



EDITORIAL

Another Look at Coral Reef Degradation

The past two to three decades have seen a plethora of initiatives under the general theme of 'coastal zone management'. Their general aim, as articulated within the last several years, is to achieve 'sustainable development' within the coastal zone, wherever part of the world that may be. However, despite the various schemes that have been put in place, and which are in different stages of implementation, environmental problems along the world's coastlines continue to worsen (GESAMP, 2001). This is associated with relentless increases in human populations accompanied by a dwindling resource base. In many tropical countries, one manifestation of this trend is the deteriorating condition of coral reefs which are shallow-water ecosystems. In fact, coral reefs are now the focus of a major international program, the 'International Coral Reef Initiative' (ICRI), involving governments of a number of countries whose task is to address coral reef problems in a more concerted and, hopefully, more creative manner. (The current host country for the ICRI secretariat is the Philippines, with co-sponsorship by Sweden.)

Coastal programs that have met with some degree of success are those that have managed to bring about income generation, so that economic wealth has accrued, so to speak, to some fraction of the coastal population. Notable examples are tourist developments that have employed erstwhile fishermen who have proceeded to become utility personnel, boat operators or even tour guides. For instance, Professor Angel Alcala of the Philippines reports that a 100 hectare marine reserve, Apo Island, can bring in US\$35,000 per year in tourist fees alone (A.C. Alcala, pers. comm.). Other success stories involve mariculture enterprises where coastal communities have shared in the profit generated (e.g., seaweed culture). Again, fisherfolk thus engaged are discouraged from resorting to excessive exploitation of coastal resources, destructive fishing or poaching.

Many ongoing 'integrated coastal management programs' or whatever they are called at present either have seriously (probably inadvertently) neglected the economic dimension or have incorporated an inappropriate one. People on the coast aspire towards a certain quality of life, and no 'management' program can convince them fully unless there is an assurance that this goal can be achieved. Specifically, coastal management programs

are almost never articulated within the context of national aspirations for development (of the respective country in which they are located). These aspirations would certainly vary depending on geography, history and culture.

As another case in point, marine reserves which are currently an object of serious interest on the part of funding agencies have only a limited potential in enhancing fisheries catches along already severely overpopulated (by humans) coastlines. If managed properly at the correct spatial scale, they do have the potential of preserving current levels of local diversity, and of contributing to fish biomass in surrounding areas (Anon., 2001). But because of the fundamental ecological characteristics of tropical communities, biomass production is limited in a very real sense and almost certainly cannot sustain the kind of exploitation that is required to realize some significant level of economic prosperity on the coastal zone.

Certainly, there are already programs in existence which have put more innovative elements in place, such as 'engaging the private sector' – in other words, encouraging investment, or wealth to be brought into the coastal zone in order to beget more wealth. One example is a GEF project, the UNDP/IMO Regional Programme on Partnerships in Environmental Management for the Seas of East Asia. However, as already stated above, such efforts will succeed in contributing to marine environmental protection and resource conservation only if the wealth is shared equitably among the people in the locality so that they are discouraged from harmful or unsustainable forms of resource exploitation.

The greatest challenge, therefore, of resource conservation programs is to bring economic wealth to the people, or provide them a means of generating economic wealth for themselves, while balancing this with protection of the environment. Perhaps this is just 'sustainable development' stated in a more comprehensible way. Can we call for more innovative and pragmatic programs?

Anonymous, 2001. Scientific consensus statement on marine reserves and marine protected areas. Released on 17 February at the 2001 Meeting of the American Association for the Advancement of Science (AAAS), San Francisco, CA.

GESAMP (IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection), 2001. A sea of troubles. Report Studies, GESAMP No. 70, 35 p.

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