Agricultural production in West Africa accounts for up to 35% of the region's GDP and employs 60% of the workforce. It is mainly rain fed agriculture with only about 4 percent of the total agricultural land irrigated. Flooding from coastal sea level rise will threaten the agricultural production as well as the communities situated on the coast.

- Uncontrolled and spontaneous use of coastal land due to unclear land tenure and lack of regulation
- The construction of hard engineering solutions requires detailed planning (for example in Ghana the construction of immovable structures within the shoreline zone prone to inundation was not sufficiently planned out)
- Development of institutional and individual capacities for addressing the geophysical and socio-economic aspects of coastal vulnerability is key to promoting coastal resilience.

The coastal areas of West Africa represent 31% of the region's population and accounts for 56% of the region's GDP (World Bank, 2016). These coasts host major cities, ports, agro-industries, fisheries, off-shore petroleum exploration and production. An estimated sea level rise of 1m by 2100 could inundate 1,120 km² of land putting an estimated 113 million people at risk in West Africa (UN, 2015). The cost of protecting all densely populated shorelines at risk with seawalls and groins across the West Africa region was estimated at US\$1.14 billion in 2008 (IISD, 2008). However as erosion worsens an increasing number of defense systems need to be built such as the two-phase US\$ 246 million Ada Foah Coastal Defense project in Ghana (2017) or the US\$ 35 million coastline fixation project in Cotonou Benin (2014) (Oirere 2016).

Poor choices regarding the location of infrastructure and breakwaters, limited environmental regulation, and human-induced pollution, coupled with population pressures and overexploitation of coastal natural resources, have led to rapid degradation of coastal ecosystems that in turn further exacerbates the effects of climate change. However, a growing number of decision makers have taken action by introducing environmentally sound risk management policies, initiatives and legislation that take into account prevention and management of the coastal region to demonstrate that climate impacts at coastal regions are reversible. For instance the Mangrove Charter for West Africa that is in place to protect and rehabilitate all of West Africa's mangroves. As well as the Strategic Program for Vulnerability Reduction and Adaptation to Climate Change in West Africa whose overall objective is to develop and strengthen resilience in the West Africa to address climate change and extreme weather events by 2030.

Challenges

The West African coastal region suffers from political and governance challenges to effectively safeguard coastal resilience:

- A lack of enforcement of existing regulations in coastal zone management.
- The need for coordinated mechanisms of monitoring climate change risks.
- A lack of design and implementation of zoning regulations that can protect the local populations in coastal areas that are sensitive to rising sea levels.
- The increasing demand for hydrocarbon extraction in coastal regions of Mauritania, Côte d'Ivoire and Ghana leads to localised sea-level rise (land sink), increased coastal erosion and increased pollution risk. Poor planning and regulation enforcement of these extraction activities presents a serious risk for human-induced changes both at the coastal region and upstream. This trend will, in the long term, concern the entire West African coastline.

Potential Solutions

Regional and international policy and programmes' best practices have demonstrated that specific actions can be taken to bring about significant changes and increase dramatically the resilience of coastal areas to climate change, such as:

- **Integrated regional coastal zone management:** At national level, countries can include climate change and adaptation issues into national coastal zone management policies and initiatives. These can then be unified with national programs from neighboring countries to form cross-boarder programs. In Ghana, which can be considered a forerunner of strengthened national policy and programs, the Government has developed five District ICM Toolkits, a number of technical studies and training events. These fed into policy proposal, as well as practical work in coastal districts.
- **Coastal protection and management of natural coastal ecosystems:** better protection measures and management, coupled with better spatial planning of cities and infrastructure in West Africa, will help to alleviate risks related to sea level rise.
- **Improved national land reforms:** the process of land reforms in West Africa began 20 years ago, with varying degrees of progress and success. Participatory approaches are needed to take better account of the



Coastline Fixation To Prevent Erosion From Siafato To Cotonou East. Photo: Boskalis International

complexity of rights and actors involved. Land policy must be addressed from a regional and cross-border viewpoint in order to better integrate common problems linked to the management of shared natural resources (drainage basins), transhumance livestock production and displaced populations, etc.

- **Improved national and regional mangrove management and restoration:** Togo, for example, has implemented the *National Action Plan for Mangrove Conservation*, including an inventory of mangroves species, a reforestation program, conservation of endangered species, ecotourism and a program of regional cooperation. This Action Plan has resulted in the awareness of nearly 2500 local stakeholders on the need of sustainable management of mangroves; 1200 local stakeholders capacity built in sustainable management of mangroves based on Farmer Field School methodology; The creation of 10 local networks in 10 villages and the creation of the National Forum on Mangroves amongst others (ANCE-Togo. n.d)
- **Identification and prioritization of hotspots for coastal erosion:** For instance in Côte d'Ivoire, a hotspot scoping exercise helped to identify the most vulnerable areas to coastal erosion and to plan activities accordingly.
- **Hard and soft engineering solutions:** The implementation of **hard** (breakwaters etc) and **soft** (dune restoration etc) engineering solutions. For example, the \$85 million (USD) Ghana Keta beach stabilization project for reclamation and flood control was implemented to restore and stabilize a severely eroded portion of the Ghana coastline.

EXAMPLES OF BEST PRACTICE

The international case study in Argentina shows the benefits of producing roadmaps for policy design and monitoring and the power of participatory approaches to bring about sustainable solutions.

Mar del Plata is the third largest urban city/area of the Buenos Aires Province in Argentina. It is a harbour city that has a total population of 600,000 inhabitants. The city has a predominantly tourist profile, in that the population doubles in the summer season coupled with the recent development of a fishing industry, Mar del Plata has been converted into one of the main fishing ports in Argentina. The demand for water increases considerably in the summer season due to tourism. There is an overexploitation of the aquifer under the current structure of water extraction for domestic, commercial and industrial use whereby the municipal management faces a serious problem of water resources management. Storm water drainage discharges into the sea, which affects the water quality at the beaches and the ocean, which consequently affects recreation, fishing and tourism. Flooding during the rainy season coupled with insufficient vegetation cover, causes soil erosion resulting in sediment build-up in the wastewater network, which then does not function efficiently. Sea-level rise

coupled with overexploitation of the aquifer has resulted in saltwater intrusion in the confined aquifers and coastal erosion. To help solve these climate change related issues, local stakeholders were brought together for the first time under the WaterClima LAC project, to implement collaborative agreements to develop systems to share and communicate projections of threats and local climatic events (EU Project WaterClima LAC). The local actors have agreed to:

- Encourage inter-sectorial cooperation for the management of water resources.
- To develop an integrated system to share and communicate projections and threats and small-scale climate events.
- Design Inclusive water management systems through participatory processes.

- Improve access to environmental information to the local public.
- To develop a cost-benefit analysis of the different water treatment alternatives to enable high-level decision making on the best economically and socially viable solution.

These actions contributed to a road map and an action plan agreements that have improved the coordination at local level to climate response including the local communities, business operators and policy makers that have come together to solve their common problem. Strengthening integrated multidisciplinary and participatory approaches for enhanced coastal management will help improve the prospects for sustaining coastal resources and communities.

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The West Africa Coastal Areas Management Program (WACA) is a convening platform that aims to assist West African countries to sustainably manage their coastal areas and enhance socio-economic resilience to the effects of climate change. The program also seeks to facilitate access to technical expertise and financial resources for participating countries.



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Management Program

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