

NATURE'S INVESTMENT BANK

HOW MARINE PROTECTED AREAS
CONTRIBUTE TO POVERTY REDUCTION



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Four countries, four marine protected areas, a strong study methodology, and more than 1,000 interviews with local people. The findings conclusively show that “people in the community are now better off and this is because of the marine protected area,” as a local person in the Philippines explained.

In one of the first studies of its kind, a large team including a top-tier economist and social scientist sought to determine whether four marine protected areas have contributed to poverty reduction, and if so, why. The study sites are in Fiji (Navakavu), the

the Solomon Islands (Arnavon Islands), Indonesia (Bunaken) and the Philippines (Apo Island). The sites are not a random sample but were deliberately chosen because local experts believe they have contributed to poverty reduction. The objective was to study potentially positive examples to see if there are common factors for success. There are in fact several shared reasons why these particular marine protected areas helped reduce local poverty. Replicating these success factors can help marine protected areas in general contribute more to reducing local poverty.



HOW DID THE MARINE PROTECTED AREAS CONTRIBUTE TO POVERTY REDUCTION?

The results of the study indicate the different ways in which poverty has been reduced across the four sites:

Improved fish catches. Fish are now “spilling over” from the no-fishing zones of the four marine protected areas, and improved fish catches contributed greatly to poverty reduction at three of the sites. In Navakavu, average monthly income of households in January 2007 was US\$251 equivalent—more than double the non-marine protected area control sites’ average of US\$118 equivalent. Most of the residents (80%) said the increase in income was because fishing has improved since the marine protected area began five years ago. Fish are so plentiful inside the Navakavu marine protected area that the local priest uses the marine protected area to illustrate the concept of temptation to members of his congregation. The fish spillover effect is also strong in Apo Island but slightly less so in Bunaken. It is present as well in the Arnavons but with minimal impact.

New jobs, mostly in tourism. The marine protected areas’ greatest boost to household incomes comes from new jobs, especially in tourism. In Bunaken, those who switched to a new occupation in the tourist industry earn approximately twice as much as fishers (US\$114 versus US\$44 equivalent a month), and in Apo Island, tourism has surpassed fishing as the largest source of income.

Better local governance. Marine protected areas need local communities just as local communities need marine protected areas. In all four study sites, new governance mechanisms were established for the management of the marine protected area, and all four involve communities in management decision-making. This made the marine protected areas more responsive to community needs, gave the communities a more united voice, and frequently reduced conflict within the communities and with neighboring communities. The marine protected area management committees also serve as forums for addressing other community issues. The overall result is better local governance, especially for the management of marine resources.

Benefits to health. Greater fish catches led to greater protein intake in Navakavu and Apo Island and a perceived improvement in children’s health in particular. In Bunaken, visitor entry fees funded water-supply tanks, public toilets, and washing places in several villages and thus improved public health. In three sites, the increased environmental awareness from the marine protected area operation translated into better understanding and acceptance of solutions to sanitation problems.

Benefits to women. In all four sites, the marine protected area helped empower women economically and in some cases socially. Women are the reef gleaners in Navakavu and benefit financially by collecting and selling the bountiful shellfish from just outside the marine protected area. In Bunaken and Apo Island, dive tourism created more high-income job opportunities for women, and residents noted an improvement in women’s lives because of the marine protected area. In the Arnavons, when women became involved in seaweed farming and the making of traditional clothes to earn income, they gained a stronger voice in community meetings.

Methodology

From November 2006 to May 2007, 958 household interviews, 18 focus group discussions, and 33 key informant interviews were conducted across four countries. The fieldwork was done in partnership with local universities or NGOs in each of the four sites. The study’s portfolio of sites is roughly representative of small, one-community local marine protected areas (Fiji), medium-sized, multi-community local marine protected areas (Solomons), big collaboratively managed national marine protected areas with lots of people (Indonesia), and small, co-managed national marine protected areas with few people (Philippines). Detailed qualitative and quantitative analyses were done for each site using data on 13 different aspects of poverty. The margin of error for the quantitative data averaged +/-5.6%.



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RECOMMENDATIONS

The study findings identify actions that can be taken to increase the contribution marine protected areas can make to poverty reduction.

Invest in new marine protected areas. Like a school or a health clinic, a new marine protected area needs financial support, particularly at start up. But also like a school or health clinic, a marine protected area brings proportionally greater benefits than its costs. The investment, for example, in the Navakavu marine protected area over the five years since start up has been less than US\$12,000 equivalent, and this modest investment has helped to double the incomes of about 600 people. This is why more than 120 new locally managed marine areas have been started in Fiji since 2004. A large fund that provides modest grants to coastal communities to establish marine protected areas could bring dramatic benefits to local fisheries and in some cases tourism.

Empower local communities. Government policies that provide legal recognition for community management of local marine resources clearly supported community participation in three of the four study sites, and it was community management that helped ensure the marine protected area tangibly benefited local people. The benefits of community management can be further strengthened by linking marine protected area communities together via

peer-learning networks such as the Locally Managed Marine Area Network in the Pacific and Southeast Asia (www.LMMAnetwork.org). Community-led marine resource management is also easier if a neutral actor such as a university or external NGO helps the marine protected area stakeholders reach consensus about the distribution of costs and benefits.

Think small but integrated. The marine protected areas with the greatest contributions to poverty reduction were the two smallest. Navakavu and Apo Island are tiny marine protected areas within sight of the beneficiary villages. Both have low operating costs and high benefits and were planned in an integrated manner. This suggests that a network of

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smaller marine protected areas each affiliated with a local community may contribute more to poverty reduction than a single larger marine protected area. In fact, a group of smaller marine protected areas that are ecologically connected in a network of marine protected areas may have the greatest potential yet for both reducing coastal poverty and conserving near-shore marine biodiversity.

SAVING FOR THE FUTURE

“The marine protected area is like a bank to the people,” noted a Fijian community leader. People realized that by conserving their marine resources they would reap higher returns in the future. The study findings demonstrate that opening more branches of the “bank” in developing countries can contribute to coastal poverty reduction.

To download the full study, a companion film, or the individual site studies, please go to www.nature.org/mpapovertystudy.



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