

Sri Lanka – The Coral Reefs and Communities

Sri Lanka's reefs consist of corals growing on rocky substrate and on ancient coralline reefs (i.e., calcium carbonate substrate). Prior to the tsunami, many reefs were under stress from dynamite fishing, coral mining, pollution and overuse, as well as from natural impacts such as a major bleaching event in 1997-98.

Coral reefs and the nearshore environment were the lifeblood of many coastal communities, which depend on them for food and income; 65% of daily protein comes from nearshore reefs and subsistence fishing is the main source of protein in many rural and remote coastal communities. Tsunami damage to reefs, coastal natural resources, and infrastructure (e.g., fishing boats and nets) was severe in many areas. Moreover, impacts were exacerbated along the east coast because of the two-decade-old civil war. (The region was just recovering when the tsunami struck). Recent scientific results from Sri Lanka show that intact reefs, mangroves and sand dunes were key in protecting lives and property (CCR Sri Lanka 2005, Brosnan 2005, and Fernando et al 2006).

Current situation

Following the tsunami, several scientists and groups began a rapid assessment of the marine and coastal environment. Government scientists (NARA) quickly assessed several sites, and they were joined in their efforts by other organizations including CORDIO, GCRMN, and divers from the Sri Lanka Dive Club. Additional surveys were carried out by the Center for Conservation Research (CCR), and Sustainable Ecosystems Institute (SEI) and The Nature Conservancy. IUCN Sri Lanka (with support from SEI/TRAF and others) organized several cleanup efforts using volunteers and funding local people who were displaced by the tsunami. Other diver operators, divers, and local fishermen coordinated additional events. These included Claudio Trento of Dive the Snake and Jiharsa Diving in Hikkaduwa. CCR Sri Lanka (also with some support from SEI/TRAF) has been working on monitoring the effects along the coastal zone in Yala National Park. The devastation, the lack of infrastructure (roads and communication), and the aftermath of the civil war all create challenging conditions for scientists and others.

Current Needs and Recommendations

There are several challenges ranging from logistical to financial that face researchers and natural resource personnel. Some of these challenges existed before the tsunami but others are new. Providing appropriate financial, technical, and logistical support to the groups working in marine and coastal science and natural resources will greatly help. Moreover, Sri Lanka, because of its experiences in the tsunami (see below) is in an ideal situation to evaluate the impacts of the tsunami on intact and damaged ecosystems, to create innovative restoration efforts, and to teach the lessons learned to coastal areas around the world.

While the debris has been removed from several coastal and reef sites, other areas have not yet been assessed. Moreover, there has been some concern that the monsoons will have dragged more debris onto the beaches and coral reefs. We recommend supporting the individuals and organizations in making a full assessment of the debris and determining the status of reefs, including an assessment for potential restoration efforts.

In an earlier communication, Jerker Tamelandar of IUCN Sri Lanka identified the importance of a main coordinator for assessment, cleanup, and outreach along the coast. We agree and feel that a coordinator for marine and coastal issues would be highly beneficial to the effort.

There have been several separate projects carried out along the coast. In some cases, there has been coordination and cooperation among the different efforts. In other cases, this has been less so. We recommend convening the scientists (government and NGOs) to synthesize their information and then convening scientists, managers, and local community leaders to develop priority items for action. We recommend assisting the groups in turning the action items into fundable proposals and in seeking funding for these activities.

Projects that support and build the capacity of local scientists, individuals and organizations and that enhance the economic recovery of communities should receive the highest priority. For instance, CCR Sri Lanka and IUCN Sri Lanka have been able to hire and train local people in scientific methods. Claudio Trento and others have been able to engage local fishermen. This approach should be fostered.

The importance of coral reefs, mangroves and sand dunes to lives, fishing, income, and property was clearly demonstrated in Sri Lanka. The island provides a unique platform for learning and for developing better management of reefs and coastal ecosystems. We recommend that scientists and NGOs be encouraged and supported to investigate the role of natural ecosystems in protection and recovery. This information is not simply academic. It can help governments, communities and fishermen develop better management practices. As a followup, we recommend funding for scientists and policymakers to work together to develop science-based management practices.

There is a need for sound environmental policies that can be developed and fostered through enforcement, incentives and education. We also recommend that outreach coordinators be hired to educate and promote better reef management within the different sectors and communities.

Other Resources

Local scientists, NGOs, and others who are working on **tsunami impacts on reefs and coastal ecosystems**. We have worked or interacted with:

Dr. Prithiviraj Fernando CCR-Sri Lanka. Activities: Scientific assessment and monitoring of Yala National Park

Dr. Jennifer Pastorini CCR-Sri Lanka. Activities: Assessment and monitoring of Yala National Park

Jerker Tamelandar IUCN-Sri Lanka/CORDIO/GCRMN. Activities: Assessment, management and conservation

Marten Meynell IUCN-Sri Lanka. Activities: Debris removal from coral reefs

Claudio Trento Diving the Snake. Activities: Debris removal, assessment, and restoration

Jiharsa Hikkaduwa Divers and divers from Sri Lanka Sub Aqua Club

Additionally, **tsunami coral reef and marine ecosystem work** is being carried out by:

Dr. Arjan Rajasuriya NARA Government aquatic resources agency. Activities: All aspects of natural resources work

Dr. Malik Fernando Sri Lanka Sub Aqua Club. Activities: include working with NARA on assessment

Mangrove Protection Organization is working on mangrove protection and restoration