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Enlightening Self-interest

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BioScience

Organisms from Molecules to the Environment

American Institute of Biological Sciences

Enlightening Self-interest

With long-term policymaking apparently gridlocked on even such a vital topic as global warming, it is heartening to learn that political consensus around an environmental issue has led to timely progress in a few instances. In the Forum essay that starts on p. 598 of this issue, Robert H. Richmond and his coauthors describe how three Micronesian island communities have been able—through science, resource stewardship, and traditional leadership systems—to change land-use practices in ways that should reduce deposition of damaging sediments on coral reefs.

Because coral reef degradation (stemming in large part from runoff and land-based sources of pollution) is a critical problem worldwide, the consensus that communities on Palau, Guam, and Pohnpei achieved in favor of action is worthy of note. Whether it will actually benefit reefs remains to be seen, but any good news about reef management ought to be scrutinized for lessons that can be used elsewhere.

The authors of the article, six of whom are native islanders, credit certain attitudes prevalent in many Pacific island cultures with allowing the communities to decide on their own to change their ways. Traditional policies, they say, acknowledge from the outset the need to control human activities for a community's benefit. That premise contrasts with US federal legislation, which stresses often outdated mitigation measures of dubious effectiveness. Moreover, some of the islands have direct reef tenure or ownership, and in many of them, the same villages or clans own both reefs and the upland areas in the watersheds that crucially affect the reefs via runoff. Thus, these communities are historically familiar with the concept of "ridge-to-reef" stewardship, and they have a long-term perspective.

Leaders on the three islands studied were briefed about research on the influence of local land use on adjacent coral reefs, and provided their own experience-based knowledge as background and context. As a consequence, in Guam and in Palau, residents soon initiated watershed restoration activities, and in Palau, they put a stop to clearing and grading of mangroves. In Pohnpei, local chiefs agreed to establish a protected area that limits harmful upland farming practices. The successes came about "through the participation of culturally connected researchers, traditional leaders, and community-based organizations," and seemingly resulted from consensus rather than hard-fought compromise.

Needless to say, not all traditional stewardship policies lead to successful ecosystem management, and formulas that led to progress in small island communities may not work in larger nations. But some lessons are applicable. As Richmond and colleagues ask, if coastal and offshore leases can be given for fish cages and oil drilling, why not for community-based conservation and protection?

Most environmental issues involve multiple stakeholders, although many stakeholders are unaware of what they stand to lose if a resource is damaged. Finding effective ways to make more people aware of their stake, and what they can do to protect it, would be a useful tactic for biologists. Most researchers attach importance—or should—to maintaining their objectivity on matters of science. At the same time, most want to ensure that their work is put to good use. Respectful communication of research findings to the players in ecological dramas, so that they are motivated to defend their own interests, can only help.

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