
Section I

Western Indian Ocean Estuaries, a Source of Life.

Being rich nurseries and spawning grounds for many fish, crustaceans and other marine species, the West Indian Ocean (WIO) estuaries provide an important home for many sources of aquatic life; its aquatic habitats providing critical nursery grounds and habitats for numerous aquatic species, as well as being important feeding ground for birds. The extensive mangrove forests in some of the regional estuaries act as feeding grounds for shrimp, crab and finfish, as well as being important sources of building materials for the local communities. The WIO estuaries are also used for aquaculture, mainly targeting prawns, while their large mangrove forests play an important role in sustaining the productivity of deltas and bays, which represent the most productive coastal fishing ground in the region. There is an estimated 10,000 km² of mangroves in the WIO (Spalding et al. 1997), representing about 5.0 % of the total mangrove coverage in the world with the best developed mangroves in the region being located in the deltas of the Rufiji River (Tanzania), Tana River (Kenya), Zambezi and Limpopo Rivers (Mozambique), and along the west coast of Madagascar at Mahajanga, Nosy be and Hahavavy.

In providing these important functions, the WIO estuaries exhibit a diverse range of coastal and marine habitats and ecosystems, including coral reefs, sea grass beds, mangroves, sandy beaches, sand dunes and terrestrial coastal forests. It is clear that the rich and diverse marine ecosystems in the relatively small continental shelf area of the WIO coastal zone are fundamentally important to the sustainable productivity of the region as a whole, particularly its fisheries. Mangroves are located in the estuaries of most rivers, while sea grass beds flourish in shallow, soft bottom environments that receive sunlight. Coral reefs have developed on rocky fringes and hard surfaces in clear, well-oxygenated waters, most notably along sediment - free coastlines, forming hundreds of kilometres of fringing reefs along the edge of the mainland and around the oceanic islands. All these ecosystems and the waters they contain support plankton communities which, in turn, feed numerous diverse fish populations.

The following four papers provide a cross -cut description of some of the ecological richnesses of the WIO estuary ecosystems, with a specific focus on the ecosystem services they provide.