

MANAGEMENT OF BLEACHED AND SEVERELY DAMAGED CORAL REEFS

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BACKGROUND

Coral reefs are now recognised as the most diverse ecosystems in the sea and of immense economic importance. In 1998/1999 a major coral bleaching event (linked to El Niño and almost certainly to climate change) caused extensive reef damage throughout the Indian Ocean, with coral mortality exceeding 90% in some areas. This can be likened to large areas of tropical rainforest being razed to the ground. There is an urgent need to take immediate action. We need to stimulate a response comparable to the international reaction to the forest fires in Indonesia, which generated intense international concern and rapid response planning.

Protection of the few remaining healthy reefs, as well as those that are largely damaged, is now critical if the reef ecosystems as a whole are to have any chance of recovery. The future livelihoods of human populations dependent on reefs will depend on reef recovery. Countries of the Indian Ocean are now at serious risk of losing this valuable ecosystem. The economy of Maldives, for example, has traditionally been based on fisheries and tourism. Both of these activities can be linked directly to the reefs, which have been severely affected by bleaching. This, combined with ongoing additional human impacts of over-fishing, pollution and coastal development, will potentially have major economic and ecological impacts.

Crucial management questions are now being raised in many areas. Managers are already asking how they should deal with this situation: whether the reefs will recover and - if they will - what actions they should take to aid and accelerate regeneration; how can they convince policy makers and government agencies of the value of maintaining marine parks and conservation efforts in the face of dead or dying reefs; should they be investing in what may be costly and risky reef rehabilitation projects; and what economic impact will degradation have and how can such impacts be mitigated?

ACTIONS

Manual on management of coral reefs in the western Indian Ocean

It is recognised that scientific information is not yet sufficient for precise recommendations to be made, but it is clear that the knowledge that is available must be transferred to those in a position to protect the remaining resources and stimulate recovery. A publication on management of coral reefs in the western Indian Ocean is proposed as a rapid response measure, which will provide guidance on precautionary measures to be taken, translate current scientific opinions on consequences and predicted outcomes of bleaching, and make suggestions on positive actions that might aid reef recovery.

The booklet will be short, about 30 pages, and target reef managers. It will focus on the management of degrading/ degraded coral reefs, the possibility for recovery/ restoration and what actions should be taken to aid regeneration and prevent further destruction. The booklet will contain sections on the value of maintaining parks, (protecting what's left, conservation efforts), the role of MPAs in reef recovery, the roles of fishing, tourism and coastal development in reef destruction as well as information on restoration techniques and monitoring. Management guidelines, information on economic impacts of reef destruction and mitigation of these as well as suggestions on actions will be included in each section.

The booklet will be translated into all major languages of the region and distributed free to governments, MPAs and NGOs as well as published on the Internet. A summary leaflet of 4-6 pages will also be produced for wider distribution.

This booklet is needed immediately. Following publication and dissemination, it may be possible to expand the concept into a more measured response. This could involve regular updating of managers on advances in understanding of recovery rates, economic impacts, etc. and linking existing and planned monitoring programmes with management to ensure appropriate feedback.

Environmental education

Environmental education efforts will be intensified. Education should be directed primarily at the general public and school children, in collaboration with organisations, such as NGOs, already established in the region. The aim should be to increase awareness of the functions of healthy coral reefs and their role in the ecosystem. Conservation and the need for protected areas, as well as the value of healthy coral reefs as a source for food and income for coastal populations, should be emphasized.

This will be achieved through the development of hard-copy materials (e.g. posters, booklets, photographic material and videos) that can be used by experienced educators and awareness groups. Existing material will be used as much as possible although new material will have to be produced to suit local conditions, target groups and issues. Local level collaborations to develop and ensure use of the materials and using local knowledge, language, artwork and concepts will help achieve impact at the local level. The regional context will be addressed through forming linkages across countries, to disseminate and assist development of parallel materials.