

Prioritization of climate refugia in the Western Indian Ocean

Nyawira Muthiga

Wildlife Conservation Society

Abstract

The WIO's coastal and marine areas are experiencing rapid change with increased human population and the expansion of fishing, tourism, shipping and energy. Climate change in particular is projected to have large-scale impacts including elevated sea surface temperatures, sea-level rises, changes in monsoonal systems and cyclones and coastal flooding. Coastal ecosystems such as coral reefs, seagrasses and mangroves will bear the brunt of climate change impacts. This combination of local and global stressors is resulting in environmental degradation and undermining the ecosystem services and livelihoods of millions of local people and national economies that rely on natural resources in the WIO. One solution is the establishment of marine protected areas (MPAs). Most WIO countries have established MPAs mainly focusing on nearshore ecosystems and are committed to the Convention on Biological Diversity's (CBD) Aichi 11 target to protect 10% of coastal and marine areas. The target has been a key driver of the rapid expansion of national marine conservation efforts in the last decades. Establishing large-scale MPAs such as transboundary conservation areas (TBCA) and other large wilderness sanctuaries is one of the few tools available to achieve this area target. The benefits of large area-based management include ability to act at the ecosystem and landscape spatial scale; conservation and management of ecosystems, species and fisheries stocks that cross national jurisdictions; promotion of integrated management and conflict resolution, and the ability to increase climate resilience on a large scale. Studies in the WIO have identified several climate refugia including the proposed TBCA on the Kenya Tanzania border. Protection of these climate refugia not only confer the benefits of managing at a large spatial scale, but also serve as potential climate mitigation measures. This working paper summarizes the science that has been undertaken in the WIO on climate refugia.

It is recommended that;

- Member states to evaluate and improve the effectiveness of MPAs across the WIO with a focus on the MPAs in the areas identified as climate refugia.
- Parties and relevant organizations to collaborate to identify, map, designate and develop management strategies to protect the climate refugia in the WIO.
- Member states to implement approaches that ensure coordination, integration and inclusion of all sectors in developing local and national MSP and BE initiatives
- Parties when undertaking MSP, marine conservation planning and BE initiatives especially large-scale developments such as ports and oil and gas, to take into account climate refugia.
- Member states to implement their global and regional binding commitments in the protection and management of the coastal zone and ocean governance.