I-2 Guinea Current: LME #28

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The geographical boundaries of the Guinea Current LME extend from the intense upwelling area of the Guinea Current in the north, to the northern seasonal limit of the Benguela Current in the south. While the northern border of the Guinea Current is distinct, but with seasonal fluctuations, its southern boundary is less well-defined, and is formed by the South Equatorial Current (Binet & Marchal 1993). Sixteen countries border the LME - Angola, Benin, Cameroon, Congo, Democratic Republic of the Congo, Côte d'Ivoire, Gabon, Ghana, Equatorial Guinea, Guinea, Guinea-Bissau, Liberia, Nigeria, São Tomé and Principe, Sierra Leone and Togo. The tropical climate of the region is influenced by the northward and southward movements of the Inter-Tropical Convergence Zone (ITCZ) associated with the southwest monsoon and the Northeast Trade Winds. This LME covers an area of about 2 million km^2, of which 0.33% is protected, and includes 0.15% of the world's sea mounts and 0.20% of the world's coral reefs (Sea Around Us 2007). Twelve major estuaries and river systems (including the Cameroon, Lagos Lagoon, Volta, Niger-Benoue, Sanaga, Ogooue, and Congo rivers) form an extensive network of catchment basins enter this LME, which has the largest continental shelf in West Africa, although it should be noted that the West Africa's shelf is relatively narrow compared with many other shelves of the World Ocean. A volume on this LME was edited by McGlade *et al*. (2002), while another (Chavance *et al*. 2004) contains numerous accounts on this system. Other articles and reports include Binet & Marchal (1993), UNEP (2004) and Ukwe & Ibe (2006).

I. Productivity

The Guinea Current LME is a Class I, highly productive ecosystem (>300 $gCm^{-2}y^{-1}$). The Guinea Current LME is characterised by seasonal upwelling off the coasts of Ghana and Côte d'Ivoire, with intense upwelling from July to September weakening from about January to March (Roy 1995). Seasonal upwelling drives the biological productivity of this LME, which includes some of the most productive coastal and offshore waters in the world. The cold, nutrient-rich water of the upwelling system is subject to strong seasonal and inter-annual changes (Demarcq & Aman 2002, Hardman-Mountford & McGlade 2002), linked to the migration of the ITCZ. The LME is subject to long-term variability induced by climatic changes (Binet & Marchal 1993). Changes in meteorological and oceanographic conditions such as a reduction of rainfall, an acceleration of winds, an alteration of current patterns, and changes in nearshore biophysical processes might have significant consequences for biological productivity (Koranteng 2001). The coastal habitats and marine catchment basins also play an important role in maintaining the LME's productivity (Entsua-Mensah 2002).

Oceanic fronts (Belkin et al. 2009): Fronts in the Guinea Current occur mainly off its northern coast, in winter and summer (Figure I-2.1). The winter front appears to be the easternmost extension of the coastal Guinea Current that penetrates the Gulf; the front fully develops in January-February, reaching 5°E by March. The summer front emerges largely off Cape Three Points (2°W), usually in July-September, the upwelling season in the Gulf, and sometimes extends up to 200 km from the coast. Wind-induced upwelling develops east of Cape Palmas (7.5°W) and Cape Three Points owing to the coast's orientation relative to the prevailing winds. Current-induced upwelling and wave

propagation also contribute to the observed variability in the Gulf (Ajao & Houghton 1998).

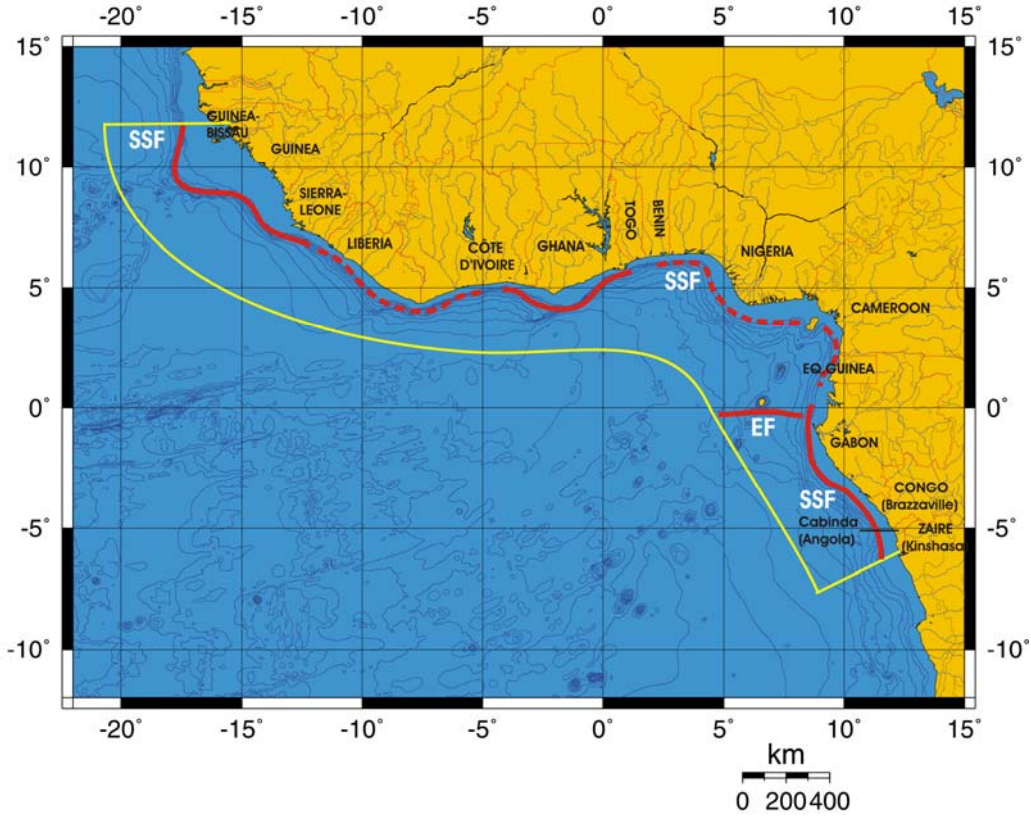

Figure I-2.1. Fronts of the Guinea Current LME. EF, Equatorial Front; SSF, Shelf-Slope Front (solid line, well-defined path; dashed line, most probable location). Yellow line, LME boundary. After Belkin (2009).

Guinea Current LME SST (after Belkin 2009)
Linear SST trend since 1957: 0.58°C.
Linear SST trend since 1982: 0.46°C.

The thermal history of the Guinea Current (Figure 1-2.2) included (1) a relatively stable period until the all-time minimum of 1976; (2) warming until the present at a rate of ~1°C in 30 years. Interannual variability of this LME is rather small, with year-to-year variations of about 0.5°C. The only conspicuous event, the minimum of 1976, cannot be linked to a similar cold event of 1972 in the two adjacent LMEs (Canary Current, Benguela Current) because of the 4-year time lag between the two events, which seems too long for oceanic advective transport of cold anomalies from one LME to another. The only plausible explanation invokes a cold offshore anomaly, probably localized within the equatorial band. Indeed, the North Brazil Shelf LME located on the western end of the equatorial zone saw the all-time SST minimum in 1976, the same year as the all-time minimum in the Guinea Current LME. Since the equatorial zone offers a fast-track conduit for oceanic anomalies, it remains to be seen from high-resolution data if both minima were truly synchronous – hence caused by large-scale (ocean-wide) forcing – or whether this cold anomaly propagated along the equator from one LME to another across the Atlantic Ocean.

The above results are consistent with an analysis of AVHRR SST data from 1982-1991 (Hardman and McGlade, 2002). The latter study has found 1982-1986 and 1987-1990 to be cool and warm periods respectively, with 1984 being exceptionally warm. As can be seen from Hadley data, 1984 was exceeded first by 1988 and then by 1998, when SST reached the all-time maximum probably linked to El-Niño. The SST variability mirrors the upwelling intensity, with strong upwelling in 1982-83, and weak upwelling in 1984 and 1987-1990 (Hardman and McGlade, 2002).

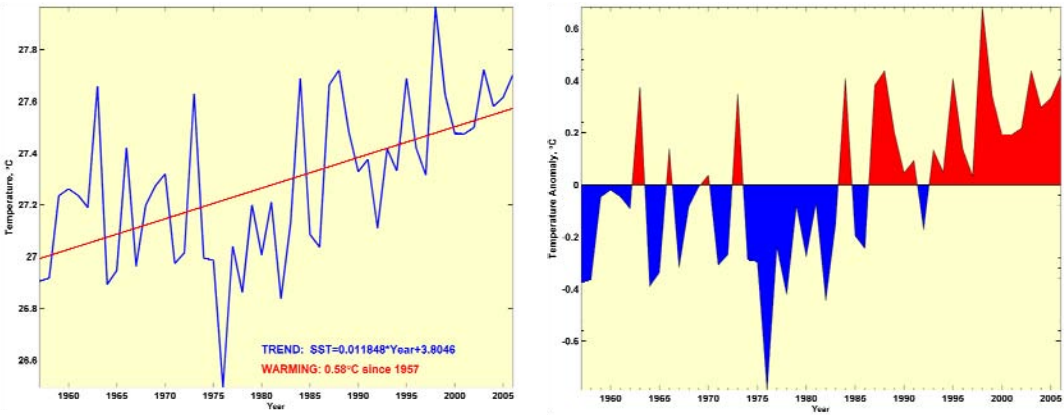

Figure I-2.2 Guinea Current LME mean annual SST (left) and SST anomalies (right), 1957-2006, based on Hadley climatology. After Belkin (2009).

Guinea Current Trends in Chlorophyll and Primary Productivity: The Guinea Current LME is a Class I, highly productive ecosystem (>300 $gCm^{-2}y^{-1}$).

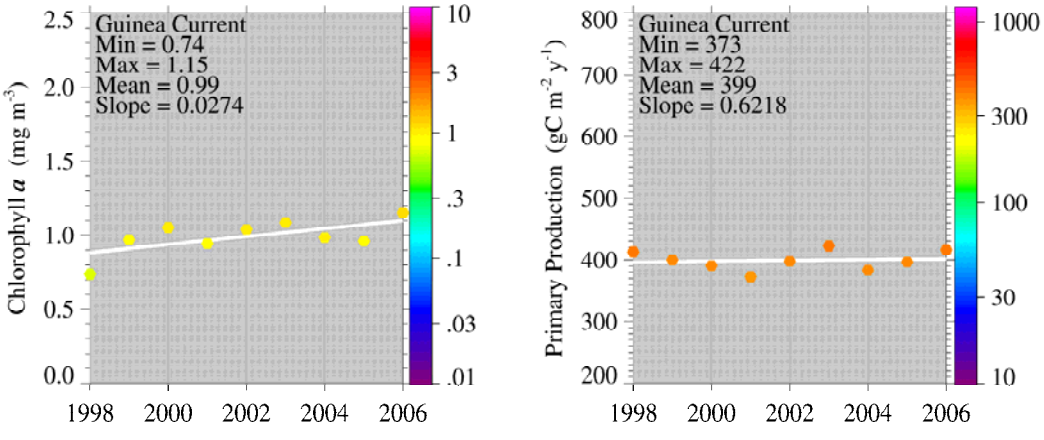

Figure I-2.3 Guinea Current LME trends in chlorophyll *a* (left) and primary productivity (right), 1998-2006. Values are colour coded to the right hand ordinate. Figure courtesy of J. O'Reilly and K. Hyde. Sources discussed p. 15 this volume.

II. Fish and Fisheries

The Guinea Current LME is rich in living marine resources. These include locally important resident stocks supporting artisanal fisheries, as well as transboundary straddling and migratory stocks that have attracted large commercial offshore foreign

fishing fleets. Exploited species include small pelagic fishes (e.g., *Sardinella aurita*, *Engraulis encrasicolus*, *Caranx* spp.), large migratory pelagic fishes such as tuna (*Katsuwonus pelamis*, *Thunnus albacares* and *T. obesus*) and billfishes (e.g., *Istiophorus albicans*, *Xiphias gladius*), crustaceans (e.g., *Penaeus notialis*, *Panulirus regius*), molluscs (e.g., *Sepia officinalis hierredda*), and demersal fish (e.g., *Pseudotolithus senegalensis*, *P. typus*, *Lutjanus fulgens*) (Mensah & Quaatey 2002). Several fishery resource surveys have been conducted in the LME (Koranteng 1998, Mensah & Quaatey 2002), with the Guinean Trawling Survey conducted in 1963-1964 having been the first large-scale survey in West African waters (Williams 1968). Data from this survey have recently been recovered (Zeller *et al.* 2005).

Total reported landings show a series of peaks and troughs, although there has been an overall trend of a steady increase from 1950 to the early 1990, followed by fluctuations with a peak at just over 900,000 tonnes (Figure I-2.4). Due to the poor species break-down in the official landings statistics, a large proportion of the landings falls in the category named 'mixed groups'. The trend in the value of the reported landings increased to a peak of around US$ 1 billion (in 2000 US dollars) in 1991 and thereafter declined considerably until the mid 1990s, before recovering to just over US $800 million (Figure I-2.5). Nigeria and Ghana account for about half of the reported landings in this LME, while European Union countries such as Spain and France, as well as Japan, are among the foreign countries fishing in the LME in recent times. Since the 1960s, high fishing pressure by foreign and local industrial fleets has placed the fisheries in the LME at risk (Bonfil *et al.*1998; Kacynski & Fluharty 2002).

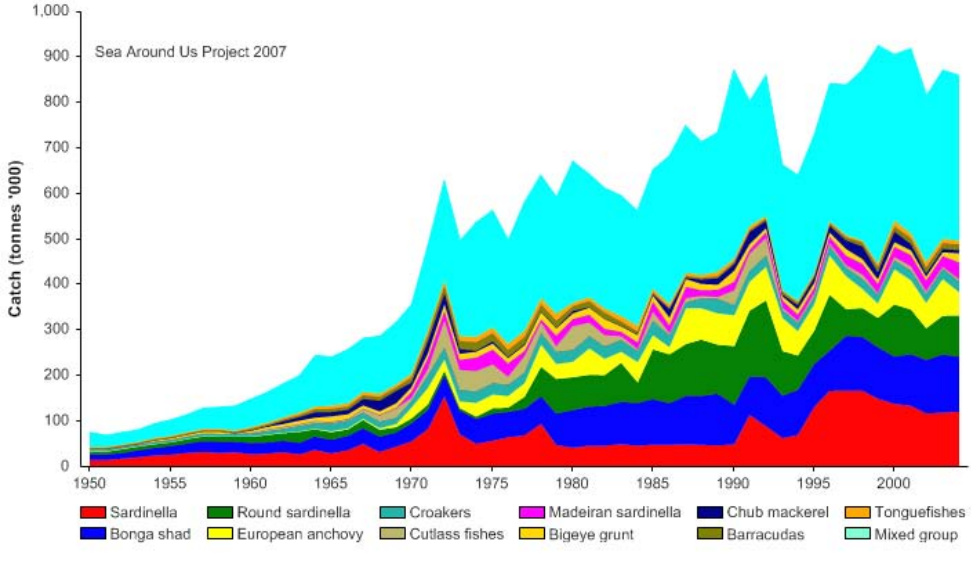

Figure I-2.4. Total reported landings in the Guinea Current LME by species (Sea Around Us 2007).

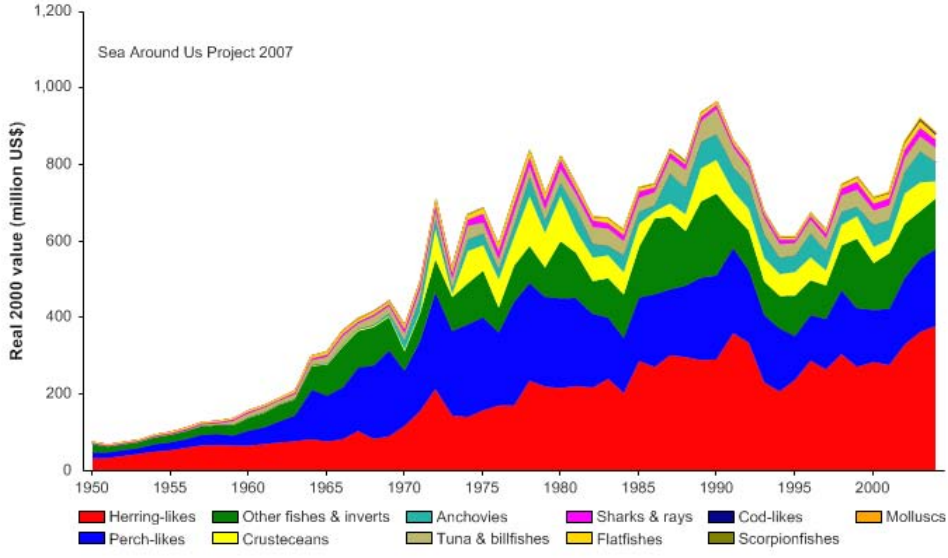

Figure I-2.5. Value of reported landings in the Guinea Current LME by commercial groups (Sea Around Us 2007).

The primary production required (PPR; Pauly & Christensen 1995) to sustain the reported landings in the LME reached 9% of the observed primary production in the early 1990s and has fluctuated between 6 to 9% (Figure I-2.6). Nigeria and Ghana account for the two largest ecological footprints in the LME.

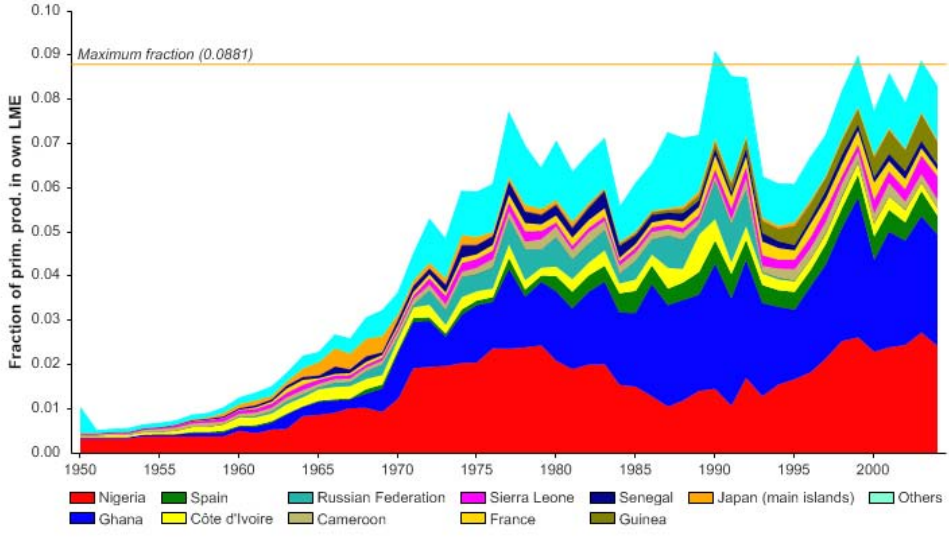

Figure I-2.6. Primary production required to support reported landings (i.e., ecological footprint) as fraction of the observed primary production in the Guinea Current LME (Sea Around Us 2007). The 'Maximum fraction' denotes the mean of the 5 highest values.

Since the mid 1970s, the mean trophic level of the reported landings (i.e., MTI; Pauly & Watson 2005) has declined (Figure I-2.7 top), an indication of a 'fishing down' of the local food webs (Pauly *et al*. 1998). The FiB index, on the other hand, has remained stable

(Figure I-2.7 bottom), suggesting that the increase in the reported landings over this period has compensated for the decline in the MTI (Pauly & Watson 2005).

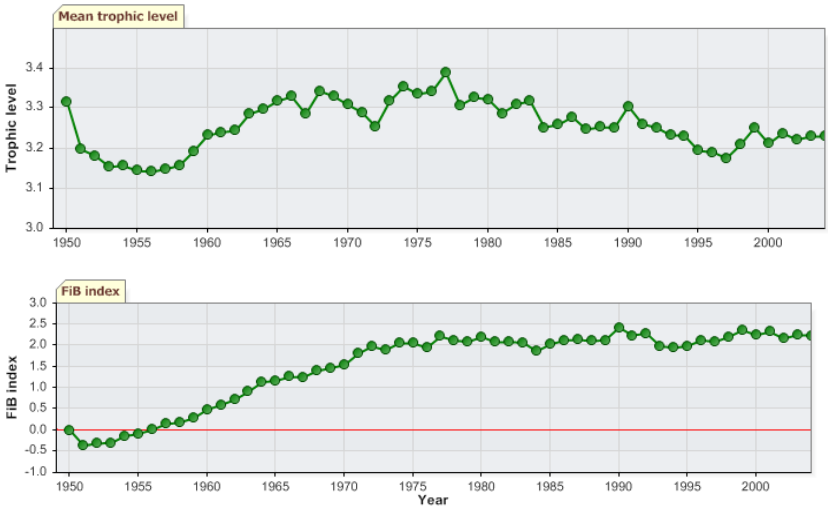

Figure I-2.7. Trophic level (i.e., Marine Trophic Index) (top) and Fishing-in-Balance Index (bottom) in the Guinea Current LME (Sea Around Us 2007).

The Stock-Catch Status Plots show that fisheries on collapsed stocks are rapidly increasing in numbers (Figure I-2.8, top). However, the catch is still overwhelmingly supplied by stocks in the fully exploited category (Figure I-2.8, bottom), which account for just under 30% of the stocks.

While some fish stocks such as skipjack tuna, small pelagic fish in the northern areas of the Gulf of Guinea, and offshore demersal fish and cephalopods are underexploited (Mensah & Quaatey 2002), the level of exploitation was found to be significant in this LME (UNEP 2004). The Guinea Current LME TDA (see Governance) has identified the decline in fish stocks and unsustainable fishing as a major transboundary problem (UNIDO/ UNDP/ UNEP/ GEF/ NOAA 2003) and reviews of the status of the LME's fisheries resources indicate that several fish stocks are either overexploited or close to being fully exploited (Ajayi 1994, Mensah & Quaatey 2002). These include small pelagics and shrimps in the western and central Gulf of Guinea and coastal demersal resources throughout the LME. There is also evidence of depletion of straddling and highly migratory fisheries stocks, with heavy exploitation of yellow-fin and big-eye tunas (Mensah & Quaatey 2002). Overexploitation has resulted in declining stock biomass and catch per unit effort (CPUE), particularly for inshore demersal species, and this decline has been attributed to trawlers operating in inshore areas (Koranteng 2002, Koranteng & Pauly 2004).

The use of small-sized mesh, especially in trawl, purse and beach seine nets is a widespread problem, especially in the central part of the region. This practice leads to excessive bycatch, but because these catches, mainly of juvenile fishes, are generally utilised, they are discarded only in a few fisheries (e.g., the shrimp fishery). Other destructive fishing practices such as the use of explosives and chemicals are also common in the inshore areas (e.g., see Vakily 1993).

There are indications that overexploitation has altered the ecosystem as a whole, with impacts at all levels, including top predators. Species diversity and average size of the

most important fish species have declined as a result of overexploitation (Koranteng 2002, FAO 2003). Strong patterns of fish variability in the LME are thought to be related to strong interactions between species or communities, as well as to environmental forcing (Cury & Roy 2002). The influence of environmental variability on fish stock abundance and distribution in the LME has been demonstrated, for example, by Williams (1968), Koranteng *et al*. (1996), and Roy *et al*. (2002). Several oceanographic features that influence fish recruitment have also been identified (Hardman-Mountford & McGlade 2002). For instance, the abundance and distribution of small pelagic fish species are controlled mainly by the intensity of the seasonal coastal upwelling, which also determines the period of the main fishing season (Bard & Koranteng 1995).

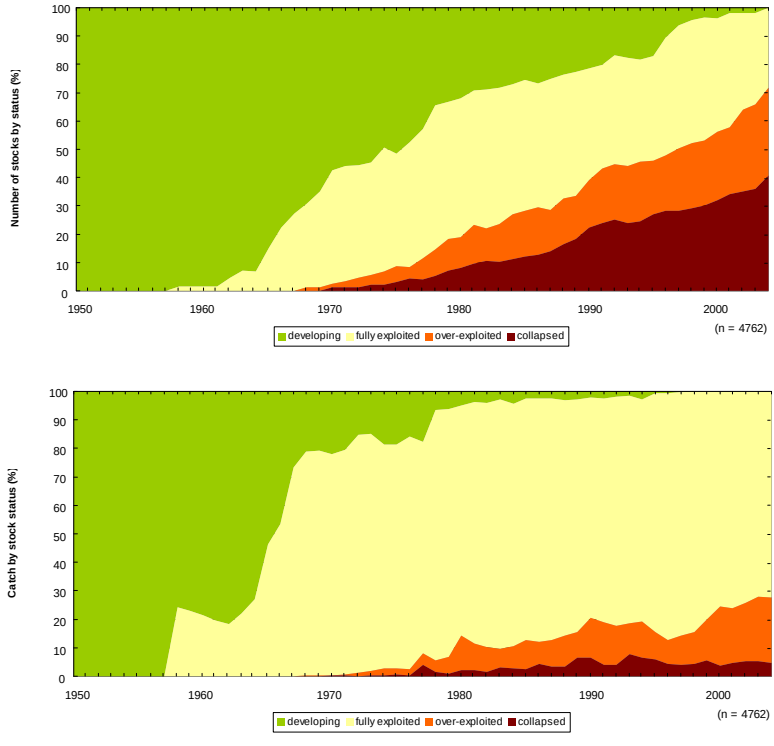

Figure I-2.8. Stock-Catch Status Plots for the Guinea Current LME, showing the proportion of developing (green), fully exploited (yellow), overexploited (orange) and collapsed (purple) fisheries by number of stocks (top) and by catch biomass (bottom) from 1950 to 2004. Note that (n), the number of 'stocks', i.e., individual landings time series, only include taxonomic entities at species, genus or family level, i.e., higher and pooled groups have been excluded (see Pauly *et al.*, this vol. for definitions).

The most significant changes in species abundance are reflected in sardinella (*Sardinella aurita*) and triggerfish (*Balistes capriscus*). The sardinella fishery experienced a collapse in 1973, and was followed by a vast increase in the abundance of triggerfish between 1973 and 1988. The decline of the triggerfish after 1989 was followed by an increase of the sardinella to unprecedented levels during the 1990s (Binet & Marchal 1993, Cury & Roy 2002). Koranteng & McGlade (2002) attributed the almost complete disappearance of the triggerfish after the late 1980s to environmental changes and an upwelling intensification off Ghana and Côte d'Ivoire. The highly variable environment of the Guinea Current LME contributes to uncertainty regarding the status of fisheries stocks and yields which is likely to increase considering the impact of global climate change (UNIDO/UNDP/ UNEP/ GEF/ NOAA 2003). Therefore, environmental variability must be

considered in the sustainable use and management of the region's fisheries resources. Cooperation among the countries bordering this LME in the management of the fisheries resources would help to improve the fisheries situation in the future.

III. Pollution and Ecosystem Health

Pollution: LMEs have experienced various stresses as a result of the intensification of human activities. The coastal and marine environments of the Guinea Current are seriously polluted in the vicinity of large cities (Scheren & Ibe 2002). An assessment of the state of the environment with respect to the GPA land-based sources of pollution in this region is given by Gordon & Ibe (2006). More than 60% of existing industries are concentrated in the coastal areas and an estimated 47% of the population lives within 200 km of the coast. Pollution from land-based sources is particularly important, and together with sea-based sources, has contributed to a deterioration of water quality in the bordering countries. The TDA has identified the deterioration of water quality from land and sea-based activities as one of the four broad environmental problems in the LME (UNIDO/UNDP/UNEP/GEF/NOAA 2003). Overall, pollution was assessed as moderate, but more serious in coastal hotspots associated with the larger coastal cities (UNEP 2004). Despite being mainly localised, pollution also has transboundary impacts in this LME through the transport of contaminants by wind and water currents along the coast.

Sewage is one of the main sources of coastal pollution in the LME (UNEP 1999) and arises from generally poor treatment facilities and widespread release of untreated sewage into coastal areas (Scheren & Ibe 2002). Microbiological pollution is localised around coastal cities and remains a problem in terms of human health. Organic pollution from domestic, industrial and agricultural wastes has resulted in eutrophication and oxygen depletion in some coastal areas (Awosika & Ibe 1998, Scheren & Ibe 2002). While the incidence of eutrophication is not widespread and tends to be episodic, there are instances of continuous and persistent causes of eutrophication in large coastal water bodies (e.g., the Ebrié Lagoon in Abidjan). The increasing occurrence of HABs is of concern to the bordering countries (Ibe & Sherman 2002). Pollution from solid waste originating from domestic and industrial sources and offshore activities is severe across the entire region, with the enormous bulk of solid waste produced daily being a serious threat. Pollution from suspended solids is moderate along the coast, and arises mainly from soil loss from farms and deforested areas. Although much of the silt is trapped in dams and reservoirs, this has caused extensive siltation of coastal water bodies.

Chemical pollution is serious in coastal hotspots. Some chemical contaminants enter the aquatic environment through the use of pesticides, agro-chemicals including persistent organic pollutants (POPs) and as industrial effluents. Large quantities of residues (e.g., phosphate, mercury, zinc) from mining operations are discharged into coastal waters. Oil production is an important activity in some of the countries, especially Nigeria, and most of these countries have important refineries on the coast, only a few of which have proper effluent treatment plants. Moreover, the LME's coastline lies to the east and downwind of the main oil transport route from the Middle East to Europe. Pollution from spills is significant, and arises mainly from oil spills from production points, loading and discharge points and from shipping lanes. Significant point sources of marine pollution have been detected around coastal petroleum mining and processing areas, releasing large quantities of oil, grease and other hydrocarbon compounds into the coastal waters of the Niger delta and off Angola, Cameroon, Congo and Gabon. It is estimated that about 4 million tonnes of waste oil are discharged annually into the LME from the Niger Delta sub-region (UNIDO/ UNDP/ UNEP/ GEF/ NOAA 2003). Much of the oil found on beaches originates from spills or tank washing discharged from tankers in the region's ports (Portmann *et al*.1989). Because of the wind and ocean current patterns in the

Guinea Current LME, any oil spill from the offshore or shore-based petroleum activities could easily become a regional problem.

Habitat and community modification: The Guinea Current LME is interspersed with diverse coastal habitats such as lagoons, bays, estuaries and mangrove swamps. Besides being important reservoirs of biological diversity, these habitats provide spawning and breeding grounds for many fish, including transboundary species and shellfish in the region, and therefore are the basis for the regenerative capacity of the region's fisheries (Ukwe *et al*. 2001). Both anthropogenic activities and natural processes threaten these habitats. Although this is mainly localised, there are transboundary impacts related to migratory and straddling fish stocks that may use these habitats as spawning and nursery grounds.

It is estimated that 30% of habitat modification has been caused by natural processes, including erosion and sedimentation due to wave action and strong littoral transport. Coastal erosion is the most prevalent coastal hazard in the LME. Human activities, on the other hand, are thought to be largely responsible for habitat modification in this LME (UNEP 1999). Habitat and biodiversity loss due to hydrocarbon exploration and exploitation is significant. Many coastal wetlands have been reclaimed for residential and commercial purposes, with accompanying loss of wetland flora and fauna. The introduction of exotic species is also recognised as a transboundary problem (UNIDO/UNDP/UNEP/GEF/NOAA 2003).

Mangroves and estuaries have suffered the most losses, followed by sandy foreshores and lagoons. The LME has large expanses of mangrove forests (the mangrove system of the Niger Delta is the third largest in the world). However, these mangrove forests are under pressure from over-cutting, conversion into agricultural farms or saltpans, erosion, salinity changes, and other anthropogenic impacts (e.g., pollution). About 60% of Guinea's original mangroves and nearly 70% of the original mangrove vegetation of Liberia is estimated to be lost (Macintosh & Ashton 2002). The grass *Paspalum vaginatum* is replacing the original mangrove vegetation in these countries. In other areas the extent of mangrove destruction is: 45% in the Lake Nokoue area (Benin), 33% in the Niger delta (Nigeria), 28% in the Warri Estuary (Cameroon) and 60% in Côte d'Ivoire. Dam construction has led to reduction of freshwater and sediment discharge in the lower estuarine reaches of the rivers and altered the extent of intrusion of the estuarine salt wedge inland. This has important ecological effects on the flora and fauna of the coastal habitats.

Climate change is expected to also lead to habitat modification and loss. The IPCC (2001) has reported that Africa is highly vulnerable to climate change and sea level rise. Studies conducted in Nigeria estimated that over 1,800 km^2, or 2% of Nigeria's coastal zone, and about 3.68 million people would be at risk from a 1 m rise in sea level (Awosika *et al*. 1992). Moreover, Nigeria could lose over 3,000 km^2 of coastal land from floods and coastal erosion by the end of the 21st Century. Sea level rise would result in modification or loss of flora, fauna and biodiversity in flooded lands and coastal habitats, particularly in brackish waters (Ibe & Ojo 1994).

The LME is an important reservoir of marine biological biodiversity and has natural resources of global significance. Green, leatherback, hawksbill, loggerhead and olive ridley turtles are found in the LME. The LME is also inhabited by marine mammals (whales, dolphins, and manatees), among which are the Atlantic humpback dolphin and the African manatee, both of which appear on the IUCN Red List of endangered species (IUCN 2002). The humpbacked dolphin is classified as highly endangered and the

African manatee as vulnerable under the Convention on International Trade of Endangered Species (CITES).

IV. Socioeconomic Conditions

The 16 countries bordering the Guinea Current LME have an estimated total population of 300 million. At the present rate of population growth, this is expected to double in 20-25 years. Approximately 47% of the people live within 200 km of the coast (GIS analysis based on ORNL 2003). Rapid expansion of coastal populations with areas of high population densities has resulted from high population growth rates and movements between rural and urban areas (UNEP 1999). In addition, many of the region's poor are crowded in the coastal areas for subsistence activities such as fishing, farming, sand and salt mining and production of charcoal.

The Guinea Current LME and its natural resources represent a source of economic and food security for the bordering countries. In addition to being of major importance for food security in this region, fisheries also provide employment for thousands of people and are a substantial source of foreign exchange for countries such as Angola, Côte d'Ivoire, Ghana, and Guinea. A large proportion of the population could potentially be affected by overexploitation of fisheries (UNEP 2004). A reduction in the size and quality of the fish catch has widespread socioeconomic impacts, since more than 500,000 men and women along the coast from Mauritania to Cameroon are employed in the artisanal fishery (Bortei-Doku Aryeetey 2002). In Ghana, the national fish requirement has been estimated at 794,000 tonnes for a population of about 17.9 million, but fisheries production in 1998 achieved only 57% of the required volume (Akrofi 2002).

Over the past three decades, there has been evidence of reduced economic returns, loss of employment and user conflicts between artisanal and large commercial trawlers for access to the fishery resources (ACOPS/UNEP 1998). Côte d'Ivoire reported losses of about US$80 million in 1998 due to decreased fishing activities. This loss was attributed to the degradation of the coastal zone and its resources (GEFMSP/ACOPS/UNESCO 2001). The overexploitation of transboundary and migratory fish by offshore foreign fleets is having a detrimental effect on artisanal fishermen as well as on those coastal communities that depend on the near-shore fisheries resource for food. Local communities are at risk if artisanal fishing cannot proceed. This becomes particularly serious in the context of exploding demographics in the coastal areas and the fact that most of the fish catch is exported out of the region where all the countries, except Gabon, were classified by the FAO as Low Income Food Deficit Countries in 1998 (FAO 2002).

The socioeconomic impacts of pollution and habitat degradation include loss of recreational resources, pollution of food sources, decline in living coastal resources, and subsequent loss of subsistence livelihoods and reduction in food security and economic activity. In addition, increased pressure on governments to produce alternative livelihoods, and political instability at local or national levels may also arise. Coastline erosion also causes some concern because of the threat to coastal settlements, tourist infrastructure, agricultural and recreational areas, harbour and navigation structures, and oil producing and export handling facilities. The costs of coastal protection and habitat restoration can be high. For example, the restoration of the Korle Lagoon in Ghana has cost the government nearly US$65 million (Government of Ghana 2000). Public health risks from the presence of sewage pathogens and HABs are of concern. The cost of treatment of water-borne diseases is significant. For example, the Korle Lagoon Ecological Restoration Project (Government of Ghana 2000) estimated the cost of treatment to range from US$10 to US$50 per person, depending on the duration and intensity of the disease.

V. Governance

The countries bordering the Guinea Current LME participate in numerous bodies that work together on various aspects of coastal degradation and protection of living marine resources. The LME comes under the UNEP Regional Seas Programme for the West and Central Africa Region (see the Benguela Current LME for more information). They have adopted several international environmental conventions and agreements, among which is the Abidjan Convention and the Dakar Convention.

Mechanisms to provide regional collaboration on transboundary issues in the form of a regional coordination unit, and regionally agreed environmental quality standards and monitoring protocols and methods have been limited. These and other environmental issues are being addressed through joint projects. The GEF-supported Guinea Current Large Marine Ecosystem Project (Ibe & Sherman 2002, Ukwe *et al*. 2006) is an ecosystem-based effort to assist countries adjacent to the Guinea Current LME to achieve environmental and resource sustainability by shifting from short-term sector-driven management objectives to a longer-term perspective and from managing commodities to sustaining the production potential for ecosystem-wide goods and services (www.chez.com/gefgclme/). The pilot phase of this project (Water Pollution Control and Biodiversity Conservation in the Gulf of Guinea Large Marine Ecosystem) involved Côte d'Ivoire, Ghana, Togo, Benin, Nigeria and Cameroon, and ended in November, 1999. In 1998, the Ministerial Committee of this pilot project signed the Accra Declaration on Environmentally Sustainable Development of the Guinea Current LME, as an expression of their common political will for the sustainable development of marine and coastal areas of the Gulf of Guinea.

The second phase of this project 'Combating Living Resource Depletion and Coastal Area Degradation in the Guinea Current LME through Ecosystem-based Regional Actions', has extended the pilot phase to include 10 additional countries (Angola, Congo Brazzaville, Congo-Kinshasa, Equatorial Guinea, Gabon, Guinea, Guinea-Bissau, Liberia, São Tomé and Príncipe, and Sierra Leone). This phase includes the preparation of a TDA and a SAP. A project goal is to build capacity of the countries to work jointly and in concert with other nations, regions and with GEF projects in West Africa to define and address priority transboundary environmental issues within the framework of their existing responsibilities under the Abidjan Convention and the UNEP Regional Seas Programme. The Ministers of Environment of Angola, Benin, Cameroon, Congo, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria, Sao Tome and Principe, Sierra Leone and Togo, gathered in Abuja, Nigeria, 21 – 22 September, 2006 on the occasion of the First Meeting of Ministers responsible for the implementation of the Guinea Current Large Marine Ecosystem (GCLME) Project; the Ministers signed the Abuja Declaration on 22 September, establishing the framework for an Interim Guinea Current Commission. The Interim Commission was brought into force on 22 September 2006 in Abuja, Nigeria, and is presently operating from Accra, Ghana. The focus of the Interim Commission is on achieving sustainable development through integration of environmental concerns in planning,accounting and budgeting, building capacity through multi-sector participation, management of transboundary water bodies and living resources of land, forests and biodiversity conservation, and development of information and data exchanges.

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