

## ORGANIZATION PROFILE



Name of organization	CORDIO East Africa
Type of organization	Company Limited by Guarantee (not-for-profit organization), Companies Act (Cap. 486), Kenya Registration number: 101783 (23 January 2003)
Address of organization	#9 Kibaki Flats, Kenyatta Beach, Bamburi Beach P.O.BOX 10135 Mombasa 80101, Kenya www.cordioea.org
Contact person	David O. Obura; Mobile: +254-715 067417; email: <a href="mailto:dobura@cordioea.org">dobura@cordioea.org</a> (no fax)

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This organization profile is submitted to the Eighth Session of the Intergovernmental Oceanographic Commission's Regional Committee for the Western Indian Ocean (IOCWIO-VIII), held from 24 – 27 May 2011, Grand Baie, Mauritius, with apologies for CORDIO's absence.

Through it we wish to present our main activities to the conference and delegates to foster increased collaboration in these areas. CORDIO is increasingly focusing on developing regional research projects oriented at key questions of importance to the region, and that can result in regional outputs and contributions to regional datasets and information bases. We welcome suggestions from the conference for how to do this for improved integration into UNESCO-IOC processes and programmes, and to work more closely with institutions present.

## Principal projects

### ***Western Indian Ocean - core biodiversity region. Is there a western Indian Ocean "coral triangle"?***

This study will investigate the oceanography of the WIO region to determine if diversity-promoting processes are active, document levels of diversity as given by species distributions of reef building corals and reef fish, and estimate ecosystem resilience of coral reefs of the region. The study will determine the relative health of reefs in different countries of the WIO and how they have been affected by and how are they responding to climate change which is causing wide scale coral bleaching and mortality. The possible influence of historical tectonic and sea level changes on the oceanography and evolutionary history behind current biogeographic patterns is also being assessed. The assessment involves diving based underwater surveys using a coral reef resilience protocol which defines a reef's ability to resist and/or recover from bleaching. Management recommendations from this research are directly relevant to fisheries management and conservation planning to mitigate the effects of climate change on coral reefs.

Principal partners – University of Cape Town (Oceanography Dept), South African Environmental Observation Network (SAEON)

Funding – \$ 200,000 over 2 years, Marine Science for Management program, WIOMSA

### ***Incorporating reef fish spawning aggregations into optimal design of no-take fisheries reserves.***

The goal of this project is to strengthen fisheries management and hence coral reef resilience to climate change in the Western Indian Ocean.

The project is working in Kenya, Zanzibar and Seychelles. The results are designed to feed into community-based collaborative fisheries management as well as government led fisheries management. The premise is that protecting spawning aggregations of reef fishes will contribute significantly to sustainable fisheries management. Fish play a key role in helping coral reefs resist and recover from coral bleaching. Managing the extraction of fish is therefore a key element in mitigating the impacts of climate change in the coastal zone.

Principal partners – Seychelles Fishing Authority, Kenya Marine and Fisheries Research Institute (KMFRI), Institute of Marine Science (Zanzibar)

Funding – \$ 125,000 over 2 years, Marine Science for Management program, WIOMSA

### ***Promoting Sustainable and Responsible Fishing in Kenya***

The goal of this project is to assess the impacts of artisanal fishing gears on the Kenyan coast and to recommend best practise fisheries management options to help turn around declines, illegal fishing gears and general reef degradation. The relevance of this work to climate change is that one of the pillars of managing coral reefs under the pressure of climate change is to better manage the fisheries on coral reefs. Fish play a key role in helping reefs resist and recover from coral bleaching. This project also advocates for sustainable and responsible fishing practices.

*Principal partners* – Ministry of Fisheries Development – Fisheries Department; CBOs: Kenya Sea Turtle Conservation and Management Trust; Watamu Marine Association (WMA); Diani Chale Management Trust (DCMT)

*Funding* – \$ 100,000 over 18 months, USAID

### ***Adapting to climate variability***

The goal of this project is to develop tools for building social adaptation to climate change, on time scales relevant to peoples' daily lives (weeks to seasons), based on predictions of the risk of climate impacts on this time scale. The project focuses on coastal communities in southern Kenya and northern Tanzania, stretching from the Tana River in the north to Tanga District in the south. This region is consistent geomorphologically, and the coastal climate outlooks developed for the Kenyan coast will be relevant to the adjacent coast in Tanzania. The coastal settlements and communities are similar, with a mix of fishing, farming and small business livelihoods. The project aims to predict risks, assess social vulnerability, identify and support opportunities for adaptation.

*Principal partners* – Kenya Meteorology Dept, University of Cape Town (Oceanography Dept)

*Funding* – \$ 150,000 over 2 years, Marine Science for Management program, WIOMSA,

### ***Measuring ecological resilience and coral bleaching forecasts***

CORDIO, in partnership with IUCN and The Nature Conservancy, is leading the coral reef resilience survey protocol for assessing climate change impacts on coral reefs and how to manage them. CORDIO Director, Dr David Obura, is the Chair of the coral reef climate change resilience group (CCCR).

Production of regional bleaching alerts since 2006 (see [www.iucn.org/cccr](http://www.iucn.org/cccr) and [www.cordioea.org/bleachingalert](http://www.cordioea.org/bleachingalert)),

*Funding* – \$ 550,00 over 3 years, Macarthur Foundation to IUCN, partial funding to CORDIO.

### ***Marine spatial planning, GIS and ocean datasets***

This is a cross-cutting unit within CORDIO that is orientated towards managing our emerging regional datasets and analyses, and using them in a marine spatial planning framework. The unit was established with a software grant of ArcInfo from ESRI, with further development and training through ODINAFRICA and collaborations being developed with ASCLME and SERVIR Africa.

## **History of the organization**

Coastal Oceans Research and Development (CORDIO) is a regional research-based not-for-profit organisation focused on marine and coastal ecosystems in the Western Indian Ocean. CORDIO was initiated in 1999 as a direct response to the El-Niño caused mass bleaching and mortality of

corals in the Indian Ocean in 1998, with funding support through SIDA-Sarec (Sweden). CORDIO has coordination nodes in Sweden, Sri Lanka and Seychelles, with the primary coordination secretariat in Kenya. CORDIO East Africa (EA) was registered in 2003 in Kenya as a company, limited by guarantee, under the laws of Kenya and has an office in Mombasa and Nairobi.

CORDIO East Africa's mission is to generate and share scientifically sound knowledge for developing solutions to the problems and challenges facing coastal and marine environments and people in the Western Indian Ocean.

CORDIO EA's objectives are to:

- 1) conduct research on coastal and ocean ecosystems relevant to conserving, sustaining and restoring healthy and productive marine environments
- 2) strengthen social and economic assessment and research to support Integrated Coastal Management, poverty alleviation and sustainable development
- 3) foster integration of science, practice and policy at local, national and regional levels
- 4) educate and build the capacity of coastal people to improve their livelihoods and long term well-being
- 5) build human and technical capacity, and foster networking and partnerships to develop solutions to marine and coastal problems

To address these objectives CORDIO works to define processes, biodiversity and resource use in marine ecosystems in the WIO and to assess ecological and socio-economic impacts of human activities including fishing and climate change. CORDIO has a strong focus on indicators and long term monitoring and assessment to monitor trends in key coastal environmental indicators. These long term trends are published in CORDIO's WIO Status Reports, which also extend to the northern Indian Ocean, including Maldives, Sri Lanka, India and Indonesia.

### **Type of available resources**

Specialised scientific staff with expertise in fisheries and coral reef fish ecology research relevant to developing action planning for climate change mitigation and adaptation; databases on fisheries and coral reefs in Kenya that span 10 years; scientific expertise in house, from biological, socio-economic and education that spans over 20 years and ranges across the Pacific and Indian Ocean.

### **Nature of support received**

Direct grants

### **Operation area (include regional)**

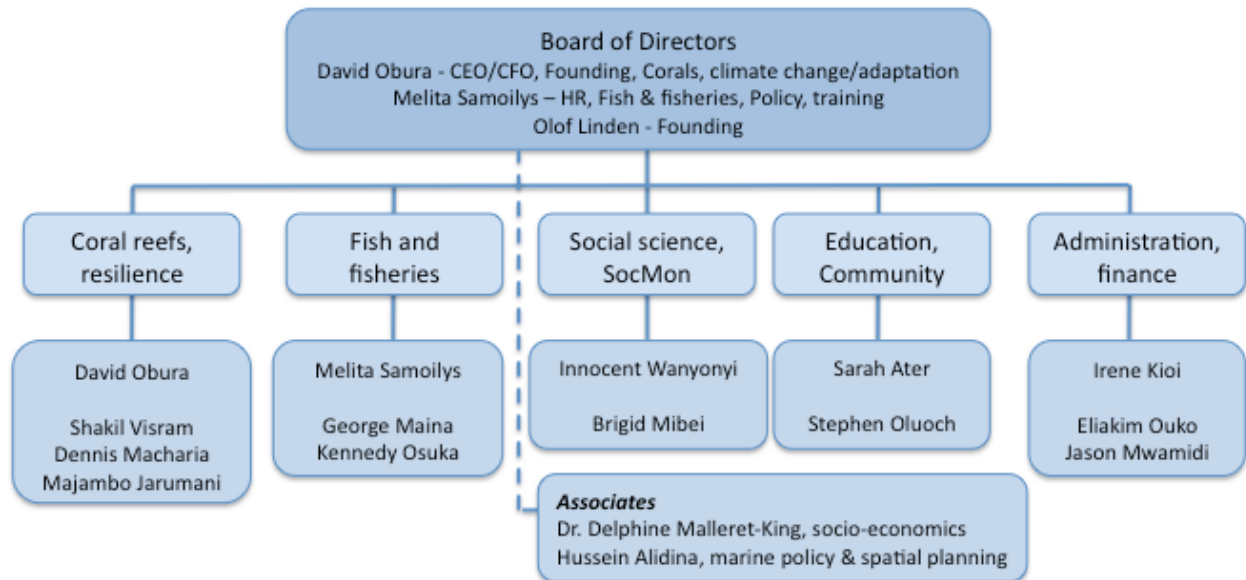
The geographic scope of the East Africa office in Mombasa is the Western Indian Ocean (WIO): Somalia, Kenya, Tanzania, Mozambique, Seychelles, Comoros, Madagascar and Mauritius.

### **Affiliations/links (focus on institutions and other PIs)**

CORDIO EA also works closely with government agencies and local communities to effect management and conservation action, including the development of new policy and regulations. Current examples include contributions to the development of fisheries management plans and local fisher management groups (Beach Management Units) in Kenya with the Ministry of Fisheries Development. Other affiliations include Seychelles Fishing Authority, Moi University - Faculty of Aquatic Sciences, Kenya and Tanzania Meteorology Department, University of Cape Town, IUCN (International Union for the Conservation of Nature), Conservation International, London Zoological Society, Simon Fraser University (Canada).

## Memoranda of Understanding Kenya Wildlife Service (KWS).

### Organizational chart



#### Directors

- 1) David Obura. PhD. Climate change, coral bleaching and resilience of coral reefs. Other areas of work include the development of participatory monitoring and research tools.
- 2) Melita Samoilyls. PhD, tropical fish ecology and fisheries - research and management (Indo-Pacific region).
- 3) Olof Linden, PhD, Marine biology, pollution. World Maritime University, Sweden

#### Senior researchers

- 4) Shakil Visram, PhD. Genetic connectivity of Corals and Reef-Fish and other marine organisms
- 5) Innocent Wanyonyi. MSc, (PhD Cand.), to promote partnerships and building capacity for Socio-economic monitoring and Integrated Coastal Zone Management among the WIO region's research and management institutions as well at local community levels.
- 6) George Waweru Maina. MSc, Fisheries ecology, conservation and management, and use of local ecological knowledge in natural resource research and management.
- 7) Sarah Ater. MEd. investigating what people knows about the environment and how they relate to that knowledge.

#### Researchers

- 8) Majambo Jarumani. BSc. predictability of various climate parameters with interest in sea surface temperatures and specificity on coral ecosystem.
- 9) Dennis Macharia. BSc. Oceanography and conservation planning.
- 10) Kennedy Osuka. BSc. Fish ecology and fisheries assessment.
- 11) Brigid Mibei. BSc. Community development

- 12) Stephen Oluoch. Dip. Sustainable rural development, conservation, promotion of alternative livelihoods and capacity building

**Associates**

- 13) Dr. Delphine Malleret-King, MKK. Socio-economics.
- 14) Hussein Alidina, WWF Canada. Marine policy & spatial planning

**Administration**

- 15) Irene Kioi
- 16) Eliakim Ouko
- 17) Jason Mwamidi