Rapid catch assessment using a GoPro camera in Soariake Marine Protected Area, Southwest Madagascar

F. Saidale  
Wildlife Conservation Society, Madagascar  
felixsaidaly@yahoo.fr

Community-based catch per unit effort (CPUE) monitoring in marine protected areas (MPA) is an important tool to monitor conservation impacts and increase community engagement in marine resources management. Such monitoring by local communities is currently running in Soariake MPA in South-West Madagascar but is hampered by the lack of willingness of most fishermen since the process is considered time consuming. The objective of this study is to test a new, less intrusive fishery landings monitoring using GoPro. This will help to better understand fishery catch dynamics in the MPA through gathering reliable data and developing propositions for adaptive management measures, as well as make recommendations on how to improve the community-based catch monitoring system in Soariake MPA. Fishery landings were recorded by interviewing fishermen and using a GoPro camera to: (i) record information on the fishermen, fishing gears, fishing sites ... (ii) take pictures of the catches with a ruler in the photos to be able to estimate fish length and biomass a posteriori using Gimp © and ImageJ ©. As there are three fishing seasons in a year in southwestern Madagascar, each fishing season was sampled during two weeks in each of three main villages. Videos and catch pictures were analysed a posteriori to estimate fish length and compute biomass for each individual using b coefficients. As this method is less intrusive, preliminary results demonstrated that a larger fraction of the fishermen each day at each landing site could be interviewed, increasing the accuracy of fish catch estimates in the MPA. Overall, fish species list were larger with the new methodology, with an increase in parrotfish census, as well as vulnerable species such as morays. Gears assessment demonstrated that spear gun was the most used gear.