

Strategic Adaptive Management as an effective assessment model for coral reef monitoring in Marine Protected Areas

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Adaptive management has been attempted in Mafia Marine Park in Tanzania since March 2014 as a way of dealing with uncertainty in the management of the coral reef ecosystems. Data derived from ecological monitoring is used to provide information for long term responses to management practices. This study examines similarities and differences between expert and ranger-data during the early stages of adaptive management, to assess the quality of ranger-data for informing MPA decision making. This study evaluates effectiveness in assessment of benthic cover by MPA rangers. We compared results of ranger monitoring for benthic cover at six sites with replicate transect with findings obtained from consultancy services at Mafia Island Marine Parks in Mainland Tanzania under support of SWIOFish project. SWIOFish assessment was done in September 2016 at Mafia Island Marine Park. Ten benthic category resulted from SWIOFish were compared to result obtained from Rangers. Hard Coral, Macro algae /Coralline algae, Rubble , Dead coral , Rock/ Bare rock , Sand , Soft Coral , Seagrass , Sponge and Others were compared where by 82 transects with 10m Line intercept transect(LIT) was applied. Using t-test, 10 benthic categories were tested and results revealed that there were no significant difference between the category with P value = 0.4718. Findings suggests monthly ranger monitoring using SAM methods is effective modal for coral reef monitoring which has to be adopted regionally as well as globally.