

NATURAL AND HUMAN INDUCED COASTAL HAZARDS AND CHANGES IN WEST AFRICA: NEED FOR A REGIONAL PLAN OF ACTION

by

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Abstract

The coastal zone of West Africa stretches from Mauritania to Cameroun, encompassing a total of 13 countries. The large marine ecosystems in these coastal regions consist of the Canary Current and Guinea ecosystems. The coastal zone consists of barrier/lagoon systems, wetlands, mangrove swamps, marshes, sloughs and estuaries that form major habitats for a wide variety of flora and fauna. The largest wetland in the region is the Niger Delta which is 1,794,000 ha consisting of 617,000 ha of saline and 1,177,000 ha of freshwater swampland. Most of the largest river catchment basins in Africa are found in West Africa. For example the Niger/Benue, Volta and Gambia are major rivers which form major catchment basins, draining the West African pre-Cambrian craton and the coastal areas. The population of Africa is approximately 650 million. According to the World Bank, Africa's coastal population will continue to grow at a rate of no less than 3% per year. With this growth rate, the population in the coastal urban area is expected to double within the next 30 years and by the year 2025, the urban coastal population will increase from a mean of 200 inhabitants/km² to 500 inhabitants/km². The high socio-economic activities within the coastal zone stem from the fact that the coastal zone is blessed with a variety of resources which include fisheries and fauna resources, oil and gas, non-fuel minerals like diamond, sand and heavy minerals, natural habitats such as wetlands, mangroves, estuaries, coastal agricultural land, and recreational and scenic resources including beaches, coastal lagoons and estuaries. Coastal areas of West Africa are presently experiencing coastal degradation in the form of coastal pollution, erosion, siltation, flooding, deforestation, salt-water intrusion and subsidence. Many of these problems are caused or exacerbated by exploitation of coastal resources. Coastal erosion is the most prevalent coastal hazard in West Africa. Annual erosion rates of 25 to 30 m have been observed along the Victoria Beach in Lagos and Cotonou. Although natural causes like low coastal topography, high wave energy and the nature of sediments are responsible for these high rates of erosion, anthropogenic activities such as construction of harbour-protecting structures, jetties, beach sand-mining, construction of dams upstream and deforestation are mostly responsible for the high rates of erosion. Rapid growth of towns and industries in the region has contributed to the clearing of large areas of virgin forest. Cutting down of mangroves for firewood and construction of houses has been blamed for the depletion of about 50% of the mangroves in Nigeria. The need to generate cheap and abundant electricity, water for irrigating dry land and development of inland fisheries led to the damming

of many of the major rivers in the continent. Trapping of sediments behind the dams is depriving the coastal areas of sand. Such deprivation of sediments along the coastline is exacerbating coastal erosion and flooding. In some areas, excessive sediments are being generated as a result of anthropogenic activities. Excessive generation of sediments from upland areas also causes sedimentation downstream. The silting up of Korlee Lagoon in Ghana is a classic example. The Koba coastal rice field in Guinea is also suffering from excessive siltation by sediments generated from the upland areas. Oil exploration, exploitation and other related activities have led to frequent oil spills, deforestation, subsidence and subsequent pollution of the marine environment. Global climate change and associated impacts like sea-level rise and flooding have had serious impacts on the socio-economic activities in West Africa region. The coastal nations of West Africa (e.g. Senegal, Gambia, Sierra Leone, Nigeria, Liberia and Cameroon) have low lying lagoon and erosive coasts and hence are likely to be threatened by sea-level rise. Natural hazards facing West African coastal areas are widespread and need urgent and holistic approach.