

**Assessment of some commercial finfish species in mangrove
systems of Kisakasaka and Uzi, Zanzibar**

Levinus Leonard

Master of Science (Marine Sciences)

University of Dar es Salaam, College of Natural and Applied Sciences, 2013

Knowledge on the status of commercially important mangrove dependent finfish in Zanzibar is limited to Chwaka and Makoba Bays. Spatial variation in fish size structure, proportion, relationship between water environmental factors and fish abundance were studied at Kisakasaka and Uzi Island mangrove ecosystems, Zanzibar. The study aimed at generating information on the status of mangrove dependent commercial finfish in these relatively unstudied ecosystems. Samples were obtained with the seine net at low spring tides. Sizes were measured and length-weight regressions were established. Fish assemblage structure was determined and size structure of the most common species established. Correlations between fish species abundance and environmental parameters such as water temperature, pH, salinity and Dissolved Oxygen were investigated. Fish proportion in the catch was determined by calculating percentage composition of the target species. Analysis indicated that environmental factors had little influence on fish abundance at both Kisakasaka and Uzi sites. Size structure varied significantly between sites for all species unlike proportion which varied significantly only for *Mugil cephalus* species. Absence of key species, such as the milkfish *Chanos chanos*, which is currently being promoted as a key species for small scale aquaculture in Tanzania, could indicate that fingerling supply from the wild may be a constraint to the fast-growing aquaculture industry in future. It was concluded that commercially important finfish in mangrove systems of Zanzibar are unsustainably harvested and urgent conservation and sustainable management initiatives of these resources and their environment are required to protect them from further decline.