

Biodiversity for the people, by the people

Assessments and monitoring in southern Thailand.



South and Southeast Asia house about 15.5 % of the world's fauna and 12% of the world's flora. Together, the region has a biological diversity that is unsurpassed elsewhere in the world, sustaining human life by providing essential goods such as food, medicines, wood and firewood and services such as storm protection, regulating climate and floods, balancing gases in the atmosphere, forming soil, cycling nutrients, degrading wastes and pollinating flowers.

One of the challenges facing Asian biologists is to assess and monitor this vast biological wealth, given existing constraints of finance and expertise.

In Thailand, the project to rehabilitate and conserve coastal ecosystems in Sri Lanka and Thailand (the BMZ project) used an innovative approach to meet this challenge. It recognised

that ultimately it is the communities who live in a particular landscape who value it most and will invest the most effort to conserve its services. Using that understanding, the project not only created awareness among communities about the wealth surrounding them, but also taught them to assess and monitor these assets. The BMZ Team of IUCN Thailand initially provided technical input through simplified scientific assessment methodologies and supervising communities, but later, left the communities to manage on their own.

Mapping forest biodiversity in Mae Nang Khaow, Phang-Nga:

The Mae Nang Khaow conservation group has identified and named all the tree species in the tropical mixed evergreen forest found in their area. The group has also mapped a trail and identified seven stations of interest within this trail.

In the process of identifying flora and fauna of their forest, the group located *Rafflesia* – the largest flower in the world – within this patch. This species had hitherto only been recorded from the Ranong province. Delighted with their discovery, the group has been photo-documenting each flower that blooms. In this process, they have found, serendipitously, that *Rafflesia* in the Mae Nang Khaow forest blooms earlier than in Ranong, revealing temporal differences in the two populations.

Water quality monitoring:

Youth groups from the Kapoe and Kuraburi watershed in the Ranong and Phang-Nga provinces were trained by the BMZ team to assess and monitor the water quality and flow of their respective local rivers. They are now able to analyse their data and explain the results to the rest of the community. The community leaders, in turn, are using these hard data to lobby with the provincial government for change that reduces river bed erosion.



Seagrass monitoring:

For seagrass conservation, the BMZ Team established and forged strong links with the Phuket Marine Biological Center, Ministry of Natural Resources and Environment (MONRE) and trained youths from the project area to monitor seagrass meadows. Through these efforts, a seagrass conservation zone has been established in Kuraburi, local information is collected and included in a national database, and indicators of coastal and marine ecosystem health are being developed to monitor changes in seagrass meadows.

Identifying orchids in Swamp forests:

The Thung Nang Dam conservation group has identified, classified and named 30 species of orchids in the swamp forests of the Kuraburi watershed area. A local artist made drawings of these orchids and local photographers have collected

pictures of all these species. Descriptions of these orchids have been written by community members and a local field guide written and produced for publication. Because of these efforts, *Dendrobium cruentum* - a species that is commercially exploited and whose trade is internationally prohibited under CITES - has been targeted for conservation actions.

The conservation group has also mapped a nature trail in the Swamp forest and is now proceeding with developing local ecotourism in this forest.

Other monitoring:

The Mae Nang Khaow, Thung Nang Dam, and Ban Lah Conservation Groups report to IUCN and Phuket Marine Biological Centre if they see or note signs of Dugongs, their location, date, time, size and behaviour. This information is fed into a main database. The Kapoe Conservation Group monitors catch size of mud crabs while the Naca Conservation Group has been trained in bird identification and surveys by Wetland's International.

The Naca Conservation Group keeps close tabs on the extent and occurrence of the critically endangered Water Onion (*Crinum thaianum*), and are actively engaging in rehabilitation and ex-situ cultivation of commercially unacceptable and flood stranded bulbs.



This is the International Year of Biodiversity, launched by the United Nations to increase worldwide awareness of biodiversity and its importance, and to engage more people in its conservation. Countries and governments all over the world are struggling to halt the accelerating loss of species and habitats, while biologists are dogged by lack of time and money to document this diversity and describe their worth to the world.

In Southern Thailand, the communities are doing just that.

Photocredits: Cover: *Rafflesia* being measured by a member of the Mae Nang Khaow conservation group. © Dom Suanyai; Reverse left: Youth groups monitoring seagrasses at the