

CROWN-OF-THORNS CLEAN-UP

North Sulawesi, Indonesia

Over 250 people from North Sulawesi joined forces on February 25, 1998 to undertake a Crown-of-Thorns (*Acanthaster planci*) cleanup operation on coral reefs near Bentenan-Tumbak. The Crown-of-Thorns (COTs) cleanup was the result of a partnership between the village communities, local government, university faculty, students, local dive and resort operators, and NGOs who came together to address a pressing coral reef management issue. Volunteer divers and snorklers removed 766 COTs from locations experiencing the most severe infestations.

COTs are naturally occurring starfish feeding on coral reefs. At times, the number of COTs exceeds the capacity of coral reef ecosystem. COTs are efficient predators and can consume 5-13m² of living coral a year. While COT outbreaks do occur naturally, some scientists have suggested that human activities, such as overfishing of the COTs predators, increase the severity and frequency of infestations, but COTs outbreaks are still poorly understood phenomenon. One COTs infestation in the Togean Islands of Central Sulawesi devoured 80 percent of living coral on a single reef in less than one year.

During an environmental baseline survey of the coral reef areas around Bentenan-Tumbak in June 1997, several reef areas were noted as having a large population of COTs. A *Proyek Pesisir* team in October noted a potential outbreak close to Bentenan Island—an increase in numbers from June surveys. A detailed follow-up survey by two *Proyek Pesisir* workers was conducted in December to assess the situation. The number of COTs was found to exceed the normal level and had increased rapidly in just six months. The *Proyek Pesisir* office consulted with specialists at UNSEAT (Universitas Sam Ratulangi) Fakultas Perikanan dan Ilmu Kelautan and also with a specialist at Australia's Great Barrier Reef Marine Protection Authority, Uldo Engelhardt. After receiving advice from specialists, *Proyek Pesisir* consulted with the community and recommended a COTs cleanup. The people of Bentenan and Tumbak agreed and dates were set for late February 1998.

While the cleanup was a success at galvanizing support from individuals and organizations to protect the reefs of Bentenan and Tumbak, the job is not yet complete. Additional cleanups are being planned with these communities to clear reef areas which could not be fully cleansed of COTs during the first cleanup operation. *Proyek Pesisir*, a project implemented through a cooperative agreement between the US Agency for International Development and the University of Rhode Island's Coastal Resources Center, is also planning to train community members of the Bentenan-Tumbak communities to monitor coral reefs with special emphasis on observing COTs populations. Through community monitoring, appropriate actions can be taken to keep the COTs population under control if it ever reaches infestation levels again. While *Proyek Pesisir* is working with the local communities to develop a long-term coastal management plan for the area, the cleanup is an excellent example of how communities can forge partnerships with public and private sectors. It also demonstrates how early action can be taken to address a pressing management concern which cannot or need not wait until long-term plans are completed.

Intervention programs for COTs outbreaks have taken place in Japan, Australia, Malaysia and Indonesia. Responsible and safe interventions have temporarily returned COTs populations to normal levels. For any intervention programs, quick responses are critical in order to reduce the infestation's effects on a reef.



Indonesia's coral reefs are rich in biodiversity