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Research Interest: Impact of Climate change and Variability on Coastal Panaeid Shrimps Abundance in Rufiji Delta, Tanzania.

The present study is aiming at assessing the impacts of climate change and variability on abundances and catches of coastal panaeid shrimps in Tanzania. The study will determine the effect of climate change and variability (specifically temperature, rainfall and river discharge) on coastal panaeid shrimp abundances in the Rufiji delta, evaluate and predict the future trend of coastal panaeid shrimp yields under various climate change scenarios and investigate the existing adaptation strategies of human communities whose resources (supplied by coastal panaeid shrimps) are threatened or impacted by climate change in Rufiji and Mkuranga districts.

This work is using a combination of techniques for data collection depending on the nature and type of data. Climatic variables for the Rufiji delta related to coastal panaeid shrimps (fish) ecological requirements (for the past 30 years) is being obtained from the Tanzania Meteorological Agency. Daily catch data is being measured at the landing sites in the delta, while historic catch data for panaeid shrimp species of the Rufiji delta (from 1990 to 2009) is being collected from Rufiji and Mkuranga district councils and the Fisheries Department in Dar es Salaam. Two environmental variables "sea surface temperature and salinity" influenced by climatic conditions in the Rufiji delta are being measured insitut and using earth's observation systems. Socio-economic data on shrimp fishery is also being collected to examine the adaptation strategies of human communities whose resources (supplied by coastal panaeid shrimps) are threatened or impacted by climate change in Rufiji delta. Primary data has been collected through questionnaires, group discussion and key informants interviews aimed at catching up views & experiences.

The study will be a building block for fishermen and fisheries managers to take timely measures toward sustainable use, conservation, marketing and maximizing economic values and benefits from panaeid shrimps while ensuring sustainability of these resources in Tanzania. In addition, it is expected that, outputs of this study will contribute towards sustainable improvement of social and economic welfare of Rufiji and Mkuranga communities as well as the nation. The study will recommend possible adaptation strategies that can be used by communities, central and local governments, or firms to inform their responses to climate change in coastal areas. Thus, findings of this study will help to fill the existing gaps of knowledge about vulnerability of coastal panaeid shrimp species to climate change in Tanzania.