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Abstract

A survey of bottom substrates in order to study the effectiveness of a Marine Protected Area, Chumbe Island Coral Park, Zanzibar, Tanzania.

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Coral reefs along the Tanzanian coast have recently come into focus since several effects of destructive activities in this area have been documented. One reason is increasing pressure from tourists and fishing activity. My study was designed to provide quantitative information on coral community status. The distribution of coral growth forms was investigated in relation to protected areas and non-protected areas. Three reefs were surveyed around the Island Unguja. Changu and Bawe are two unprotected islands, both are located within 4 km from Zanzibar town and are therefore exposed to physical disturbance mainly from fishermen, tourists and urban pollution from Zanzibar town. The third island is called Chumbe and is located 13 km southwest of Zanzibar town. Chumbe is a privately operated coral reef sanctuary and Chumbe Island Coral Park (CHICOP) was the subject of my study. Benthic growth forms were estimated during SCUBA diving along 30-meter long transects, both on reef flats and reef crests. The categories of benthic growth forms were investigated and compared between the reefs. Live coral, dead coral, Acropora cover, algal cover, sea urchins abundance and substratum composition diversity (SCD) were studied.

My results suggest that Chumbe, the protected area, and Bawe both have healthy corals, but Chumbe has more Acorpora corals and fewer sea urchins than Bawe. Changu is the most damaged reef with the highest cover of dead coral, sea urchins and algae. Also the lowest cover of live corals and SCD is found on Changu. It is essential that strong and cooperative action takes place immediately to put a stop to these destructive practices. A solution in the long term of this problem is implementation of effective MPAs, and proper tourism management is very important to be able to accomplish this.

Keywords: Coral reefs, Marine Protected Areas (MPAs), Marine ecosystems, Minor Field Study, Zanzibar.

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ISSN: 1401-5765I, UPTEC W04 020
Sponsor: Sida

Tryckt av: Geotryckeriet, Uppsala