

CHAPTER 10

CONSERVATION AND INTEGRATED COASTAL MANAGEMENT: LOOKING BEYOND MARINE PROTECTED AREAS

Barbara Best

Globally, coastal and marine ecosystems are undergoing rapid changes, degradation, and loss of biodiversity and ecosystem function.

Degradation and loss of these vital ecosystems seriously jeopardize the social and economic well-being, food security and development potential of billions of people. Some of the major human-induced threats contributing to this crisis are habitat loss, overexploitation and destructive fishing practices, poor land use practices and land-based sources of pollution, invasive species and climate change (Burke et al., 2002).

In response to the pressures facing coastal and marine ecosystems, two major approaches (or fields) have emerged over the last several decades—integrated coastal management (ICM) and, more recently, marine biodiversity conservation. While both fields may share the same ultimate end goal—that of healthy, sustained ecosystems—and utilize similar tools, the fields do have differing priorities, focuses, and often geographic scopes that distinguish them.

Marine protected areas (MPAs) have received considerable attention over the last several years and are one of the tools shared by both biodiversity conservation and ICM practitioners. MPAs may encompass a broad range of zoning for different uses, including “ecological reserves” or no-take reserves to protect biodiversity and enhance fisheries (Ward et al., 2001). While MPAs are necessary to conserve and protect marine biodiversity and critical sites, MPAs by themselves may be insufficient to afford full protection against broad-based threats such as decreasing water quality and land-based sources of pollution (Jameson et al., 2002). Thus, both effective ICM and conservation approaches should be promoted to protect and conserve coastal and marine ecosystems.

This chapter explores the similarities and differences between ICM and biodiversity conservation with an emphasis on how MPAs are utilized by practitioners, and looks beyond single site-based efforts as both groups expand their impacts on the ground. Two major questions will be addressed, within the context of ensuring that the goals of these two fields are mutually reinforcing:

- ❖ What can ICM learn from biodiversity conservation?
- ❖ What can ICM contribute to biodiversity conservation?

THE PARALLEL EVOLUTION OF ICM AND BIODIVERSITY CONSERVATION

The fields of biodiversity conservation and ICM arose from different academic roots, giving rise to different professional organizations, institutions and groups of practitioners. In many ways, Agenda 21 at the 1992 United Nations Conference on the Environment and Development reinforced and accelerated the distinctive evolution and divergence of fields with separate chapters on Conservation of Biological Diversity (Chapter 15) and Protection of Ocean and Coastal Areas (Chapter 17). Agenda 21 also contains a separate chapter on Protection of Quality and Supply of Freshwater (Chapter 18), which has led to separate groups and institutions focusing on freshwater issues and the promotion of integrated water resources management (IWRM). Unfortunately, the emphasis

placed on the titles of these three chapters has sometimes deflected from the need for fully integrating them. For example, the quantity and quality of freshwater inflow into coastal areas is critically important for maintaining seawater quality and marine biodiversity, as well as the function of coastal wetlands and estuaries—some of the most ecologically productive areas on earth.

Agenda 21 can serve as a reuniting, integrating framework if one moves beyond the chapter titles to examine the major actions highlighted in each chapter:

CHAPTER 15. CONSERVATION OF BIOLOGICAL DIVERSITY

- ❖ Integrate biodiversity into national development plans
- ❖ Establish *in situ* protected area systems

CHAPTER 17. PROTECTION OF OCEAN AND COASTAL AREAS

- ❖ Integrate coastal management, including the Exclusive Economic Zone
- ❖ Establish protected areas
- ❖ Address land-based sources of marine pollution

CHAPTER 18. PROTECTION OF QUALITY AND SUPPLY OF FRESHWATER

- ❖ Integrate water resources development and management
- ❖ Protect water resources and aquatic ecosystems

Both chapters on biodiversity conservation and ICM call for the establishment of MPAs, with the biodiversity chapter emphasizing the need for systems of protected areas. In addition to sharing MPAs as a tool, both fields are currently trying to scale-up these site-based field activities for greater geographic impact or to establish networks of MPAs. Both fields share an emphasis on accountability and on measuring results, and are also developing learning portfolios and paradigms to promote effective lesson sharing and knowledge management. The challenge is to ensure that biodiversity conservation, ICM and freshwater issues become more integrated and mutually supportive.

THE MAIN GOALS OF ICM AND BIODIVERSITY CONSERVATION

In general, the goals of ICM are broader than those of biodiversity conservation, with a strong emphasis on the governance process and the well-being of people. The main goals of ICM can be generalized as to: (1) improve the governance process that is supported by and benefits communities and nations; (2) improve the economy, health and social well-being of people who depend upon coastal resources; and, (3) improve environmental quality to maintain biodiversity and ecosystem productivity. In contrast, the main goals of biodiversity conservation are often stated as to: (1) conserve biological diversity, and (2) conserve ecosystem function. In ICM, “governance” can be defined as the process by which policies, laws and institutions address the issues of concern to a society; governance establishes the fundamental goals, institutional processes and structures that are the basis of planning and decisionmaking. In this context, governance sets the framework within which management occurs, where “management” is the process by which human and material resources are organized within an institutional structure (such as a protected area) for a known goal (such as fisheries enhancement or biodiversity conservation).

While the end goals of both fields may be similar—that of maintaining or conserving ecosystem function—the priorities and emphases differ between these two fields. To paraphrase the goals and approaches of these fields, the aim of ICM is to “promote the people, while trying to preserve the place,” and the aim of biodiversity conservation is to “preserve the place, while engaging the people.” ICM places an emphasis on the people, and ICM practitioners usually function as impartial, neutral brokers for communities and various resource users, whereas conservation practitioners are typically advocates for the environment. Essentially, conservation organizations give voice to those groups who cannot speak for themselves—the animals and plants in the environment. At the international level, as witnessed at the 2002 World Summit for Sustainable Development, there appears to be a higher demand for biodiversity conservation than for ICM, while at the local level there appears to be more of a demand by communities for ICM and meeting

the needs of people rather than those of biodiversity. How does one rectify this difference?

There are several ways in which ICM practitioners can be more supportive of biodiversity conservation without sacrificing their role as neutral brokers. First, coastal practitioners should ensure that conservation and environmental groups are involved in stakeholder discussions, and are thus speaking for the environment. Second, they should ensure that conservation efforts are responsive to the local community, and show clear benefits to the community as well as the environment. Third, they should ensure that biodiversity conservation is incorporated into ICM activities. ICM practitioners need to clearly link the benefits of biodiversity conservation, as well as environmental management, to community concerns such as fisheries, tourism, clean water, and human and environmental health. For example, in the case of ecological reserves or no-take areas, the importance of habitat preservation—and thus biodiversity conservation—to larval settlement, protection for little fish, and healthy food webs should be clearly related to the potential for catching bigger fish in a more sustainable way. When environmental linkages to community benefits are made, one needs to be more explicit about linking biodiversity *per se* to the environment and to community benefits. Coastal practitioners must ensure that communities learn about and understand the term biodiversity in an inclusive and positive manner, and as an integral component of both environmental and human health.

A BROAD REPERTOIRE OF BIODIVERSITY CONSERVATION ACTIVITIES

Biodiversity conservation encompasses a broad range of activities to protect marine biodiversity and change the impacts that humans are having on the global environment. Conservation activities may include, among others:

- ❖ Changing global trade policies, such as through the World Trade Organization
- ❖ Strengthening international and regional conventions

- ❖ Transforming global businesses and corporate governance, and promoting eco-certification schemes
- ❖ Reducing fishing threats from overexploitation, destructive fishing practices and illegal fishing
- ❖ Working on site-based activities, such as MPAs

The selection of field sites is usually determined on a global scale by identifying where global or regional biodiversity and/or endemism is highest and the human-based threats are greatest—so-called biodiversity “hotspots” (Roberts et al., 2002b). Once a site or eco-region is selected, a threats-based approach is applied. An assessment is made of the biodiversity and environmental status, the major environmental threats are identified and prioritized in importance, and the major economic, social and political factors that lead to those threats are identified and an intervention plan designed to reduce their impact.

Over the years, there has been a trend towards scaling-up biodiversity field approaches. Initially, emphasis was on individual site-based MPAs that addressed overexploitation within the site and protection of key species. This concept evolved into the protection of key or representative habitats, and a representative suite of species, through a network of MPAs. More recently, in light of a greater understanding of ecosystem function, the emphasis has shifted to an eco-regional or seascape approach, and on establishing functional, ecologically connected networks of MPAs. For example, conservation of coral reefs also requires the protection of mangrove forests and seagrass meadows, as these habitats are all part of functional reef ecosystems, as well as spawning aggregation sites. Connected networks of coral reef MPAs are needed for resilient and robust ecosystems that can survive a range of threats, including overfishing and bleaching events.

CURRENT ISSUES IN BIODIVERSITY CONSERVATION: WHAT CAN ICM LEARN FROM BIODIVERSITY CONSERVATION?

Some of the current issues in biodiversity conservation are similar to those within the ICM field. For example, there are ongoing discussions on how to integrate learning into programs and portfolios (Olsen et al. 1999), how to measure management effectiveness (Ehler et al., 2002), and how to measure and increase program accountability, both fiscal and biological (i.e., What is the impact on biodiversity conservation and what is the cost per unit effort?). We must ensure that the discussions occurring within each field are enriched by cross-fertilization and comparisons between fields. One such attempt to integrate both fields is being undertaken within the Convention for Biological Diversity where working groups are developing guidelines for integrating, operationalizing and strengthening biodiversity issues—such as precautionary and ecosystem-based approaches to management, genetic resources and invasive species—into integrated marine and coastal area management plans.

ICM practitioners should carefully examine the ongoing discussions within the conservation arena for measuring progress and program accountability. As mentioned earlier, the short-term goals of biodiversity conservation differ from that of ICM, and biodiversity programs may be held accountable for short-term, measurable improvements in biodiversity and the environment. Within ICM projects, it is generally recognized that sustained efforts over decades are needed to achieve the ultimate goals (termed Fourth Order outcomes in Chapter 1) of sustainable quality of human life and sustainable well-being of ecosystems over a significant geographic scale. Progress in coastal programs may be measured in terms of meeting First Order outcomes (i.e., institutional structures formalized, management plans adopted), Second Order outcomes (i.e., changes in target group behavior, conflicts reduced, development plans adopted), or Third Order outcomes (i.e., improvements in some social or environmental indicators) (Olsen, et al., 1999). Thus, in ICM, direct environmental benefits and sustainable ecosystems are considered as Third

or Fourth Order outcomes (with the possible exception of small MPA demonstration sites). Will biodiversity conservation programs measure up to these higher standards of success—effectively conserving the environment per cost of effort over short-terms? If they are successful, what methods and approaches allow the programs to achieve these marked improvements in the environment? Will the programs continue to show success over the long term as well, or over larger geographic areas as they attempt to scale-up?

Most biodiversity MPA projects immediately key in on achieving direct benefits to communities, such as through fisheries or tourism, and use strong regulatory and enforcement measures as well as non-regulatory incentives. Many ICM programs may have to explore ways to focus not only on larger governance and institutional strengthening issues, but also on key activities and economic drivers to reduce impacts on the environment. For example, once a community has agreed upon a set of actions, such as the need to address destructive fishing practices, prompt and strong enforcement of the regulations can ensure that cheaters do not benefit and instill a sense of fair play for all. ICM programs can also more directly engage with major businesses, such as commercial fisheries, agro-businesses, and large-scale tourist resorts for proper siting, construction and best practices.

Many ICM programs have established relatively small MPAs, which are appropriate on the local community scale to demonstrate early returns from the ICM process. However, there is major concern within the biodiversity field that small MPAs will contribute little to biodiversity conservation and ecosystem resilience (Roberts et al., 2001). Recent studies highlight the need for larger-scale MPAs and ecological reserves to maintain not only ecosystem function and biodiversity, but also most commercial fisheries (Pauley et al., 2002; Roberts et al., 2002a). To achieve sustainable ecosystems, ICM programs should consider how they can support the establishment of large MPAs and functionally connected networks of MPAs, as well as institutional and governance frameworks that support large-scale land/marine zoning and management schemes that

integrate across land and marine resources. Sustainable financing schemes for MPAs are being explored and documented by many conservation groups. Financing schemes may involve tourist operators, concessions and park fees for financial sustainability. ICM practitioners may find it useful to explore the range of options being pursued by conservation groups for financing and cost recovery, in addition to traditional line items in municipal and national budgets, or to directly engage with industries for environmental performance bonds and monitoring fees.

THE USE OF MARINE PROTECTED AREAS IN ICM PROGRAMS

MPAs are used for a variety of purposes in ICM programs. As “learning sites,” MPAs are used for developing context-appropriate programs within a country or region. As “demonstration sites,” MPAs are used for:

- ❖ Engaging and empowering the community
- ❖ Demonstrating early returns and benefits from the ICM process
- ❖ Achieving both community and government buy-in for ICM
- ❖ Demonstrating that social, economic and environmental benefits can be mutually accrued

As fisheries management tools, MPAs are used to enhance fisheries and to create buy-in by fishers for co-management, self-enforcement and other management actions. And as explicit biodiversity conservation tools and eco-tourism tools, MPAs are used to create local awareness and buy-in for alternative economic opportunities.

THE CONTRIBUTION OF ICM TO BIODIVERSITY CONSERVATION

Conservation practitioners are currently exploring issues that ICM practitioners have been dealing with for many years and thus have much to offer. These issues include addressing biodiversity threats that are external to MPAs, such as land-based sources of marine pollution, and effectively scaling-up from relatively small or single MPA sites, so as to create functional networks of MPAs, eco-regional efforts, or large ecological reserves for commercial fisheries.

There are several areas where ICM can clearly contribute to biodiversity conservation efforts to scale-up impacts beyond MPAs. ICM programs typically engage all or many levels of the government, which will be vital in addressing larger-scale threats and trans-boundary issues, and strengthening management and enforcement efforts. ICM is already making significant contributions by creating the enabling environments and policy framework to support site-based efforts, MPAs, and co-management schemes. It can further play an enhanced role in supporting larger-scale efforts and networks of MPAs.

While MPAs are necessary to conserve and protect marine biodiversity and critical sites, MPAs by themselves may be insufficient to afford full protection against broad-based threats such as decreasing water quality and land-based sources of pollution (Jameson et al., 2002). ICM is helping to address land-based sources of pollution through effective zoning, siting and improved land use practices, and can thus help to reduce impacts external to MPAs. ICM can make significant contributions to conservation by laying the political and legal framework for zoning of both land and sea areas, and by including ecological reserves specifically for conservation. (See Box 1 on Quintana Roo, Mexico.)

By working at the national and sub-national scales, ICM will help to more evenly distribute benefits and encourage sound planning/governance over a larger area, and thus serve to reduce human population pressures on isolated islands of MPAs. ICM practitioners are also developing effective replication approaches—working with local, district and national governments—to scale-up programs for greater dissemination and geographic impact, which may even lead to catalyzing efforts for national MPA networks. (See Box 2 on North Sulawesi, Indonesia.)

MUTUALLY REINFORCING APPROACHES TO ICM AND BIODIVERSITY CONSERVATION

The ICM governance process and biodiversity conservation can be mutually reinforcing across the span of levels at which they work, drawing upon each other's strengths. (See Table 1 at end of chapter.) For

BOX 1: ADDRESSING TOURISM CHALLENGES AND THREATS IN
QUINTANA ROO, MEXICO

The villagers of Xcalak, a small fishing community of about 300 people in the Yucatan Peninsula of Mexico, felt that their way of life and livelihoods were threatened by the intense, high-impact tourism development occurring in Cancun and extending southward toward the village. A request for assistance to the state government by the residents was directed to a local non-governmental organization, the Amigos de Sian Ka'an, which has been instrumental in protecting the Sian Ka'an Biosphere Reserve, which lies between Cancun and Xcalak.

The overall project goal of the Coastal Resources Management Program in Mexico was to conserve critical coral reef ecosystems and biodiversity through an ICM approach. Three intermediate goals addressed improved governance, quality of life and the environment by: (1) establishing tangible demonstrations of site-based, participatory ICM as a tool to promote sustainable tourism development along a reef-lined coast with low population density; (2) promoting development and use of low-impact practices for tourism; and, (3) building the capacity of the Amigos de Sian Ka'an, the Xcalak community, and the Mexican government to carry out site management and low-impact tourism practices.

This program was implemented by the University of Rhode Island Coastal Resources Center with their local partners—the villagers of Xcalak, the Amigos de Sian Ka'an, and the University of Quintana Roo. The Xcalakenós identified several key issues of importance to them, including the character of the community, their traditional economic livelihoods and way of life, and the protection of the natural resources. Through the efforts of the partners, the Xcalak Reefs National Park was established in 2000. Encompassing 18,000 hectares, the park contains a variety of designated use zones and sets limits on the tourism development along the coast in the park.

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Besides the establishment of one of the first community-driven national marine parks in Mexico, the program and its emphasis on governance processes had several significant outcomes beyond the boundaries of the park. First, it changed the trajectory of development along the Quintana Roo coast. Second, the state and federal planning process has become more responsive to the needs of local communities and the environment, and tourism good practices, such as low-impact practices, have been incorporated into zoning ordinances and national decisionmaking. Third, the process has strengthened the partners and partnerships in the region that will continue to promote sound development and reduced environmental impacts both within and beyond the national park.

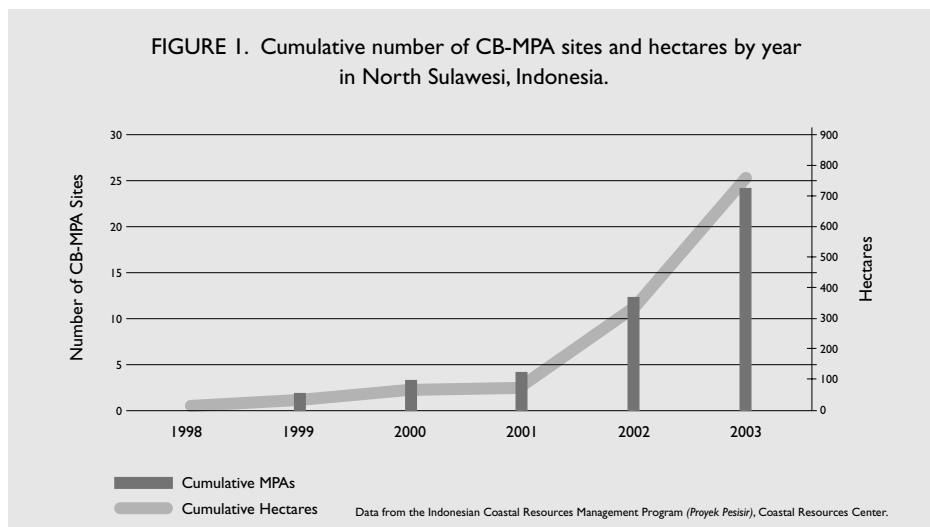
example, international conservation efforts are important for helping to reduce threats from global economic drivers, such as international trade and unsound tourism, and the destructive impacts they can have on coastal ecosystems, governance processes and sustainable management efforts. International efforts and assessments can also help set global and regional goals, and create shared visions.

Eco-regional strategies can address regional threats, harmonize shipping and cruise ship regulations, and support the establishment of functional networks of MPAs. ICM frameworks and capacity building at the national level can establish strong institutions and enabling conditions—policy, legal, judicial and regulatory—that support national MPA networks and local MPA efforts, as well as reduce external threats to MPAs.

It is at the local level, however, that communities must decide what their goals and visions are, and how the international goals relate to their own. By working together, the ICM process and biodiversity efforts can be useful in connecting the international and local goals, and ensuring that biodiversity and human needs are both addressed.

Pressures and gentle persuasions must come from both the bottom up and top down to change the way humans view and use the environment and its resources. This “sandwich” approach can be especially effective for promoting change, and has been shown to be particularly useful in motivating national governments to be more receptive to environmental and governance issues.

International pressures can also be used to support biodiversity conservation and ICM efforts by promoting sustainable management of coastal and marine resources, especially when those resources enter the international market. In these cases, importing countries should assume responsibility along with exporting countries for promoting more sustainable resource use. Importing countries can require demonstration that species on the Convention on International Trade in Endangered Species list came from areas under sustainable management in the source country, or require individual importers to certify that animals were taken by non-destructive and legal practices. By creating positive incentives for responsible management, importing countries can assist exporting countries in strengthening their ability to manage and conserve their own



BOX 2: PROMOTING COMMUNITY-BASED COASTAL MANAGEMENT IN NORTH SULAWESI, INDONESIA

The work done in North Sulawesi, Indonesia through the Coastal Resources Management Program (CRMP) is also an excellent example of ICM contributing to biodiversity conservation. The goals of this project were to develop models of community-based coastal resource management through the ICM approach, especially with respect to the decentralization process underway in the country, and to strengthen local, district and national governments.

One of the first intervention points was the creation of small no-take marine reserves as part of broader community-based management plans in four pilot village sites—Blongko, Talise, Tumbak and Bentenan. The project demonstrated the community benefits derived from local self-governance through the ICM process, as well as the economic benefits from the small marine reserves. From the community standpoint, the marine reserve supported fisheries sustainability, enhancement via spillover from the reserve and, in some villages, potential tourism benefits. Promotion of the marine reserve concept at the community level initially emphasized fisheries management, not biodiversity conservation. However, recent community surveys show that residents now understand the benefits that reserves can provide beyond improved fisheries, including the aesthetic qualities of pristine areas, contributions of healthy reefs to shoreline protection, as well as marine conservation benefits. Hence, this is a win-win situation where multiple benefits and objectives were achieved.

The ecological and economic benefits to communities in the original demonstration sites are already evident. In the villages of Tumbak and Blongko, monitoring studies have shown that coral cover is increasing in the MPA. One spear fisher remarked that “catches have increased from 5 kilograms per day previously to 7.5-10 kilograms per day.” Illegal coral mining is on the decline, as is bomb fishing, ending practices that threaten highly productive coral reefs.

Unlike usual approaches to marine park planning and establishment, the areas chosen for the community-based marine reserves were not necessarily the best areas for a reserve from an ecological or biodiversity conservation perspective. Social factors played an important role in reserve siting, in addition to ecological criteria shared with the community by local marine

experts. Reserve areas tended not to be important fishing grounds nor the most biodiverse areas of reef adjacent to the village; reserves were usually located in close proximity to the village settlement areas to enhance community compliance with the permanent no-take rules. Recent studies in these sites have shown that compliance is higher in areas closer to settlements, so the likelihood that the reserve effects will be achieved is greater at these sites. In addition, the community-based coastal management process has resulted in the reduction of destructive fishing practices not only in the no-take reserves but in the surrounding reef areas as well.

Through the project, both MPAs and models of ICM governance were established, and district laws on community-based ICM were adopted. Due to successful demonstration of governance and fishery benefits, district government offices are now demanding training in the ICM governance process. Within CRMP, the staff functions as facilitators in the ICM approach, building the capacity of government officials to train other officials in the governance process, and thus enhancing replication impacts.

The initial demonstration sites have generated strong interest and demand for replication of the process, the establishment of more reserves, and the reduction of destructive fishing practices in the region. With the enactment of the new district community-based coastal management law that promotes the establishment of village-level no-take reserves, the project has been working with local government to scale-up from the original four pilot sites to a larger number of coastal villages. As of March 2003, there are now 25 community-based no-take reserves in the district covering a total of over 700 hectares. (See Figure 1.)

Interest and demand for these small marine reserves are also contributing to discussions of a province-wide and national MPA network strategy. This is particularly important in North Sulawesi since these community-based marine reserves complement existing marine conservation efforts located in the same province and eco-region, such as the larger-scale Bunaken National Marine Park, one of the outstanding pearls in the string of MPAs dotted across the Indonesian seas. This example highlights how the ICM governance process can create the demand by local communities and levels of government that are vital for replication and scaling-up of field projects and their impacts.

coastal resources. For example, the U.S. is the largest importer of live coral and fish for the aquarium trade, and of dead corals and invertebrates for the curio and jewelry trades. The U.S. could have a major impact in many source countries by creating market incentives through creative trade measures that require demonstration and accountability of sustainable and responsible products (Best, 2002).

By working together strategically, ICM and biodiversity practitioners can mutually support efforts to promote conservation of coastal resources and the well-being of the people who depend upon them. Mutual efforts should be directed not only within and around MPAs, but also beyond MPAs for greater impact, and at local, national, regional and international scales.

TABLE 1: INTEGRATING THE STRENGTHS OF ICM AND BIODIVERSITY CONSERVATION		
Theme	ICM	Biodiversity Conservation
Focus	Emphasis on development: promote the people, preserve the place	Emphasis on conservation: preserve the place, engage the people
Goals	Improve the governance process, economy, health, social well-being, and environmental quality to maintain ecosystem productivity	Conserve biological diversity and ecosystem function
Public role	Neutral brokers	Environmental advocates
Site selection and project design	Development and issue-based approach (i.e., decentralization, strengthen local communities)	Global biodiversity assessments and threats-based approach
Site-based approaches and strengths	Emphasis on governance process helps establish legal, decision-making and enabling environments across local, sub-national and national scales; establishing strong national ICM policies, frameworks and institutions that support local efforts and reduce external threats to MPAs	Emphasis on establishing and strengthening management schemes in MPAs; land acquisition, concessions and debt-for-nature swaps; target critical marine biodiversity and ecosystems in need of immediate protection; garner international funds and resources
International approaches and strengths	Promote international awareness of the need for integrated approaches to coastal management and capacity building; mainstream ICM into development plans	Change global trade policies and transform businesses; reduce threats from global economic drivers, such as unsustainable fishing and tourism; strengthen international conventions
Scaling-up approaches and trends	Coastal watershed and basin-scale management; establish strong national ICM policies, frameworks and institutions; use local government units to replicate efforts; establish authorities to integrate across land and marine resources	Establish functionally-connected networks of MPAs; Eco-regional and seascape approaches to biodiversity threats

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CRAFTING COASTAL GOVERNANCE IN A CHANGING WORLD

STEPHEN BLOYE OLSEN, EDITOR

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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 field 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

Director

Office of Environment and Natural Resources

Bureau for Economic Growth, Agricultural and Trade

U.S. Agency for International Development

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.