

South Asia experts compare notes on reef resilience research

The South Asia Reef Resilience Workshop, held in Bentota, Sri Lanka, 15-18 January 2007, brought together coral reef scientists, managers and policy makers from five countries in South Asia and around the Bay of Bengal: Indonesia, India, Maldives, Sri Lanka and Thailand. The main objectives of the workshop were to provide insight into the state of coral reef resilience research and management adaptations internationally, identify and discuss regional needs and priorities, as well as to promote learning and exchange of information. Resources recently developed through major international collaborations were highlighted and distributed to participants, including the R2 Resilience Toolkit developed by the Resilience Partnership¹ and the Manual for the Study and Conservation of Reef Fish Spawning Aggregations published by the Society for Conservation of Reef Fish Aggregations (SCRFA).

The Workshop was convened by IUCN – The World Conservation Union, in collaboration with Coastal Ocean Research and Development in the Indian Ocean (CORDIO), The Nature Conservancy (TNC) and National Aquatic Resources Research and Development Agency Sri Lanka (NARA), and was funded through a grant from the Ministry for Foreign Affairs of Finland, with support from the Macarthur Foundation, the Michael and Andrea Banks Nature Fund, MBA Financial Services and the Baum Foundation.

Key messages arising from the workshop: Resilience principles are emerging as an important paradigm for understanding and managing complex ecosystems and the interactions between these ecosystems and the human societies that depend on them. The increasing threats associated with climate change as well as other large-scale perturbations and increased population pressures are driving an urgent need to accelerate developments in resilience science and its incorporation into realistic and meaningful management strategies. This need is particularly critical for coral reef ecosystems, which are both highly vulnerable to climate change and also vital to the welfare of large human populations throughout the tropical world. Recognizing this, the South Asia Reef Resilience Workshop recommended that:

- Resilience principles should be applied in the creation, zoning and/or management of Marine Protected Areas (MPAs) as well as in the establishment of networks of MPAs. This includes:
 - assessment of the resistance and resilience of coral reefs within current MPAs and MPA networks;
 - identification and protection of critical areas with reseeding potential, such as reef fish spawning aggregations, resilient or bleaching resistant reef areas;
 - ensuring representation and replication of habitat types in MPAs; and
 - ensuring connectivity among MPAs and other key areas;
- Coral reef monitoring programmes in the region should be further strengthened, and encouraged to incorporate variables, as practical, that measure resilience as well as climate change impacts;

¹ *Resilience Partnership: The Nature Conservancy, IUCN – The World Conservation Union, Great Barrier Reef Marine Park Authority, NOAA, World Wildlife Fund, and Wildlife Conservation Society

- MPA and coral reef management strategies and approaches should be adaptive, and responsive to results and findings from monitoring programmes as well as science findings;
- Capacity should be built in the region to strengthen coral reef resilience science and management applications, through the Resilience Partnership, its members, and other institutions as appropriate.
- Countries should develop supportive policies for adaptive management of marine ecosystems and the resilience approach, to facilitate the use of resistance/resilience principles in the design and management of MPAs, MPA networks, and their related marine resources

The Coral Reef Experts Group Meeting was organized 19-20 January 2007 in Bentota, Sri Lanka, under the theme “Resilience of ecosystems and natural resource dependent coastal communities in the face of climate change and large-scale perturbations”. The objectives of the meeting were to facilitate peer-to-peer exchange on applying resilience principles in management among key coral reef experts in the region; as well as to develop, define and prioritize regional and national/local resilience projects for implementation.

The meeting was convened by IUCN Global Marine Programme and Coastal Ocean Research and Development in the Indian Ocean (CORDIO), in collaboration with National Aquatic Resources Research and Development Agency Sri Lanka (NARA) and with generous support from the Ministry for Foreign Affairs of Finland as well as the MacArthur Foundation.

The Experts Group Meeting brought together eleven scientists and managers from five countries in South Asia and the Andaman Sea: Indonesia, India, Maldives, Sri Lanka, and Thailand. The meeting was facilitated by Dr. Melita Samoily, IUCN, Dr. David Obura, CORDIO, Mr. Jerker Tamelander, IUCN/CORDIO

The meeting focused on two major elements of reef resilience theory: 1. Coral reef resilience and resistance to bleaching and other stresses; and 2. Coral reef fish spawning aggregations (FSAs). During the course of the workshop, research projects were developed for implementation throughout the region by national and local partners, under the IUCN/CORDIO project “Management of Climate Change Impacts on Coral Reefs and Coastal Ecosystems in Tsunami-affected Areas of the Andaman Sea and South Asia”. Since the meeting, Fish spawning aggregation interview surveys have been initiated in the Maldives in collaboration with the Marine Research Centre (MRC), as well as in India with Suganthi Devadason Marine Research Institute (SDMRI) in the Gulf of Mannar and with the Centre for Action Research on Environment, Science and Society (CARESS) in the Lakshadweep Islands. Projects are under preparation in Sri Lanka, Thailand, Indonesia and the Andaman Islands. The meeting also developed approaches for the incorporation of resilience principles in regular reef monitoring activities, including e.g. size class distribution and recruitment, as well as resilience profiling of sites.

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