

Explaining ecosystem health of a tropical seascape: using the social-ecological systems framework to explore governance-ecosystem health links

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Coastal ecosystems are known to be under threat from overexploitation and development activities. Such destructive activities can be traced to decision-making on how resources are managed and how, or whether, regulations are enforced. This decision-making takes place within the governance of coastal ecosystems. This paper reports on what can be learnt from a comparative analysis of governance arrangements and performance and the health of similar coastal ecosystems, drawing on research that sought to investigate whether there is a link between governance and ecosystem health and what it is about governance that matters. The paper uses an adapted version of Ostrom's social ecological systems (SES) framework to facilitate this analysis. The SES framework is composed of four first tier components: resource systems, resource units, governance system and actors. A rationale is provided for replacing the resource systems and resource units components with ecosystems and ecosystem services, generating the adapted framework; we argue that this situates the SES framework more fully in current framings and understandings of ecosystem services. This framework is then applied to analysis of the ecosystem health of coastal ecosystems – focusing on mangrove forests in Kenya and Zanzibar. The analysis draws on research undertaken for two projects between 2012 and 2016, at four sites in Kenya and five in Zanzibar. The data collection utilised methods from both natural and social sciences, with data collected on carbon capture and storage capacity, and surveys, interviews and focus group discussions. Secondary data is also drawn on as the SES framework necessitates inclusion of a wide range of variables to capture critical components and interactions. The presentation will set out reflections on the adapted framework in relation to its capacity to explain governance outcomes and on the findings on governance and the condition of mangrove forests in Kenya and Zanzibar.