# Chapter 11

# Coastal Management and Poverty Alleviation

James Tobey

## What is Poverty?

Poverty alleviation has become the renewed focal point of international aid and development assistance in recent years. At the 2002 World Summit on Sustainable Development, governments around the globe declared that eradicating poverty is the greatest global challenge facing the world today, and an indispensable requirement for sustainable development. Given the fact that 1.3 billion people continue to live in abject poverty, the world community reaffirmed the goal of halving by 2015 the proportion of people whose income is less than US $1 a day and the proportion of people who suffer from hunger.

Many of the more than one billion people living in grinding poverty are in coastal areas in tropical developing countries. Nearly half of the global human population is coastal and two-thirds of the world's great cities are on the coast. In addition, the human population is increasing rapidly in these areas, so that in developing countries the population at the coast is increasing at twice the rate of other regions.

A common indicator of poverty by virtue of being easily quantifiable is income. US $1 per day is a benchmark for absolute deprivation. But this measure does not accommodate for the importance of non-monetary dimensions of deprivation such as physical quality of life, self-esteem or even vulnerability, all of which determine standard of living. In effect, poverty signifies a state of deprivation where the individual is unable to meet personal needs or has limited access to opportunities for socioeconomic progress. It is a multidimensional phenomenon with different sets of indicators illustrating different factors that exclude people from a minimally acceptable way of life within their own society. These factors include:

- Social and political exclusion
- Inequality (income disparities, gender inequality, etc.
- Vulnerability and food security
- Educational attainment
- Water, sanitation and health
- Access to resources
- Housing and property ownership

Today, much more attention is given to the non-monetary dimensions of poverty than in the past. This is a reflection of the current consensus that development must be people-centered to be sustainable and include the human dimensions of development such as participation in decision making, empowerment, equity and capacity development.

### Box 1: Poverty Facts in the Coastal Zone

Incomes are lower and poverty is more widespread in rural areas. About 75 percent of the world's poor people reside in rural space.

The rural poor in coastal areas depend heavily on communally held natural resources and linked ecosystems (fish, other aquatic products, and mangroves) for survival and income. In their daily struggle for survival, the poor have little time to think of the impact of their activities on the environment.

Fish caught by local small-scale fishers provide up to 80 percent of the animal protein in coastal communities of tropical developing countries. Millions rely on fish as a cheap and accessible source of protein and nutrients in their diet.

Small-scale fisheries employ 50 of the world's 51 million fishers, practically all of whom are from developing countries. If the fishery disappears from people that have no real access to other resources, they will become really poor in all aspects.

Africa's economic and development future cannot be separated from the management of its natural resources. In a continent where 70 percent of the people earn their living from natural resources, the key questions boil down to who has access to those resources, how are they managed, and who reaps the benefits?

## Poverty Alleviation and ICM

Integrated coastal management and poverty alleviation are intimately interwoven. Sustainable development and poverty reduction cannot be achieved without healthy, well-managed and productive marine and coastal ecosystems. Overfishing, pollution, degradation of habitats and natural disasters increasingly undermine the ability of coastal

populations to meet basic health, economic and social needs. The result is loss of income and food security, greater health risks and greater vulnerability.

Achieving the goals of integrated coastal management (ICM)—improving the quality of life of human communities that depend on coastal resources while maintaining the biological diversity and productivity of coastal ecosystems—by definition attacks many key dimensions of poverty.

Many of the operational strategies and principles of ICM are pro-poor. In fact, the U.S. Agency for International Development (USAID)-supported coastal management effort in Ecuador in the 1980s was often referred to as "the project of the poor." ICM sees sustainable poverty reduction as attainable only when external support works with people in a way that is congruent with their existing context, capacity, and inspiration. The ICM approach involves:

- Fine-tuning solutions to local conditions by understanding the social, economic and environmental context in which communities live

- Evolving solutions through strategies owned and implemented by people of the place

- Reducing environmental dependency and improving livelihood options of the poor

- Counteracting inequities and the influence of power strongholds through good governance, as expressed by improved accountability and transparency, stable institutions and flexible inter-sectoral linkages

- Supporting decentralized planning that facilitates participation and ensures that services will be more relevant to the needs of communities and households

- ❖ Shifting toward more pluralistic approaches to decisionmaking, which incorporate the participation of a range of stakeholders

- ❖ Developing community-based decisionmaking and local environmental management to help coastal inhabitants maintain their livelihoods and gain equitable access to resources

- ❖ Building long-term capacity by bridging community movements with formal institutional arrangements

## Sustainable Management of Coastal Resources and Food Security

In developing countries, the livelihood imperative of a healthy environment and access to natural capital is acute. Coastal inhabitants of poor tropical nations are directly dependent on the environment for livelihood and as a consequence are also vulnerable to environmental change.

Natural resources are a key element of the risk management strategies of the rural poor. Small-scale fisheries and other primary resource industries such as sand mining, coral mining, and woodcutting for domestic use and for sale are the livelihoods that sustain a large proportion of the very poor in the tropics around the world. If there is a failure in agriculture or fisheries in one season, many poor countries have to import food. Further, most of the poor do not have the wealth to buy food from the market. If the environment fails to support these people, they immediately go on food relief. For sustainable economic livelihood to support coastal inhabitants, a productive environment is required. In many tropical coasts, there is already concern that the coastal environment is becoming irreversibly degraded by human activities.

Where people depend on the environment and struggle to survive, it is necessary to maintain a balance between agriculture, fish exploitation and natural resources. This calls for policies that can adequately ensure the sustainable management of natural resources. It also calls for measures that will reduce people's direct dependence on natural resources.

ICM helps conserve the very resources that the poor depend on and offers strategies for reducing that dependence. For coastal ecosystems such as linked coral reefs, seagrasses and fringing mangroves, the goods and services and the links between them are diverse. The inshore fisheries are often dependent on the coastal ecosystems of coral reefs, seagrasses and the intertidal area, and mangroves. Thus, improving food security and the livelihood of small-scale fishers involves the conservation and sustainable use of fisheries and their associated ecosystems.

> *In our village, this is a very small catch. What you see here in front of me is very, very little. In the old days we got 10 times this much. But because of dynamite fishing, lots of corals, which support the fish population, have been destroyed.*
>
> – Old man in Mafia, Tanzania

The threats to nearshore fisheries in tropical coastal areas include not only fishery overexploitation and destructive fishing practices but also the largely negative impacts of cumulative environmental change from pollution and habitat change, and the potential of combined rises in sea levels and surface temperatures in the future. Land-use change leads directly to nutrient and sediment loading, which affects the quality and productivity of the marine environment, often in unpredictable ways. Sustaining the productivity and the availability of renewable natural resources such as fisheries is therefore a great challenge. It requires

greater attention to understanding environmental threats, human behavior and people's use and misuse of coastal and marine resources.

Today, small-scale fisheries employ 50 million of the world's 51 million fishers, practically all of whom are from developing countries. And together, they produce more than half of the world's annual marine fish catch of 98 million tons, supplying most of the fish consumed in the developing world. In Kenya and Tanzania, for example, nearly all of the fishing is artisanal and caught inshore of reefs. Of the 120 million people involved in activities directly related to the capture, processing and sale of fish, perhaps 95 percent live in developing countries.

Although fish supply approximately 6 percent of the world's protein requirements, they are particularly important to people in low-income food deficit countries. Fish caught by small-scale fishers provide a high percent of the animal protein consumed by people who inhabit the coast. Overall, fish comprise 7 percent of the total dietary protein in Tanzania. Of this, only three percent is from saltwater sources. However, coastal fisheries are the main source of food and income for coastal villages. In the Philippines it is estimated that small-scale marine fisheries provide 80 percent of the animal protein consumed by coastal inhabitants. Even on a national and regional level, fish is an important food source in Asia. Fish provides approximately 25 percent of total animal protein in Asia, and overall about 50 percent of the animal protein in the Philippines.

Given the importance of marine fisheries to livelihood and food security, the world community declared at the 2002 World Summit on Sustainable Development the goals of eliminating destructive fishing practices, establishing marine protected areas (MPAs), and maintaining or restoring depleted fish stocks to levels that can produce the maximum sustainable yield. Specific goals for Africa included supporting countries in developing and implementing food security strategies.

To ensure sustainable management of natural resources and food security, ICM strategies target linked coastal ecosystems and the multitude of environmental threats through a diversity of action strategies, namely:

- Reducing fishing effort to sustainable levels
- Stopping illegal and destructive fishing practices
- Protecting coastal and marine habitats through, for example, zoning and protected area management
- Controlling land-based sources of pollution and uncontrolled development and habitat change
- Enforcing coastal management regulations at the local and municipal level
- Strengthening capacities for community-based management and co-management

Poverty alleviation is a national policy priority in Tanzania. Livelihoods, environment, and poverty alleviation are key elements of the national ICM strategy developed by the Tanzania Coastal Management Partnership (TCMP) through a deliberative and inclusive process. The goal of the national strategy is "to preserve, protect and develop the resources of Tanzania's coast for use by the people of today and for succeeding generations to ensure food security and to support economic growth." One of the principles of the Strategy is that "coastal development decisions shall be consistent with the government's priority of poverty alleviation and food security." The TCMP has been helping coastal districts develop coastal management plans, including strategies for the conservation and sustainable use of fisheries and associated coastal habitats.

In Indonesia, the Coastal Resources Management Program's (CRMP) Proyek Pesisir has established a community-based marine sanctuary in Blongko, North Sulawesi. The results of monitoring show clearly that the available biomass of fish species and coral cover increased significantly almost immediately after the designation of the marine management area. This has benefited the local artisanal fishing industry, and has served to showcase to the rest of the island and Indonesian archipelago what is considered a pioneering MPA.

In Mexico, the Xcalak Reefs National Park was created by presidential declaration in June 2000. With the external assistance of the University of Rhode Island Coastal Resources Center (CRC), it is one of the first national marine parks initiated by a community rather than by the federal government. Small-scale fishers from the community are primary stakeholders in the establishment and management of the park. The Xcalak experience has provided invaluable knowledge and skills for protected area management throughout the Bay of Chetumal in Central America. In this area, unique coastal ecosystems contain interlinked marine, wetland and terrestrial habitats in a maritime border between Mexico and Belize. The ecosystems, which run from the Rio Hondo through the Bay of Chetumal to the Boca Bacalar Chico on the Caribbean coast, contain many endangered species.

Both the Indonesian and Mexican examples illustrate the effectiveness of co-management and the use of MPAs as fisheries management tools and as parks protecting unique habitats and resident marine communities. All MPAs are in effect related to a desire to maintain or increase ecosystem values, environmental services, and socio-cultural values. Co-management involves a sharing of responsibility and authority between the government and a defined community of local users in the management of a resource. In comparison, purely community-based MPAs are often not sustainable. Because these community organizations remain outside the formal institutions of government, the effort lacks long-term stability and fails to change the legal and governance frameworks controlling the

use of and access to coastal resources on any level other than the most immediate local scale.

A critical area of resource vulnerability in tropical coastal areas is the availability and quality of freshwater resources. Water issues in developing nations are another example of how poverty, health and environmental degradation are interwoven in complex ways. In the Nyali-Bamburi-Shanzu coastal area of Kenya, poor water quality and inadequate potable water supply is a major problem. Piped water meets only 65 percent of the water demand in the area. To meet the shortfall, residents turn to groundwater sources. Yet, groundwater is contaminated with salt water and by fecal coliform from inadequate sanitation services. Surface waters from Tudor Creek and Port Reitz Creek provide another source of drinking water, a source that is also contaminated with fecal coliform and industrial discharges. Thus, residents as well as visiting tourists face significant health risks from contacting or drinking the water and consuming contaminated seafood harvested from the area. Action strategies of the Kenya Coastal Management Initiative include establishment of an Integrated Water Resource Management Technical Working Group, awareness raising, construction of rainwater harvesting tanks, and training of local beneficiaries.

### Reducing Dependence on Natural Resources

ICM helps populations in coastal areas reduce stress on the environment by conserving resources and by fostering pathways for generating coastal income that improves individual and household standards of living without degrading the natural environment. This recognizes that a diversified portfolio of income and employment opportunities for resource dependent people is required to reduce poverty and vulnerability to environmental shocks and food insecurity.

Reducing fishing pressure on overexploited nearshore fisheries by promoting alternative income-generating options (especially mariculture) is referred to by ICM professionals as the alternative livelihood strategy.

This strategy is summarized well by a quote from a specialist working with the national ICM initiative in the Philippines:

> "Seaweed farming helps protect our remaining coastal resources by building up other marine life and providing alternative livelihood for coastal fishermen, who might otherwise have resorted to cyanide and dynamite fishing." (*Sun Star Manila*; February 25, 2000).

A clear understanding of the merits and potential weaknesses of the alternative livelihood strategy is still evolving. For example, the strategy implicitly assumes that small-scale fishers overexploit and degrade the commons because they are poor and dependent on open access natural resources. However, there is a consensus that poverty itself is not necessarily the root cause of overexploitation and degradation of the commons. Overexploitation is equally widespread in the fisheries of the wealthiest countries of the world.

A second major assumption is that alternative ways to generate income will reduce pressure on fisheries. But, a comparative study of coastal resource management in the Pacific islands found that most alternative income generation programs have not been successful in reducing pressure on coastal resources. Fishery experts have shown that small-scale fishers enjoy the characteristics of fishing and are not necessarily willing to give up fishing for other income-generating work. Also, there is invariably a labor surplus in low-income rural villages. Thus, removing some of the fishers from the fishery will not necessarily reduce fishing effort.

The alternative livelihood strategy was tested in the North Sulawesi pilot sites of Proyek Pesisir, CRMP's Indonesian project. The results of a careful assessment of the strategy show that livelihood development (seaweed farming, pearl farming and tourism resort development) adds significantly to employment in coastal villages, but has little impact on overall fishing effort. Leaders of Proyek Pesisir conclude that fostering

alternative ways to generate income by itself is not an effective strategy for reducing pressure on fish resources.

Another finding of the experience in North Sulawesi is that care must be taken to ensure that coastal investments in alternative livelihoods benefit local people. Managerial jobs in the large-scale businesses have gone to outsiders while a lack of skills forces people from the coastal villages into the lower paying jobs. Where the enterprises have partial foreign ownership, profits are "leaked" abroad while the local community reaps few income-generating benefits. Thus, to alleviate poverty, the type and ownership of the enterprise should be considered in advance and job training may be necessary to increase local employment benefits.

Finally, the alternative livelihood strategy implicitly posits that alternative livelihoods do not generate new forms of environmental degradation or resource use conflicts that further impoverish the poor who are resource dependent. Depending on the specific situation, we know that tourism, mariculture and other income-generating activities can be environmentally damaging. Again, drawing from the North Sulawesi case, both tourism and pearl farming can lead to conflicts with small-scale fishers and others in the village. There are cases cited where fishers have thrown rocks on divers over conflicts of sea space. ICM professionals must, therefore, anticipate and plan for such conflicts when introducing poverty alleviation strategies.

The overriding priority of income generation and poverty reduction in poor coastal communities makes alternative livelihood strategies an important component of ICM. Poor people want opportunities for socioeconomic improvement, and it has been found that promoting wealth-generating businesses as part of community-based coastal management improves stakeholder interest and participation, and therefore the likelihood of success. An empirical study of community-based coastal management efforts in Philippines showed that those coastal projects with a sustainable livelihood component were more successful in marine conservation. So, in spite of the uncertainties and complexities

that surround alternative income strategies, those strategies will continue to be an important element of ICM projects.

## Integrating Coastal Conservation and Development

One role of ICM is to balance development and conservation. It is a role that has perhaps the most significant impact on the trajectory of coastal development and the multiple dimensions of poverty. In coastal regions, and in small island nations in particular, there is a close interaction between water resources, land use and the coastal environment. Degradation is likely to impact the sustainability of livelihoods of local populations and the long-term viability of any development strategy, including tourism. For example, degraded coastal areas can lead to a decline in overall tourist revenue with serious consequences for local economies, and can lead to negative impacts on food systems. Recognizing these cause-effect relationships, ICM fosters sustainable economic development through approaches and tools that integrate the interrelated and complementary objectives of conservation and development.

Bahía de Santa María, Mexico, is a good example of balancing choices about development and conservation strategies, and about trade-offs between different goods and services and different uses and users. In this globally important ecosystem there is a close interaction between development, water resources, land use and the coastal environment. With the assistance of the CRC and Conservation International/Mexico (CIMEX), informal organizations such as non-governmental organizations (NGOs), users and stakeholders have established an integrated management plan with a focus on fisheries, freshwater inflows, and bay circulation to sustain the fisheries and the bay's natural productivity. The plan helps define a balance between long-term economic growth and conservation, recognizing that the ecological and economic systems have linkages—often with direct and immediate feedback.

Tourism, export-oriented mariculture, mining, port development and industrial development are often the target of ICM initiatives and when developed responsibly can be driving forces for poverty alleviation. For example, the guidelines for mariculture and tourism development prepared under the leadership of the TCMP have the goal of promoting income-generating businesses while protecting the coastal environment. Similarly, CRC has developed good tourism development practices with local partners for the state of Quintana Roo, Mexico. These practices promote a better balance between development and conservation, thereby fostering a tourism industry—tourism is the number one contributor to income in Quintana Roo—that will be sustainable in the long term. In Quintana Roo, as in so many coastal communities, when coastal areas become degraded, tourist revenues decline, creating direct and negative consequences for local economies.

## Management Actions Integrating Development and Conservation

ICM integrates development and conservation through management actions such as:

- Formulation of coastal activity management guidelines and recommendations
- Environmental impact assessment procedures
- Coordinated agency permit review and approval procedures
- Zoning and use permits
- National or provincial land use plans and regional plans
- Village ordinances

In addition to these formal rules, regulations and institutional arrangements, there are usually a variety of informal organizations involved in coastal management, either as users or stakeholders. Informal organizations are often loose coalitions of individuals or groups with similar interests or objectives, such as NGOs, community-based organizations, and private sector organizations. Informal, or community-led collective action, provides flexibility to change and can adapt management approaches that formal institutions often cannot. Increased participation of civil society groups is also part of the current global political economy in which central and local governments in developing countries have retrenched, lacking the resources necessary to undertake effective management, while local groups take up the campaign against coastal degradation.

In Sinaloa, Mexico, the CRC and CIMEX work with shrimp farm organizations and the marina industry to integrate development in these industries with environmental stewardship. Experience shows that private businesses are willing to accept responsibility for their actions and to consider alternative actions that will increase the value and long-term viability of their activity. In Indonesia, Proyek Pesisir has worked with a village on the island of Sumatra to improve the economic and environmental sustainability of shrimp farms. Actions involving community stakeholders have included operation of a demonstration pond, study tours, environmental education, and mangrove replanting.

The Ecuador coastal management program has also involved many community-led processes that involved the government in integrating development with resource management. The program recognized that the status of ecosystems and the quality of life for coastal residents are interdependent. Community-based practical exercises encouraged local populations to perceive the linkages between ecological and human systems and to attempt to resolve environmental and social issues within this context. Local activities involved stakeholders and resource users, including people who collect wild shrimp postlarvae for the mariculture

industry, people concerned with eco-tourism development in the coastal community of Atacames, and people who collect and sell wood for charcoal and collect cockles for food in mangrove forests.

## Conclusions

The contemporary emphasis on poverty alleviation in development and resource management reflects wider social and policy changes. In every policy sphere affecting international development, from the World Bank's poverty reduction strategies to changes in USAID priorities, there is a belief that success in sustainable development needs to be defined by the simultaneous objectives of poverty alleviation and conservation. ICM does not take place in a vacuum. It is subject to the same global movements that pervade all areas of public policy, natural resource management and project development. ICM can accommodate this global policy change, just as it has accommodated other social and policy changes such as participatory management, public-private partnerships and decentralization.

Decisionmaking structures, property relations and the institutions that give them authority underpin the causes of poverty and challenges to alleviating poverty. The piledrivers of ICM tools and approaches need to be the first on-site to work with stakeholders to improve existing social structures and networks, and simultaneously build livelihood opportunities and protect the environment. ICM approaches can promote changes that positively impact on social and economic opportunities and equity. They include identifying and promoting stakeholder interests and dialogue, envisioning and prioritizing environmental and social outcomes through inclusive and deliberative analysis, and facilitating appropriate institutional forms for delivering legitimate decisions. ICM influences power relations through transformative participatory processes that bring about a change in institutions, legal systems of property rights and access to resources. These kinds of changes to social order are the basis for improving the socioeconomic condition of the poor and people that are under-represented in coastal societies.

# Crafting Coastal Governance In A Changing World

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The relationship between the U.S, Agency for International Development (USAID) and the Coastal Resources Center (CRC) at the University of Rhode Island has been a true partnership. Together we have faced the difficulties, surprises and successes that mark any attempt to apply new ideas to old problems. The knowledge that we are a single team working for the same goals, and defining together the changes in strategy required by our own learning and the changing circumstances in each country and the world at large, has been central to success of the Coastal Resources Management Program.

A great many people in USAID, in CRC and in the countries where we have worked have contributed to what has been achieved and learned. The authors of this volume thank everyone involved for their creativity, their energy and their leadership in addressing the complex issues in coastal regions. Most especially we thank our in-country teams and our partner institutions who taught us how what was being learned elsewhere could be appropriately applied to their own cultures and the needs of their countries. We have not attempted to list all those that have contributed to the ideas and the experience presented in this volume. To do so would require several long paragraphs.

While so many contributors to the program, one name stands out: Lynne Hale, former associate director of CRC. Lynne left CRC in the last year of the program—but only after setting in motion the drafting and redrafting that has resulted in this volume of reflections, experience and future directions. Lynne was CRC's point person with USAID. She led the design of the CRMP II field programs and made sure that they capitalized on what had been learned from the first set of filed programs. Throughout the 18 years of the program Lynne's passion, perseverance and perception made it the success it became. All who have contributed to this volume thank her and wish her well in the next stage of her career.

# Preface

# Oceans, Coasts, Water, and the Evolving USAID Agenda

By Bill Sugrue
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Since 1985, the U.S. Agency for International Development (USAID) has partnered with the University of Rhode Island Coastal Resources Center (CRC) in carrying out the Coastal Resources Management Program (CRMP). CRMP is a pioneering initiative working with developing countries around the world to advance the principles and practices of integrated coastal management (ICM). During this 18-year partnership, USAID and CRC, together with partners in the field, have learned a great deal about the complexities and challenges of better managing our coasts. This has included learning how to balance the need for ecologically healthy coasts with the need to promote a better quality of life for those who live and work there. Throughout this process, CRC has been an instrumental force in promoting a "learning agenda" for (ICM). In the selected CRMP stories included in this book, you will share in some of that learning. Let me summarize here some of the key principles that underlie the ICM learning agenda.

## Advance Integrated Water and Coastal Resources Management for Improved Environmental Protection and Management

It is essential that ICM and integrated water resources management (IWRM) be mainstreamed into sustainable development efforts. ICM and IWRM are essential foundations for improvements in health, food security, economic development, democracy and governance, and biodiversity conservation. We must recognize the interdependence of these development goals. The interdependence of human health, food security, governance and the other human activities is obvious. How development objectives are pursued in these sectors can have dramatic impacts on biodiversity, and on the biosphere. The biosphere is currently in free-fall, so the significance of these impacts is not trivial. Conversely, biodiversity conservation programs, properly conceived, can significantly support CRMP objectives in economic development, food security, governance and other areas. The challenge to development assistance organizations is to ensure that they move beyond single sector responses to more integrated, cross-sectoral approaches that do justice to the exceedingly complex and interrelated factors that shape our world. Principles of integration as practiced in ICM and IWRM must be given the commitment of time and resources that they deserve.

## Create Strong Governance at All Levels

Good governance is more than just good government. It encompasses a range of processes in which public, private and civil societies organize and coordinate with each other to make decisions, and distribute rights, obligations and authorities for the use and management of shared coastal resources. A central operating principle of the CRMP has been that effective governance systems are what create the preconditions for achieving sustainable environmental and social benefits. We have learned that good coastal governance functions best when it exists as part of a nested system—that is, one that operates simultaneously at scales ranging from the local to the global. For example, sub-national and community-based management efforts stand the best chances to be effective and to be sustained

over the long term when they are supported by policies and institutional structures at the national level. Meanwhile, national-level initiatives build capacity for ICM governance across spatial and sectoral scales, providing support to local initiatives while addressing coastal development and conservation of more wide-ranging national interest.

### Promote Private and Public Partnerships

Participatory approaches to conservation are now recognized as one of the few means to ensure sustainable management of ecosystems and natural resources while also meeting local peoples' livelihood needs. This participation is most effective when it includes both the public and private sectors. ICM and IWRM are too complex for one institution or group of constituencies to "go it alone." Forging carefully selected, strategic private-public partnerships can help.

Eco-tourism is just one of the issues around which coastal programs are testing such partnerships. The hope is that by partnering with the private tourism sector, chances improve for achieving environmentally sound, financially sustainable, and culturally appropriate coastal tourism development. When these partnerships succeed, eco-tourism can have significant, positive impacts on local economies and can provide strong incentives for sound environmental protection and management. A caution is that "environmentally sound" and "culturally appropriate" cannot be throwaway lines. They need to be taken seriously. Not all eco-tourism is very "eco," and unless there is true and transparent participation—i.e. the local community is fully engaged, not simply consulted—the impact of tourism on local communities can be destructive economically, socially, and culturally, and the impact on the environment catastrophic and permanent. It is not easy to do this right—but it is essential to do so.

### Empower Coastal Communities to Self-manage Their Resources

This must be done while promoting alternative livelihood and food security objectives.  In cases where local social and economic networks are

already well established and thriving, even at relatively low income levels, poorly conceived outside interventions can be extremely and negatively disruptive. Since poverty is not solely a function of income, but also of control of assets, empowerment, and control over one's fate, even the most well-intentioned efforts at poverty reduction or economic growth can have the opposite effect on people if existing arrangements are not taken fully into account. This is especially worthy of consideration in the case of indigenous communities. In such cases, poverty prevention, rather than poverty reduction, may be the appropriate goal. In this way, intact communities with essentially sound traditions of resource management may best be assisted by simply strengthening and supporting their control over local resources. Only modest, incremental initiatives aimed at ensuring continued food security and additional income streams may be called for; but here again, full engagement of the community, not simply consultation, must be the norm.

### Advance Institutional Strengthening and Capacity Building at Both the National and Local Levels

Inadequate capacity to practice ICM and to design and implement strategies that lead to more sustainable forms of coastal development remains a primary factor limiting progress in ICM. Too often, development projects bring in external expertise and funding without a parallel effort to build and strengthen in-country partner organizations—leaving partner organizations and the larger ICM effort vulnerable to failure when outside assistance ends. CRMP has used a different approach. Its preference has been to strengthen institutions over extended periods of time and to transfer the skills and the responsibilities for implementation to CRMP collaborating organizations. This approach is grounded in the belief that long-term collaborative relationships with partners maximizes learning and increases the probability that productive efforts will be sustained over many years.

The CRMP experience has also demonstrated the value to be derived from cross-portfolio learning. For example, we have seen how communities in the Philippines that developed community-based marine sanctuaries were able to provide useful insights to Indonesian practitioners attempting to

establish their own marine reserves. Similarly, experience in Ecuador and Sri Lanka in the development of shoreline management guidelines helped CRMP undertake the process more efficiently in Tanzania.

While USAID, through its overseas missions, presently supports coastal and marine activities in over 40 countries, only a small handful of those USAID missions have been able to invest in a more comprehensive ICM approach, with broad attention to all of the general principles cited above. The challenge remains to enhance the dialogue between development agencies and national governments on the economic, social and environmental values of marine and coastal resources, and the proper level of investment to maintain these resources as national and local assets. These priority challenges, which must be faced, and which will help guide USAID's future directions include the need to:

- Mainstream applied fisheries research and management into ICM programs, and promote effective governance of commercial, artisanal, and subsistence capture and culture fisheries. Science and technology advances must influence decisions on coastal resource management in a context of good governance. Both are crucial.

- Establish networks of marine protected areas with substantial ecological reserves in all regions, while ensuring the sustainability of these activities through the development of alliances and partnerships. Conservation groups and their allies in government and the private sector have made good progress over the past 20 years in establishing parks and reserves to preserve terrestrial biodiversity. The scientific basis for defining these reserves, and managing and linking them, has grown more sophisticated. The number and variety of partners supporting these efforts has grown as well. Coastal and marine reserves need to catch up. Strong partnerships among conservation groups, government, the private sector, and local communities will be essential.

- ❖ Enhance coastal and nearshore water quality through partnership programs to control both point and non-point sources of marine pollution, while addressing the impact of the growing number of coastal megacities. There has been little meaningful engagement in a significant way with the challenges of coastal resource management in the context of megacities. This is a huge challenge that needs to be confronted for reasons of human welfare and environmental quality.

- ❖ Reduce the vulnerability of coastal populations and their infrastructure to the growing threat of flooding, storm surge, and coastal erosion due to climate change and rising sea levels. Mitigation efforts are essential. A great deal remains to be done that has not yet been done. But serious—even drastic—efforts in mitigation do not eliminate the need to undertake, simultaneously, ambitious initiatives in adaptation because sea level rise and other effects of global climate change seem inevitable.

What is next? Clearly, coastal and freshwater management challenges and needs will not abate in the foreseeable future. World leaders reaffirmed at the 2002 World Summit on Sustainable Development in Johannesburg the central role that these resource issues will continue to play in the sustainable development agenda. USAID is in full agreement with that affirmation and remains committed to full engagement on these issues.