Characterization of Fisheries Resources in the Lower Tana Delta and Estuary, North Coast Kenya

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Artisanal fisheries in the lower Tana River delta and estuary are described within the context of the ESTUARIZE project, a socio-ecological study of estuarine fisheries in the Western Indian Ocean (WIO). Fisheries in large WIO estuaries have survived over many centuries, presumably relying on the resilience of fish stocks, and on the adaptive capacity of fishing communities. Local customs and traditional ways of exploiting fish would have been based on societal needs and on seasonal or inter-annual trends in resource availability or abundance. Local decision-making, based on past experience, is now confronted with 'modern' fisheries management initiatives, and to mitigate the inevitable conflict, we aim to provide information on fisheries resources and exploitation patterns in the lower Tana delta. Existing long-term data from catch assessments (2008–2014) and fisheries frame surveys (2006–2016) are used to describe the estuarine fisheries in terms of the numbers of fishers, areas fished, gear types used, and species composition and size of fish caught by gears. Seasonal variation in exploitation patterns and spatial variation between downstream (more marine; higher salinity) and upstream (smaller marine influence; lower salinity) sites are investigated. Higher resolution data collected during field trips in March and June 2017 are used to benchmark analyses, and refine species composition and gear selectivity estimates. The study provides crucial information on spatio-temporal fisheries exploitation patterns in the lower Tana, which can then be used to assess linkages and feed-back systems between the human system (fishers and society) and the natural system (fish resources in the estuary).