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## An overview of the large marine ecosystem programs at work in Africa today



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### ABSTRACT

This paper highlights the efforts of four African Large Marine Ecosystem (LME) (Agulhas and Somali, Benguela, Canary and Guinea Current LME) Programs, which are in various stages of implementation across the continent are making in adapting and integrating the LME approach into diagnostic and strategic documents required by the Global Environment Facility (GEF) and using these documents to restore and manage the LMEs. The African LMEs are some of the most productive in the world and are shared by 33 coastal states and 600 million people. The total economic value of environmental goods and services from these LMEs is estimated at US\$139 billion per year; while the total production of capture fisheries in 2013 was 5698 million tonnes. Countries sharing each LME have adopted a phased approach and systematic process in applying the LME approach. Strategically important advancements are being made by the Programs in regional policy and institutional harmonization, science and capacity building through the implementation of science projects, the conduct of environmental monitoring and offshore research cruises; economic valuation of the goods and services in the respective LMEs and training scientists and technicians on the key transboundary concerns. The Benguela Current Commission, the world's first LME-based institution was established by treaty and is functional. Institutional arrangements also exist for the GCLME and ASCLME. While limited in scope, the outputs serve to sensitize, engender confidence, strengthen capacity and empower stakeholders about the importance of the LMEs and the need to promote coordinated and integrated approach in their management.

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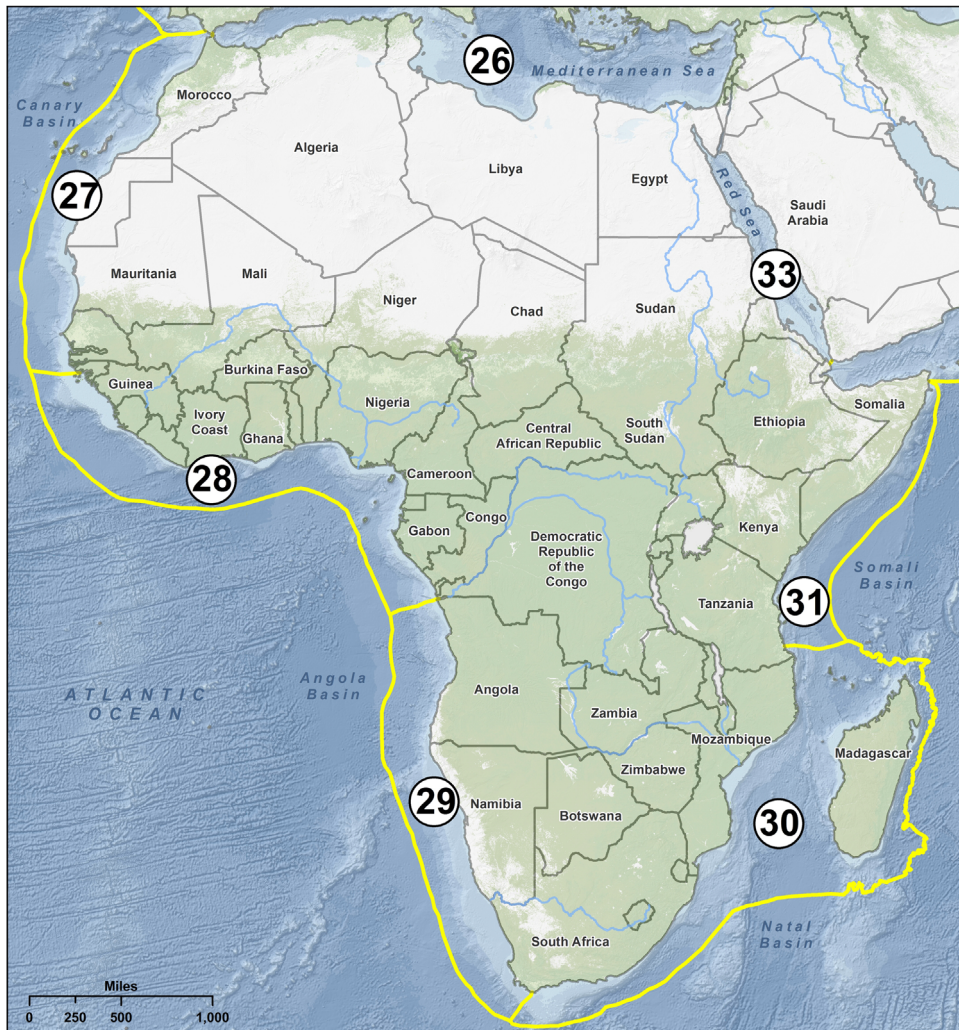
### 1. Introduction and context

Sixty-four Large Marine Ecosystems (LMEs) have been identified in the coastal waters of the Atlantic, Indian and Pacific Oceans (Sherman and Hempel, 2009). Five of these LMEs are in Sub-Saharan Africa (SSA), referred hereafter as “African LMEs”. They are:

- The Agulhas Current LME and the Somali Current LME which for operational reasons are combined and represented as the Agulhas and Somali Current Large Marine Ecosystems (ASCLME): [www.asclme.org](http://www.asclme.org)
- The Benguela Current Large Marine Ecosystem (BCLME): [www.benguelacc.org](http://www.benguelacc.org)
- The Canary Current Large Marine Ecosystem: (CCLME): [www.canarycurrent.org](http://www.canarycurrent.org)
- The Guinea Current Large Marine Ecosystem (GCLME): [www.gclme.org](http://www.gclme.org)

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**Fig. 1.** Location of African LMEs discussed in the text and their map numbers in parentheses as depicted in the World Map of Large Marine Ecosystems, <http://lme.edc.uri.edu/images/Content/Downloads/DigitalMaps/LME66.pdf>: Canary Current LME (27), Guinea Current LME (28), Benguela Current LME (29), and Agulhas Current (30) and Somali Coastal Current (31) LMEs.

These African LMEs include 33 coastal states and 600 million people (LME News, 2011) (Fig. 1).

The Large Marine Ecosystems concept, a methodology for monitoring, assessing and sustainably managing marine resources whereby information reflecting the changing health and condition of a marine ecosystem's environmental and human elements guides the adoption of policy and management actions through an adaptive approach, has been used since the mid-1980s to investigate the problems affecting the world's coastal and marine ecosystems and to formulate effective management interventions (Sherman and Hempel, 2009).

This paper highlights efforts African LME Programs are making to restore and manage these LMEs through the adoption of science-driven, ecosystem-based approaches to ocean governance.

In Africa, the GCLME Program pioneered the application of the ecosystem approach in the coastal waters of six countries from Côte d'Ivoire to Cameroon in the mid-1990s. Thereafter the activities were extended to cover the 16 coastal States from Guinea Bissau to Angola that share the GCLME (Humphrey and Gordon, 2012; UNDP, 2013). The application of ecosystem approach to ocean governance was later introduced to the BCLME in 2002, ASCLME in 2008 and the CCLME in 2010. The BCLME Program was preceded by the Benguela Environment Fisheries Interaction and Training (BENEFIT) Program. Launched in 1997 with support from a number of international partners-including FAO, BENEFIT was aimed to better understand the fluctuating marine resources, develop the capacity of local scientists and provide system-wide data and information (Benguela News, 2014a).

The main sources of funding for the LME Programs are GEF and the World Bank, appropriations of general tax revenues by coastal governments and contributions from donors to specific LMEs. The Programs are implemented in partnership with four United Nations agencies (FAO, UNDP, UNEP and UNIDO).

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