



## ICRI Member's Report

### KENYA

Reporting period December 2017 – November 2018

1. **Reporting on the ICRI Plan of Action 2016-2018.** *Your responses will help inform the Secretariat about members' contributions toward the previous Plan of Action.*

a. **Please list any relevant examples from your organisation/country of investment/projects to protect and restore the natural infrastructure of reefs and mangroves.** (See Goal (1) 2 [ICRI Recommendation for supporting investments in the natural infrastructure of reefs and mangroves to increase climate resilience](#)).

- Project on adaptive management of coral reef in 5 MPAs through a project funded by the Western Indian Ocean Marine Science Association (WIOMSA), Marine for Science Management Program (MASMA)
- Implementation of the National Coral Reef and Sea Grass Ecosystem Conservation and Management Strategy (2014 – 2018) supported by the Kenya Coast Development Project (KCDP). The goal of the strategy is to maintain and restore the ecological integrity of coral reef and sea grass ecosystems through improved research and management in partnership with stakeholders. The KCDP project supported the following activities in Kenya's MPAs: monitoring and information management; enhancing stakeholder awareness and participation; and enhancing capacity for coral reef and seagrass ecosystems conservation.
- *Development of Management plans 3 coral reef MPA* –These include: Kisite/Mpunguti, Malindi and Watamu Marine Protected Area Management Plans (2015 -2025). Kenya Wildlife Service will be responsible for implementing these plans.
- *Development of the National Mangrove Ecosystem Management Plan* also supported by the KCDP project. This is a 10 years management plan spanning from 2017 – 2027 period; and with an estimated implementation budget of KES 3.8 billion. The implementation of the Plan will take cognizance of various principles including integrated ecosystem approach, gender parity, participatory management and equity among others. The ministry of environment through the Kenya Forest Service (KFS) will coordinate this. The main sources of finance will come from the Ministry of Environment and Natural Resources

b. **Has your organisation/country made any progress in the following areas to target anthropogenic pressures?** Please give detail below. Note: If no change since your last ICRI member report, please write 'no change'.

**Encourage ban of plastic microbeads in cosmetic products.** (See Goal (3) 2 & [See ICRI Recommendation to reduce plastic microbeads pollution in marine environment](#)):

*No Change*

**Improve regulation and enforcement to reduce direct anthropogenic damage due to dredging and physical alteration of reef structures.** (See Goal (3) 3 & [ICRI Recommendation to reduce damage due to dredging and dumping on coral reefs](#)):

*No change*

**Deployment of mooring devices limiting the mechanical destruction of coral reefs and seagrasses.** (See Goal (3) 4).

- Kenya Wildlife Service maintains 65 mooring devices in 5 MPAs in coral reef and seagrass areas
- 37 rangers have been trained in installation and maintenance of mooring devices

c. **Did your organisation/country celebrate International Year of the Reef?** Please give details below. (See Goal (5) 1 & [ICRI Recommendation designating 2018 as the third International Year of the Reef](#)):

- Kenya Wildlife Service held school events: Interactive sessions in 18 local schools to inspire and increase awareness on the importance of coral reefs.
- CORDIO organized coral reef educational documentaries - [Chasing coral](#) and [Blue in Focus](#) screenings in Mombasa and Nairobi.
- KWS rangers conducted activities focusing on a long term coral reef monitoring programme in 4 MPAs to track recovery of reefs

2. **Contribution to the ICRI Plan of Action 2018-2020 and upcoming ICRI general meetings.** *Your responses to the following questions will assist the Secretariat in assessing contributions towards the major themes of the draft ICRI Plan of Action 2018-2020.*

**Theme 1 – Promote effective and adaptable solutions to improve the protection of coral reefs**

a. **Which of the below topics do you consider to be the three top challenges that your organisation faces in managing coral reefs?** Please select from the options below:

- Climate change impacts
- Inadequate planning, zoning and management
- Unsustainable resource extraction
- Tourism and recreation
- Shipping
- Coastal development
- Dredging
- Illegal and destructive fishing
- Fish and coral trade
- Marine debris

Other. Please specify:

- b. **Please list any examples of innovative management practices that your organisation/country is involved in, such as use of VMS, drones & ecological mooring devices.** Include their limits, conditions of implementation, financing and an assessment of their results and links for more information if possible.

*No change*

- c. **Please list any examples of innovative funding for management that your organisation/country is involved in.** Include their limits, conditions of implementation, financing and an assessment of their results and links for more information if possible.

The concepts of carbon trading is being applied to restore mangrove forests in Kenya. The first community-based carbon credit project for mangrove forest conservation has been established in the Gazi Bay, Kenya's South Coast. The project called "Mikoko Pamoja" ('mangroves together'), demonstrates how to implement community based carbon credit trading schemes and channel funds back to local villages, whilst meeting the expectations of the international carbon market. Since its inception in 2014, Mikoko Pamoja Community Based Organisation has been able to ensure conservation of 117 ha of mangroves in the Gazi Bay.

- d. **Please list any examples of leading practices, techniques and strategies for building reef resilience that your organisation/country is involved in.** Include their limits, conditions of implementation, financing and an assessment of their results and links for more information if possible.

Kenya is addressing unsustainable fishing and improving reef resilience through Locally Managed Marine Areas (LMMAs). LMMAs are fisheries management systems that mutually benefit communities and coral reefs, and ensures that both are more resilient to environmental change. Several LMMAs have been established in Kenya by coastal fishing communities as tools for protecting coral reefs and related resources while increasing the social and ecological benefits. By 2016 a total of 42 LMMAs have been documented each being at different stages of establishment. (Proposed, Consulting; Planning; Operational) (McClanahan 2016). The design of LMMAS includes both No-take areas and areas of specific use and commonly known as "Tengefus" in Kenya. Improving management of Kenya's LMMAs has reduced fishing pressure, curbs destruction of reef habitat.

Kenya Wildlife Service (KWS) has developed adaptive MPA management practices that measure, interpret and respond to socio-ecological feedback. The adaptive management model was introduced in 2013 and has since been useful in testing, learning and modifying management actions as a way of coping with change and uncertainty in MPA systems. The adaptive management model applied by KWS provides information, understanding and learning for management decision-making.

- e. **Please list any examples of leading practice reef restoration mechanisms that your organisation/country is involved in.** Include their limits, conditions of implementation, financing and an assessment of their results and links for more information if possible.

Scientists from Kenya Marine and Fisheries Research Institute and the Kenya Wildlife Service have been conducted trainings for local fisher groups on reef restoration. Pilot restoration activities have

started in Wasini in Kwale County of Kenya. Reef Restoration concepts and guidelines have also been developed. These guidelines contain simple advice on coral reef restoration for MPA managers, community fisher groups and others who may be involved in community-based reef restoration efforts.

### **Theme 3 – Support communities reliant on coral reefs**

- f. Is sustainable tourism development a significant challenge for your organisation?** If so please include detail below of the kinds of challenges faced and your strategies to deal with them.

Marine recreational tourism is one of the threats to Kenya's coral reef but, also an important source of revenue for coral reef conservation. Poorly managed coastal tourism development (e.g. beach hotel) puts stress on coral reefs through direct damage from land reclamation, and sand mining for construction as well as through less direct pressures such as runoff from construction sites, hotel waste water and removal of coastal habitat (e.g. mangroves). Kenya has taken small but important steps to reduce the impact of tourism development of coral reefs: for example regulations have been put in place in MPAs for tourists not to pick corals for souvenirs; and for coastal hotels to stop dumping graywater – wastewater which contributes to sedimentation and contaminating coral reef ecosystems – into the ocean.

- g. Is your organisation involved in activities to raise awareness and encourage action to support communities reliant on coral reefs?** Please include details below.

A number of organizations (both government and NGOs) are involved in raising awareness and encouraging action to support communities reliant on coral reefs. Some key actions include:

- Working with local communities to manage local fisheries by reviving traditional fishing closures called “*tengefu*” within fishing grounds over which local communities have legitimate, hereditary claims (<https://measures.wcs.org/Metric-Details/m/2>)
- Promoting conservation and protection of the marine environment and improving income of the local fishing communities (<http://comred.or.ke/capacity-building/>)
- Development of [legislative guidelines](#) for LMMAs, a [Training toolkit for LMMA management](#) and a community coral reef monitoring manual that provides practical methods for coastal communities to assess the condition and their coral reefs and hence the effectiveness of their LMMA
- Strengthening management effectiveness of locally managed marine areas (LMMAs) and MPAs in Kenya ([https://www.crc.uri.edu/projects\\_page/strengthening-east-african-marine-protected-areas/](https://www.crc.uri.edu/projects_page/strengthening-east-african-marine-protected-areas/))

### **Theme 4 – Help to reduce anthropogenic threats to coral reefs, particularly those that occur at a global or regional scale**

- h. What activities is your organisation involved in to elevate awareness of the global nature of the threat of climate change to coral reefs?** Please include details below
- i. Has your organisation made any progress in dealing with destructive fishing and trade?** Please include details below.

j. **Has your organisation made any progress in dealing with marine debris?**

Please include details below.

The Kenyan government banned “the use, manufacture and importation of all plastic bags used for commercial and house hold packaging” in February 2017. Different organizations both government (Kenya Wildlife Service and Kenya Marine and Fisheries Research Institute) and Non-governmental organizations (Watamu Marine Association) are working on marine debris projects aimed at understanding the sources and effects of marine litter, the effects of policies and other actions and enhancing public awareness on marine litter pollution on the coastal areas.

3. **Would you like to report on your activities during the ICRI GM?** Please give details below.

N

Y / N

4. **International events.** Please list any upcoming international events relevant to ICRI which someone from your organisation plans to attend in 2018-2019.

ICRI GM, Monaco, 5-7 Dec 2018

Conference of the Parties to the United Nations Framework Convention on Climate Change, 3-14 Dec 2018

Reef Futures 2018: A Coral Restoration and Intervention-Science Symposium, Florida, 10-14 Dec 2018

Global World Heritage Marine Managers meeting, Alaska, US, 26-31 May 2019

Other:

5. **Publications.** Please list relevant publications and reports you have released during this reporting period.

Chirico, A.A.D., McClanahan, T.R. & Eklöf, J.S., 2017. Community- and government-managed marine protected areas increase fish size, biomass and potential value. *PLoS ONE*.

Graham, N.A.J. et al., 2017. Human Disruption of Coral Reef Trophic Structure. *Current Biology*.

Kawaka, J.A. et al., 2017. Developing locally managed marine areas: Lessons learnt from Kenya. *Ocean and Coastal Management*, 135, pp.1–10.

Mayorga-Adame, C.G., Batchelder, H.P. & Spitz, Y.H., 2017. Modeling Larval Connectivity of Coral Reef Organisms in the Kenya-Tanzania Region. *Frontiers in Marine Science*.

McClanahan, T.R., 2018. Community biomass and life history benchmarks for coral reef fisheries. *Fish and Fisheries*.

McClanahan, T.R., 2019. Coral reef fish community life history traits as potential global indicators of ecological and fisheries status. *Ecological Indicators*.

McClanahan, T.R. & Abunge, C., 2017. Fish trader’s gender and niches in a declining coral reef fishery: implications for sustainability. *Ecosystem Health and Sustainability*.

Mwachireya, S.A. et al., 2018. Terrestrial discharge influences microbioerosion and microbioeroder community structure in coral reefs. *African Journal of Marine Science*.

Mwachireya, S.A., Nzioka, A.M. & Mutiso, D.N., 2017. Coral Recruit-Algae Interactions in Coral Reef Lagoons Are Mediated by Riverine Influences. *International Journal of Ecology*.

Mwaura, J. et al., 2017. Evidence of chronic anthropogenic nutrient within coastal lagoon reefs adjacent to urban and tourism centers, Kenya: A stable isotope approach. *Marine Pollution Bulletin*.

Otwoma, L.M. et al., 2018. Genetic connectivity in a herbivorous coral reef fish (*Acanthurus leucosternon* Bennet, 1833) in the Eastern African region. *Hydrobiologia*.

Samoilys, M.A. et al., 2017. Artisanal fisheries on Kenya’s coral reefs: Decadal trends reveal management needs. *Fisheries Research*.

Wamukota, A.W. & McClanahan, T.R., 2017. Global Fish Trade, Prices, and Food Security in an African Coral Reef Fishery. *Coastal Management*.

**6. ICRI Member Feedback.** What do you find most valuable about the ICRI member reports? If you have any ideas for improvement please list below:

**7. General Information.** (Note that this information will be posted on the ICRI website on your member page: <http://www.icriforum.org/about-icri/members-networks>.)

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