

SOUTH PACIFIC COMMISSION

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SPC ACTIVITIES IN MARINE CONSERVATION AND ENVIRONMENTAL MANAGEMENT

by

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1. Fisheries efforts are devoted largely to resource exploitation. Since conservation and exploitation are complementary (there can be no exploitation if the resource is destroyed), a balanced approach to fisheries development requires conservation efforts as well.
2. The Pacific Islands are noted for the variety and uniqueness of the marine environments. A preliminary review as part of the Regional Ecosystems Survey undertaken by the South Pacific Commission last year identified well over 300 marine ecosystem types in the SPC region. Tropical marine ecosystems tend to be very complex and diverse, with a high degree of interaction between the component parts. They are also particularly sensible to pollution and degradation if pushed beyond their natural limits (see the excellent recent book *Tropical Marine Pollution*, E.J. Ferguson Wood and R.E. Johannes, eds. Amsterdam, Elsevier, 1975).
3. One characteristic of coastal, tropical ecosystems that is often overlooked is the low replacement rate and therefore low sustainable yield of some of the most easily harvested components. On many islands, particularly in the more populous areas of Micronesia and Polynesia, traditional fisheries may already have pushed some fish resources close to their sustainable limits, and efforts at fisheries "development" under such circumstances are counter-productive unless they aim solely to maintain the same catch with less effort. This, together with dynamiting, poisoning and other destructive fishing practices, has produced a decline in productivity in many reef and lagoon areas.
4. Development activities, dredging and coastal filling, dumping of solid wastes, industrial effluents, sewage and contaminated drainage from urban areas, fertilizer and pesticide runoff from agriculture and disease control programmes, all contribute to localized destruction of marine environments which cumulatively can affect a significant percentage of local marine resources. Even the more remote Pacific Islands suffer from such human impacts.
5. There are many, usually poorly documented reports of environmental degradation, population fluctuations and changes in community composition in coastal-island waters. We know too little about the ecological principles involved to attribute such changes definitely to natural or human causes.

6. SPC activities in marine conservation and environmental management attempt to meet these problems at several levels of activity:

- (a) undertaking or advising on the organisation of resource surveys or evaluations of the general state of "health" of coastal environments (largely at the ecosystem rather than the economically important species level);
- (b) developing simple survey and monitoring techniques for coral reef, mangrove and lagoon environments capable of providing more reliable data on changes in ecosystem components and suitable for use by personnel without scientific training;
- (c) advising on the establishment of conservation areas and programmes for the protection of critical habitats, unique ecosystems, endangered species, representative samples of major habitat types, and areas subject to tourist impact. The SPC is co-operating closely with the IUCN-WWF Marine Program which has just been launched;
- (d) developing educational materials for schools and village audiences on environment, conservation and wise resource use, including marine resources;
- (e) assisting with specific management problems such as aquarium fish collecting, marine turtle stocks, and over-collecting of giant clams and other benthic invertebrates.

7. There is a need for greater efforts to manage and maintain subsistence fisheries in many parts of the region. Traditional controls such as marine resource ownership, taboos, seasonal, customary and other limits on catches, etc. are rapidly disappearing. Better boats are increasing the range of fishermen but often at the loss of de facto reserve areas, while improved gear is making it easier to over-fish certain resources. Too many areas have already lost much of their fisheries potential as a result. If subsistence fisheries are to be maintained there must be more assistance to village fishermen to develop new institutions and controls at the local level capable of providing for the sound management of local resources.

8. A five-year comprehensive environmental management programme is now being drafted for consideration by governments during the year, including many of the above points. Any suggestions for projects to be included in the comprehensive programme will be welcome.