

Heroes of Danajon Bank



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By Michelle Hibler

Communities and Researchers in League to Conserve Marine Environments

They are unlikely heroes — poor families who eke out a living fishing by lantern-light. Yet, they have been recognized internationally for their efforts to conserve the marine environment on the Danajon Bank in the Central Philippines. In September 2006, the Disney Wildlife Conservation Fund (DWCF) named Kamada — the Alliance of Fishers in Danajon Bank — one of its Conservation Heroes.

Kamada, one of eight 2006 DCWF heroes, was established in 2002 with the help of Project Seahorse, based at the University of British Columbia's Fisheries Centre. The success of this people's organization and of its conservation efforts is both a product of and a contribution to research that links three Canadian universities with each other and with counterparts in the Philippines, as well as with fishing communities and governments at all levels.

A critical marine environment

Stretching 145 kilometres along the islands of Bohol, Cebu, and Leyte, Danajon Bank is one of only six double barrier coral reefs in the world. But this valuable source of livelihoods and food for coastal communities, among the Philippines' poorest, is in decline. Overexploitation, habitat degradation, and poor or nonexistent management have all taken their toll. Kamada members were among the reef's enemies, using illegal means such as cyanide and dynamite to catch live fish for the lucrative aquarium and restaurant trade.



Marine protected areas (MPAs) have been strongly endorsed as a management option for the Danajon Bank, as for other tropical fisheries. In theory, MPAs help fisheries recover by allowing the number of fish and species to increase. These fish and their young then spill over from the reserve to adjacent waters, supposedly improving economic opportunities. The real benefits to local people remain unclear, however.

In 2001, Project Seahorse set out to evaluate the biological and socioeconomic effectiveness of MPAs on Danajon Bank. Better understanding the reserves' contributions is crucial as the Philippine government has mandated municipal governments to designate at least 15% of their waters as fish sanctuaries, a goal virtually all municipalities have yet to meet.

Supported by the International Development Research Centre and the John D. and Catherine T. MacArthur Foundation, the research, completed in 2006, was anchored in the communities and supported by the Project Seahorse Foundation for Marine Conservation (PSFMC), a Filipino NGO.

Innovative research approaches

The work is distinctive on many fronts. As project leader Dr Amanda Vincent, Canada Research Chair in Marine Conservation at UBC and Project Seahorse's Director, explains, "it has been able simultaneously to employ fundamental research measures and to engage in on-the-ground management ventures." The fieldwork and analyses at the heart of the project were mainly carried out by three PhD students, all Filipino nationals registered in Canadian universities, and "all of them practical implementers of conservation and management in the Philippines."

Unlike most work on MPAs that focuses on one site, usually from a biological perspective, this research was multidisciplinary, covering resource management, biology, and anthropology, across 12 sites. The principal investigators, one each from the three participating Canadian universities, brought these different perspectives: Dr Vincent is a biologist, Dr Colin Scott is Associate Professor in the Department of Anthropology at McGill, and Dr Monica Mulrenna is Associate Professor in the Department of Geography at Concordia.

While each student also focused on one aspect—Marivic Pajaro on indicators of MPA management success, Eulalio Guieb on the cultural bases of marine protection, and Jonathan Anticamara on biological response – "our three students wander back and forth across the disciplines at will," notes Dr Vincent.

Through their fieldwork and in partnership with PSFMC, the three students engaged in a three-year intensive collaboration with fishers, villagers, and other stakeholders, involving communities at all stages of the research. They also took part in village life, from fiestas to coastal clean-ups. This, says Dr Vincent, has enhanced local awareness and provided inspiration to pursue marine conservation, management, and policy advocacy in the coastal communities and among decision-makers. "Conservation," she says, "is much more about enabling people to make wise decisions than it is about science per se."

The research team and its in-country Foundation have also learned from the experience. From initially simply asking communities what they wanted their MPAs to achieve, "we've had to do much more mentoring," says Dr Vincent. "Whole communities were pinning all their hopes for

nutrition, education, empowerment on one small marine reserve. It simply wasn't reasonable," she says. "So we've had to offer a lot more input as to what is really likely to happen after three years."

Measures of success

What is likely to happen? "One thing is social capital. Social capital is strengthened so your confidence in dealing with the police, your confidence in pushing for enforcement – not just of MPAs, but of fisheries laws in general—your confidence in asking municipal governments for counterpart funding, your confidence in contacting the provincial authorities—all of that goes up." Dr Vincent considers this "may well be one of the key outcomes of these MPAs" above and beyond any biological or economic response. "And we do get marked biological recovery," she adds, "although it's uneven."



The close collaboration with communities and regular feedback to village councils, local government units, and people's organizations have yielded concrete dividends. In three communities, for example, the mayor committed engines and funds for gasoline to sustain enforcement initiatives. In another community, a people's organization was so diligent in submitting its monitoring data to a national government agency that it was named the outstanding fisher organization in Central Visayas.

With training and adequate resources, local biologists and fishers have proven to be proficient at monitoring MPAs -- identifying fish species (all 360 species in the study sites), carrying out benthic surveys and visual censuses, and maintaining databanks of this information. This, say the researchers, is important because their participation is a vital link in making MPA management effective as they can provide immediate feedback to their communities.

Changing attitudes

Notable for the Philippines team is that they catalyzed the creation of at least nine new community-managed reserves during this granting period, bringing the total number arising from and supported by Project Seahorse work in the region to 28. While the MPAs are small, ranging from 10 to 50 hectares, "in many cases, communities are setting aside a third of their village waters or most of their coral reefs," says Vincent. And, notes PSFMC National Director Amado Blanco, the team has also facilitated the formulation of official management plans for at least 12 of the other MPAs.

Changes in attitudes are also remarkable. In Busalian, a village of some 400 families, the barangay captain proudly boasts that he was "the grand-father of illegal fishing in the neighbourhood." Today, he's "pushing incredibly hard for marine reserves and has pulled his community into line," says Vincent. "What's astonishing to us is that five of the seaweed farmers – seaweed farming is an important economic activity in the area – have agreed to relocate their farms to clear out space for the marine reserve."

"When you see five village members prepared to start relocating economic activity, you begin to have confidence that the community really is taking a new direction."

Kamada, working closely with PSFMC, is emerging as a regional power in marine resource management. The fisher-driven initiative, which now includes nearly 900 families in 21 communities, serves as a critical link, connecting resource management efforts with fishers and their families.

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Amanda Vincent won a 2005 Chevron Conservation Award in recognition of Project Seahorse research, education, and management work over the past decade. The Chevron Conservation Awards Program recognizes outstanding contributions by organizations and individuals to the conservation of natural resources. ([Read more](#)).