Climate change impacts, perceptions and adaptive strategies in fisheries-based livelihoods: The case of jaja and mchungu villages in rufiji delta, Tanzania

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This study assessed fishing communities' perception on climate change, coping and adaptive strategies to its impacts on fisheries-based livelihoods in Jaja and Mchungu villages, Rufiji Delta. Among the aspects addressed included assessing local perceptions on climate change and variability and assessing the importance of fisheries on peoples' livelihoods. Further, the study assessed impacts of climate change on fisheries based livelihoods using the sustainable livelihood framework. The study also determined existing adaptation strategies to the climate change impacts. The methodologies used included purposive sampling for key informants as well as focus group discussions. Household surveys were used to collect primary data. The study also employed personal observation as well as review of various literatures. Empirical climate data from TMA shows a decline in the trend of rainfall during the last 30 years (1978-2009) along the coastal areas of Rufiji. The trend of temperature shows an increasing pattern for the average annual temperature by about 1°C. Similarly, wind pattern data shows an increasing trend during the same period. Climate change impacts arising from decline in rainfall, increasing temperature and wind patterns in conjunction act to suppress fisheries — based livelihoods through reducing fish availability and change in fishing location and seasonality which consequently interfere with the local livelihoods. Fishermen practice diverse adaptation strategies including deep water fishing and engaging into other non-fisheries - based livelihood activities such as business and agriculture. However, most of alternative activities are not promising and seem to intensify vulnerability instead of reducing it. It can be concluded that climate change impacts are increasing in the study area and affecting fisheries—based livelihoods. It is therefore recommended that awareness of the local community regarding climate change and variability should be raised to enhance adaptive capacity; furthermore there should be effective management in coastal environments, protection of financial capital related to fisheries-based livelihoods, improve governance of community projects and increasing resilience of fishing communities by enhancement of human capital through provision of education and training on climate change adaptation.