

UNDER CONSTRUCTION

THE MAKING OF A COAST-WISE NATION



The Philippines, one of the world's hottest biodiversity hotspots, is a natural major player in the global effort to reverse environmental decline. As an archipelago, the country offers particularly valuable lessons in coastal resource management.

This book, printed alongside a video documentary of the same title, chronicles the evolution of coastal resource use and management in the Philippines, giving testimony to the country's groundbreaking efforts to recast itself as a 'coast-wise nation'.



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FROM THE AMERICAN PEOPLE



The FISHERIES IMPROVED FOR SUSTAINABLE HARVEST Project



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Chapter 1

Evolution

This story spans more than five decades, and tracks the unfolding of coastal resource management (CRM) in the Philippines as the country weathered changes in patterns of resource use and the diminishing overall health of its coastal and marine ecosystems, from its community-based beginnings to its current, still evolving form as an institution-based integrated framework for national development.

The decline

Until recently, the Philippines, an archipelago of more 7,100 islands blessed with highly productive marine habitats and coastal waters, pursued coastal and marine development along the premise that the sea could be exploited without limit, through the use of more efficient gear, in an open access regime. Since 1932, when the Fisheries Act gave most management responsibility to the central government, the national thrust had been largely to promote increased efficiency in fishing effort rather than to introduce or enhance management measures. The accepted viewpoint then was that the problem with Philippine fisheries was not one of resource decline, but a problem of access to the resource, which could be solved by technology.

This framework of development led to excessive fishing pressure, overfishing, stock depletion, and the destruction of freshwater and marine habitats. Thus, most of the extensive shallow seas of the Philippines – once rich in coastal resources, fish and shellfish and the habitats (coral reefs, seagrass beds and mangroves) that nurture them – became severely depleted.

Fishery scientists first sounded the alarm in the late 1960s for fisheries in Manila Bay (Silvestre and Pauly 1989). Over the next two decades, government would operate in a dichotomous state, where it would promote resource protection through various policy statements and legislations, while leaving room for resource exploitation, which would go largely uncontrolled.

In 1975, Presidential Decree 704, the Fisheries Decree of the Philippines, banned destructive fishing and declared “the policy of the state to accelerate and promote integrated development of the fishery industry and to keep the fishery resources of the country in optimum productive condition through proper conservation and protection.” But it also encouraged the “maximum economic utilization” of fishery

resources, promoted fisheries as a preferred area of investment, and encouraged the exportation of “fish and fishery aquatic products”.

Also in 1975, the Forestry Code was enacted, which declared “the protection, development and rehabilitation of forest lands shall be emphasized so as to ensure their continuity in productive condition,” and established the need to protect mangrove forests. But it also encouraged the establishment of wood-processing plants.

Several measures would follow, including: creation of a National Mangrove Committee (1976); PD 1058 amending PD 704 and increasing the penalties for certain forms of illegal fishing (1976); PD 1219 limiting coral gathering to scientific research (1977); PD 1586 establishing the environmental impact assessment system (1978); creation of Marine Parks Task Force to recommend sites for marine parks (1978); declaration of the Philippine Exclusive Economic Zone (1978); organization of the Coastal Zone Management Inter-Agency Task Force with 22 agencies (1979) (*White 2002*).

By 1981, the Philippines had become a signatory to CITES. In 1986, government banned *muro-ami* and *kayakas* fishing; smashing corals with rocks and poles to drive fish into nets, these fishing methods were notorious not only for the trail of destruction they left in coral reefs but also because they employed child labor. In 1988, the first national marine park was established at Tubbataha Reef in the Sulu Sea, a highly bio-diverse coral reef atoll that yields the highest fish biomass in the country, recorded at 120 metric tons per square kilometer in 2003. In 1992, the Philippines became a signatory to Agenda 21 and the Philippine Council for Sustainable Development was created (*White 2002*).

And yet, the degradation of coastal resources continued and in many cases accelerated. The numerous transfers of jurisdictional authority for fisheries from one agency to the next could have been a contributory factor. Since the early 1900s, the Bureau of Fisheries and Aquatic Resources (BFAR) had been transferred numerous times from one agency to another. In 1984, by virtue of Executive Order 967, BFAR was once again transferred from the Ministry of Natural Resources (MNR) to the Ministry of Agriculture and Food, but the MNR retained authority over the management of the marine environment, including coral reefs and other habitats. Jurisdictional conflicts created confusion and hindered the implementation of key resource protection laws (*White 2002*).

By 1993, the year the National Integrated Protected Areas System (NIPAS) was established through Republic Act. No. 7586 (1992), the area of mangrove forests in the Philippines had declined significantly from an estimated 450,000 hectares at the beginning of the century to approximately 140,000 hectares (*DENR 1988; World Bank 1989*). Major losses of mangrove areas occurred in the 1970s and 1980s, when the

government, in an effort to boost fish production from aquaculture and despite passing a Forestry Code that stated the need to protect mangroves, encouraged the conversion of mangrove forests to shrimp and fishponds.

In the mid-1990s, less than 5% of coral reefs in the Philippines were considered to be in excellent condition (*Gomez et al 1994*). Siltation from deforested uplands, destructive fishing practices, pollution and physical removal were the major factors that caused their degradation.

In the face of a dramatic increase in population, increasing global demand for marine products, overfishing and habitat destruction, fish stocks dwindled at an exponential rate, with significant declines in municipal fisheries throughout the country. New technology and the expansion of fishpond areas provided a boost to the industry in the late 1970s, but it was short-lived. The once robust growth in fish production from aquaculture eventually turned sluggish.

Seeds of change

Awareness of the worsening coastal resource degradation and its concomitant problems began to emerge in the 1970s, but even then there was a pervasive belief that fish production could be increased infinitely with more efficient fishing technologies. The few activities at the grassroots level that would now be considered as CRM had resource protection merely as an incidental benefit. Over time, however, these community-based efforts would be raised as models of CRM for others to follow.

In 1957, motivated only by their need for firewood and timber, the people of Banacon, a sparsely vegetated island in Getafe, Bohol, began planting mangroves in what is now regarded as the biggest man-made mangrove forest in Asia (*See story on page 8*).

In the mid-70s, Genu Philippines, a seaweed processing firm, introduced seaweed farming to Hingotanan Island in Bien Unido, Bohol, and inadvertently transformed its residents from being dynamite fishers to seaweed farmers (*See story on page 9*).

In 1974, Silliman University, together with a local mayor, established the Philippines' first marine reserve at Sumilon Island, an uninhabited island off Oslob, Cebu, to answer the question: "What is the maximum fish yield that people can get from reefs?" At Sumilon, scientists discovered that a square kilometer of healthy reef could produce up to 30 tons of fish (six times as much as they first thought). They developed a formula for reversing the decline of fisheries: protect 25% of the reef, harvest the rest with hook-and-line and other non-destructive methods, and the reef will always stay productive and healthy (*Rashid 1992*). Over 10 years

of protection, fish abundance in the reef tripled, resulting in substantial increases in the fish catch of fishers in surrounding areas.

In 1984, a new mayor was elected and promptly revoked Sumilon's protected status. This caused Silliman to take its research to three small islands in Negros Oriental and Bohol – Apo, Balicasag, and Pamilacan. Under the Marine Conservation and Development Program (1984-86) of Silliman University, USAID and Asia Foundation, the scientists, in an effort to shield their work from changing political biases, began an intensive community-organizing campaign to engage local residents in the management and protection of the island's reefs and waters.

Of the three islands, Apo proved to be particularly successful (*See story on page 11*), charting a new course in the Philippines that would emphasize community involvement in CRM, make resource users the primary managers and protectors of the coastal resources on which they depend, and get the process of integrated coastal management going (*Raymundo and White 2004*).

Over the same period, the Central Visayas Regional Project (CVRP, 1984-92) supported by a World Bank loan piloted a community-based rural development effort that included as one of its components nearshore fisheries development in the four Central Visayan provinces (Cebu, Bohol, Negros Oriental and Siquijor) (*White, 2002*). CVRP covered a period of transition from dictatorship to democracy in the Philippines, when a new people power-inspired Constitution was instituted and government began a process of decentralization. By the time CVRP ended in 1992, it had experimented with development approaches at different levels (community, municipal, provincial and regional).

In 1986, the ASEAN/US Coastal Resource Management Project piloted integrated coastal management in Lingayen Gulf. The project, which ran until 1992, was tasked to promote CRM through improved information flow and the design of site-specific plans for selected areas in the ASEAN region.

In 1990, the Department of Agriculture (DA) began testing the community-based approach for wider application through its Fisheries Sector Program (FSP, 1990-97). FSP, which was funded by an Asian Development Bank loan, attempted to generate and implement CRM plans in 12 bays across the country known for their rich fisheries, management problems and the growing poverty of coastal residents.

In 1991, the Local Government Code (LGC) was enacted, fleshing out the Constitutional provision on decentralization and democratization. The LGC would have a major impact on the system of governance in the Philippines, but it was not until the mid-1990s that its influence on CRM would be felt.

In 1995, in response to a clamor from fishers' organizations, EO 240 institutionalized the Fisheries and Aquatic Resource Management Council (FARMC) to serve as a legal forum for small fishers to participate in the affairs of government.

In 1996, the DENR introduced a new tenurial instrument on forestlands (including mangroves). Called 'Community-Based Forest Management Agreement' or CBFMA, it is a production-sharing contract between a community and the government to develop, utilize and conserve a specific portion of forestland consistent with the principles of sustainable development and pursuant to an approved Community Resource Management Framework Plan. Unlike some of the older tenurial instruments, the CBFMA can be issued only to people's organizations, and not to companies or individual (*Melana et al 2000*).

Also in 1996, the Coastal Resource Management Project (CRMP) of DENR and USAID embarked on what would become a 9-year effort to take CRM in the Philippines to the threshold of sustainability, expressed as "3,500 kms of shoreline under improved management" by the end of the Project (*see story on page 13*).

CRM as a basic service

1998 turned out to be a particularly significant year for CRM in the Philippines. That year, as the nation celebrated with the rest of the world the United Nations International Year of the Ocean, Congress enacted Republic Act 8550, the 1998 Fisheries Code of the Philippines, which reinforced and defined the local government unit's (LGU) role in CRM, and two new projects began: the Fisheries Resource Management Project implemented under a loan program of the Asian Development Bank to build on past initiatives in bay-wide fisheries management, and the Community-Based Resource Management Project (CBRMP) under a World Bank loan which aimed "to reduce poverty and environmental degradation through support for locally generated and implemented natural resource management."

In 1999, public awareness of coastal issues reached an all-time high, May was declared 'Month of the Ocean' in the Philippines, and the LMP convened the country's first-ever conference of coastal municipal mayors. The conference was attended by top national officials including the Philippine President, and more than 700 mayors representing 90% of coastal municipalities in the Philippines, setting the stage for the expansion of CRM across a wider geographical area (*CRMP 2000*).

Over the next five years, with help from a wide range of institutions and aid programs (*see timeline on page 14*), the effort to build the country's capacity in CRM gained ground across all levels of government. As they

acquired the know-how required to manage their coastal resources, more and more LGUs embraced CRM as a basic service and a mainstream governance function. Meanwhile, at the national level, policies were reviewed and improved to make government more effective in meeting the requirements of CRM.

Subsequently, the provincial government was integrated into the CRM system, thus strengthening the vertical linkages for the delivery of technical assistance and other services necessary for LGUs to manage their coastal resources.

In 2001, the DENR issued an administrative order prescribing the guidelines for the delineation of municipal waters. This move was hounded by controversy, which resulted in the revocation of the order and its subsequent replacement by a similar order issued by the DA. Nevertheless, it gave municipal governments the instrument to define the boundaries of their management area, a key requisite to planning. By the time a new set of guidelines was issued by the DA in 2004, more than 20 municipalities and a few cities had already delineated their municipal waters.

By the end 2002, based on a simple benchmark system that CRMP developed to measure progress in CRM through local government, 101 LGUs representing 13% of all coastal LGUs in the Philippines and covering 3,187 kms of shoreline met all indicators for improved management of coastal resources. That year, DENR established a Coastal and Marine Management Office that institutionalized the CRM functions of DENR in a major program founded on the lessons of CRMP and other CRM initiatives. Also that year, DENR began national level consultations on a draft National CRM Policy that provides a workable policy agenda for catalyzing CRM plans and programs of LGUs and for establishing national support systems for CRM by DENR and other key national government agencies, non-governmental organizations, and academe.

As the systems were strengthened, the institutionalization of CRM deepened and broadened across national and local levels, and new models emerged to respond to the demands of resource management.

In Bohol, an inter-LGU, multi-agency, multi-sectoral law enforcement group was created to meet the challenge of coastal law enforcement, waging a successful campaign against illegal fishing in the province (*See story on page 18*).

In Cebu, years of uncertain support for the Gilutongan Island Marine Sanctuary in the municipality of Cordova inspired the installation of a revenue generation scheme that has made the sanctuary self-sustaining (*See story on page 19*).

In Masbate City, the LGU embarked on a truly holistic CRM program that includes the institutionalization of education as an agent of change and sustainability (*See story on page 21*).

By the end of 2004, at least 113 LGUs representing 14% of all coastal LGUs in the Philippines and covering 3,589 kms of shoreline (20% of the total Philippine shoreline of 18,000 kms) met all requirements for improved management of coastal resources (*CRMP 2004*).

The continuing challenge

The Philippines has reached a stage where there is widespread acceptance among LGUs that CRM is a basic service and an urgent need that requires priority action. Nationally, there is growing recognition of the tremendous and in many cases irreplaceable economic benefits derived from coral reefs, fisheries and mangroves in the Philippines – in 1996, the total annual contribution of these ecosystems to the Philippine national economy was estimated to be at least USD3.5 billion a year (*White and Trinidad 1998*). The work of the past decade is only now beginning to bear fruit, and there are many more challenges to overcome before the country can reap the full benefits of current initiatives.

Of critical importance is the need to address fisheries decline and translate management measures into tangible benefits especially for marginal fishers, who comprise a large segment of the Philippine fisheries industry. In 2003, USAID and the Philippine Government began the Fisheries Improved for Sustainable Harvest (FISH) Project, which will attempt to directly tackle the specific fisheries issues in four sites and develop replicable models in fisheries management (*See story on page 24*).

Overall, the challenge is to continue to build on the gains the country has already achieved in CRM by undertaking the urgent actions needed to foster and improve the management of the coastal environment, and ultimately transform the country into a truly coast-wise nation.

Chapter 2

Modeling the Way

Current practices in CRM in the Philippines reflect the multitude of experiences from various initiatives undertaken in the country in the last half century. The following represent some of the Philippines' best experiences in CRM, many of which are still evolving.

Banacon, Getafe, Bohol

ON COMMON GROUND

Asia's biggest mangrove plantation has a history that dates back to 1957, before the term 'coastal resource management' was even coined. Although now often regarded as a single unit, it is in fact made up of several small plantations established by individual planters sharing only a common need for a steady and accessible source of firewood and timber.

Until 1957, the island of Banacon off the mainland of Bohol was sparsely vegetated, supporting its small population solely through fisheries. On a fishing trip, the late Eugenio "Nong Denciong" Paden, a local fisher, observed fish gather near one of the island's few mangrove trees to feed, a sight that would inspire an idea that literally transformed the island and its people.

Nong Denciong thought, if one tree could draw so many fish, perhaps two or more trees would attract even more fish for fishers to catch. He planted a few *bakauans* (*Rhizophora* sp) to see if they would grow. When they did, he planted more, and soon he had a small, thriving mangrove plantation near his house.

Delighted, he kept planting, and encouraged his friends to do the same, telling them the trees would be a good source of firewood and timber. His friends heeded his advice, and in time his friends' friends and neighbors and their friends did as well. By the early 1980s, the plantations had grown to a combined area of more than 400 hectares.

For a long time the planters were self-sustaining and self-contained — in the years when mangroves in many places were being clear-cut for fishpond development, they were expanding their mangrove plantations, oblivious to the promise of aquaculture being touted all across the Philippines. Paradoxically, when national policy finally responded to the need to protect what remained of the country's mangrove forests, it weakened the foundation of common interest on which Banacon's model mangrove management initiative was built.

In 1984, the government declared a mangrove swamp reserve that included Banacon as a wilderness area. To the mangrove planters' dismay,

their island's new status prohibited them from harvesting wood from their plantations. By law, forestland, including mangrove areas, cannot be privately owned, but the government can grant certain legal entities the privilege to use them. Banacon's protected status made it difficult for the planters to even apply for such privilege. Defiant, some planters continued to clandestinely harvest trees from their plantations, becoming less motivated to replace the trees they cut. Banacon was in danger of losing its mangroves.

Realizing that they could best represent their common interests when they acted as a community, the planters, assisted by the World Bank-funded Central Visayas Regional Project, organized themselves and for the first time worked as one group, united in their goal to earn the legal right to harvest the trees they planted.

When CRMP began technical assistance in the area in 1999, it strengthened the planters' association and facilitated their accreditation as a people's organization to allow them to qualify under DENR's production-sharing system for forestlands called Community-Based Forest Management Agreement or CBFMA. Simultaneously, CRMP worked toward having Banacon's mangrove forest re-zoned to include a sustainable use area where the planters can resume planting and cutting trees, while helping DENR to manage and protect the whole island.

It took another 4 years before the planters were granted a CBFMA. Today, with help from the World Bank-funded CBRMP, they are drawing up a resource use plan for DENR's approval. The document details how they will continuously replenish the trees they cut from Banacon's sustainable use zone.

If the plan is approved, the planters may be granted the privilege to once again harvest wood from their plantations.

Hingotanan, Bien Unido, Bohol

THE BETTER ALTERNATIVE

Development workers have long acknowledged that in many highly resource-dependent sectors, conservation is strongest when there is quid pro quo. In Hingotanan Island, dynamite fishers voluntarily gave up their destructive ways not for resource protection or management but for an alternative livelihood that required minimal capital and no specialized skills, offered a good income and steady market, and fortuitously promoted the protection of coastal habitats. Today, they provide a model of CRM based on an environment-friendly economic activity.

Thirty years ago, like 90% of his neighbors in the island of Hingotanan in Bien Unido, Bohol, Silverio 'Nong Silver' Cabañero was

a dynamite fisher. He remembers being destitute, his family surviving on a meal of rice and salt a day – Hingotanan sits on the Danajon Bank Double Barrier Reef, a huge sea bank of corals and breeding area for fish, but dynamite fishing had taken its toll on the island's once rich marine life; there was little fish left to catch.

In 1976, after an unsuccessful attempt to grow seaweeds at another island, a seaweed processing firm called Genu Philippines set up an experimental farm in the shallow waters of Hingotanan. Nong Silver became acquainted with the farm manager and began visiting the farm regularly. One day, the manager offered him a job, which he readily accepted. Soon he was guarding the farm, monitoring the seaweeds' growth, and recording environmental conditions. Then, with Genu's assistance, he was running his own farm and selling dried seaweeds to the company.

Word quickly spread about Genu and the assistance it gave Nong Silver. What started as a research and testing activity for Genu blossomed into a profitable economic enterprise for the fishers of Hingotanan. Emboldened by a steady market, good prices and easy-to-learn technology, the islanders began to concentrate more and more on seaweed farming. In time, they abandoned fishing and relied solely on seaweeds for their livelihood.

A profound change happened. Despite some losses due to typhoons, disease, competition and price fluctuations, most of the islanders never went back to dynamite fishing. Besides turning illegal fishers into farmers, seaweeds also contributed to the protection of marine habitats around the island. Because seaweeds were found to grow best in sandy and seagrass areas, most of the island's coral reefs were left undisturbed and thus given the chance to recover.

Destructive fishing by outsiders was also reduced — seaweed farm operators now had a stake in keeping the waters around the island clean and secure and were constantly on alert against any destructive activities, including dynamite and cyanide fishing.

To promote sustainability and ensure that the benefits go directly to the island's residents, the local government passed an ordinance that restricts seaweed farming concessions in Hingotanan to local residents, and limits the farming area to one hectare per family.

While only intending to secure a steady supply of dried seaweeds for its own requirements, Genu started a process that completely transformed the people of Hingotanan. From being destructive fisher-hunter-gatherers concerned only with their family's immediate needs, they have become businessmen-farmers with a long-term view and plan for the future. The quick return, high profitability and continuous market demand they experienced with seaweed farming made their

transformation nearly painless – and kept them from going back to their old, destructive ways.

Today in Hingotanan, people cannot imagine having to go back to dynamite fishing. There they now tell happy stories of dynamite-fishers-turned-seaweed-farmers who successfully supported their children through college, all because, 30 years ago, they were shown a better way to earn a living.

Apo Island, Dauin, Negros Oriental

THE COMMUNITY FACTOR

The Apo Island Marine Sanctuary in Dauin, Negros Oriental was established in the mid-80s amid objections from a large segment of the island's fishing community. Today, Apo is the longest-running successful community-managed marine sanctuary in the Philippines, and remains a powerful testimony of the efficacy of community-based resource management approaches.

Apo is a small (72-hectare) volcanic island about 25 kms off the southeast coast Negros Island. The most remarkable thing about it is its marine sanctuary, the Philippines' first community-managed sanctuary and the single biggest source of pride of the people living there. All islanders, including preschool children, know and understand what the sanctuary is about. Some of the elders can recall to the day when the sanctuary was officially declared as a protected area: November 3, 1986, when the municipal council of Dauin (to which the island belongs) adopted an ordinance protecting the Apo Island Marine Sanctuary "from all fishing methods or other ways destructive to the coral reef habitat." Indeed, the sanctuary has become grist for heartwarming anecdotes of people determined to protect their future by protecting the sea on which they all depend. But it was not always so.

The first attempts by Silliman University to convince the islanders to set aside a portion of their fishing ground for protection were met with much skepticism and suspicion. Silliman, a private university in Negros Oriental's capital city of Dumaguete, was known in the scientific community for its pioneering work in coral reef management. For 10 years, under an agreement with a local mayor, the university's Marine Laboratory managed a marine sanctuary at Sumilon, an uninhabited island in Oslob, Cebu, where it proved that fish abundance in a reef and the surrounding area can be improved by designating a no-take zone and protecting the whole area from all types of destructive fishing. Protection of Sumilon was abruptly ended in 1984, when a new mayor revoked Silliman's agreement with the previous administration.

When Silliman received a grant under the Marine Conservation and Development Program of USAID and Asia Foundation to continue its conservation work, its researchers and community organizers headed for Apo and two islands in Bohol to do further studies on marine sanctuaries. In Apo, the people's reception was unexpectedly cool, if not downright hostile. They had heard that Silliman 'illegally' occupied Sumilon for 10 years and was now bent on 'taking over' Apo.

Silliman found allies among a few village leaders, who convinced the rest of the community to give them time to prove that the sanctuary could work. An area that was acceptable to the community was designated and marked for protection, and Silliman's community organizers and the villagers set about guarding it. In one year, fish abundance in the protected area had noticeably increased, boosting community support for the sanctuary.

Through the years, the island's coral reefs thrived under protection and Apo gained fame internationally as an excellent dive spot. The sanctuary also became renowned as a model of community-based resource management, and soon the islanders were hosting visitors from distant places across the globe.

With news about Apo spreading far and fast, the national government stepped in. In 1994, the whole island and the waters around it were declared a 'protected landscape/seascape' under the NIPAS. The move was intended to reinforce the protection of the island and promote its sustainability, but turned into a contentious issue between DENR and local leaders. The bone of contention: revenues from a user-fee system instituted in 1999.

As a national protected area, Apo is under DENR's jurisdiction and fees collected from visitors are deposited in a fund administered centrally by the national government, which is mandated to remit to the LGU and community their share of the sanctuary's collection. Community leaders complain the national government has been slow in disbursing funds to the LGU, and this has affected the protection and management of the sanctuary.

Discussions are underway between the local government, community leaders and DENR to address the issue and find a middle ground that truly satisfies the requirements of Apo as, first and foremost, a community-managed sanctuary. Meanwhile, in Apo, the people vow to remain steadfast in their role as guardians of the sea around them. More than anything, they are fishers, they say. They will keep protecting their sanctuary, now that they know its benefits.

Coastal Resource Management Project

ON THE THRESHOLD

The Coastal Resource Management Project (CRMP) was implemented during a period of decentralization of the Philippine government. It sought to catalyze the spread of coastal management from pilot-scale community-based initiatives to a broad cross-section of stakeholders across a wide geographical area. The Project successfully put CRM in the national social agenda and promoted it as a basic local government service, thus setting the stage for a more systematic and sustained action toward solving the specific causes of coastal degradation.

In 1996 when CRMP was launched, the Philippines had chalked up significant experiences in community-based CRM (CB-CRM). In small coastal villages that had participated in CB-CRM initiatives, there were undeniable changes in patterns of resource use accompanied by a sizable rebound of coastal resources.

But on a national scale, these impacts were hardly felt. Overall, the trend of environmental decline continued, and critical coastal habitats such as coral reefs, seagrass beds and mangrove forests had become seriously degraded.

The situation was exacerbated by the fact that by virtue of the LGC passed in 1991, many important CRM functions had been devolved to the LGUs, but no major capacity-building effort was undertaken to equip local government workers to deliver their CRM mandate. In some cases, coastal mayors were unaware that they were now responsible for managing their coastal resources.

Against this backdrop, CRMP sought to move beyond implementing pilot-scale community-based projects to spur the spread of CRM initiatives to a national scale by promoting CRM as a basic LGU service. This objective is reflected in the Project's mission statement: "To catalyze CRM in the Philippines to a threshold that will expand nationwide and be sustainable beyond the life of the Project."

'Threshold' was taken to mean the basic capacity and institutionalization required to sustain CRM. The strategic objective, 'improved management of coastal resources,' was expressed in kilometers of shoreline.

Initially intended to run for 5 years with a strategic objective of 2,000 kms of shoreline under improved management by 2000, CRMP was extended by a total of 4 years, and its objective was increased to 3,500 kms by 2004 (*CRMP 2003*).

Perhaps more than any other donor-funded project of its kind, CRMP championed the ascendancy of the LGU as a frontline steward of coastal resources. Its emphasis was to help LGUs fulfill their mandate

Timeline of coastal resource management in the Philippines

Coastal resource development promoted by national government

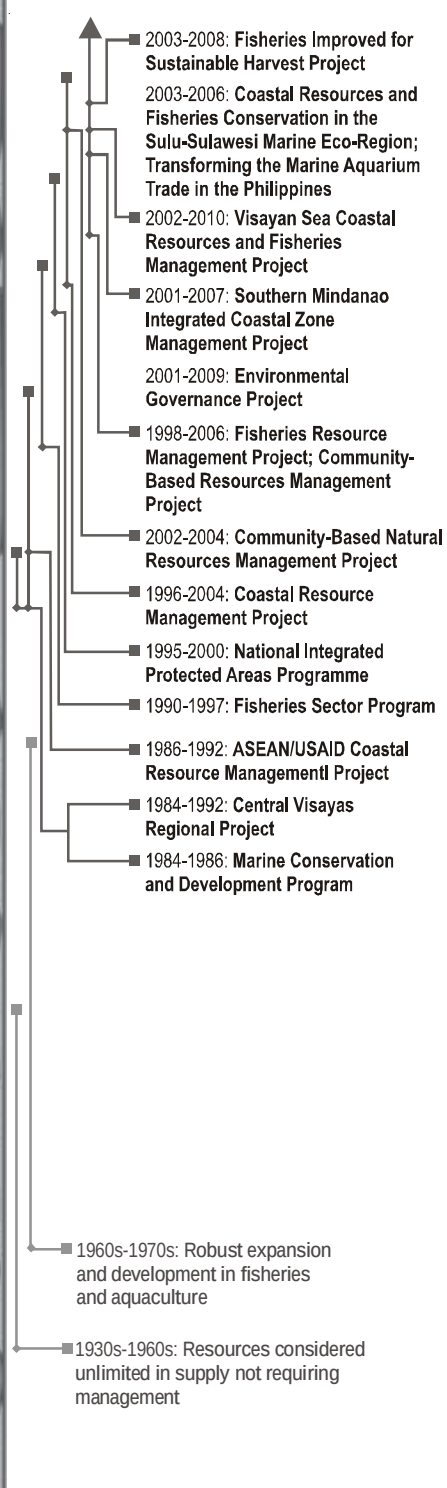
Fishers exploit coastal resources in open access regime

Regulation of coastal resources instituted by national government

Community-based resource management models developed

National legal and policy framework for coastal management established

Community-based resource management institutionalized



2004	Fisheries scientists, managers and field practitioners issue urgent call to rebuild Philippine fishery resources (📺 Getting There); 3,500 kms of shoreline meet criteria for improved CRM (📺 On the Threshold)
	National CRM Policy reviewed at the national level
2002	More than 100 municipalities allocated budget for CRM; municipal water delineation begins in several municipalities and cities; CEP of DENR institutionalized as Coastal and Marine Management Office
2001	POPULATION: 70 million DA and DENR sign memorandum on implementation of Fisheries Code; Bohol Province creates Coastal Law Enforcement Council (📺 Networking Works); Masbate City adopts CRM as a strategy to reduce poverty (📺 Becoming)
2000	May proclaimed Month of the Ocean in the Philippines; historic Conference of Coastal Municipalities of the Philippines convened
1998	Fisheries Code passed, reinforces role of LGU in CRM; Philippines celebrates international Year of the Ocean; Ocean Charter signed; Municipality of Cordova installs user-fee system at Gilonongan Island Marine Sanctuary (📺 If You Build It...)
1997	COMMERCIAL FISHING EFFORT: 45% > optimum level
1996	NATIONAL FISH CONSUMPTION PER CAPITA: 24kg
1995	POPULATION: 73 million; CORAL REEFS: < 5% in excellent condition Fisheries and Aquatic Resource Management Councils authorized
1993	MANGROVES: 138,000 has Coastal Environment Project (CEP) of DENR starts
1992	PCSD created; Philippines signs Agenda 21; NIPAS Act passed
1991	Local Government Code devolves responsibilities for CRM to local government
1990	POPULATION: 65 million
1988	MANGROVES: 140,000 has First National Marine Park established at Tubbataha Reefs, Sulu Sea
1987	NATIONAL FISH CONSUMPTION PER CAPITA: 40 kg
1986	Apo Island Marine Sanctuary established by municipal ordinance (📺 The Community Factor); kayaks and motor-ums banned
1984	BFAR moved from Ministry of Natural Resources to DA
1981	Philippines signs CITES
1980	POPULATION: 51 million; MANGROVES: 175,000 has
1979	Ungayon Gulf fisheries reach maximum sustainable yield Coastal Zone Management Inter-Agency Task Force with 22 agencies formed
1978	Marine Parks Task Force created to recommend sites for marine parks; Philippine Exclusive Economic Zone established; Environment Impact Assessment System established
1977	Coral gathering limited to scientific research
1976	National Mangrove Committee created; seaweed farming introduced to Hingatanan Island, Bien Unido, Bohol (📺 The Better Alternative)
1975	Fisheries decree promotes optimal exploitation and use of fisheries; Forestry Code cites need to protect mangroves
1974	First municipal marine reserve established around Sumilon Island, Cebu
1970	POPULATION: 37 million; MANGROVES: 258,000 has
1968	Fishery scientists warn of overfishing in Manila Bay
1960	POPULATION: 27 million
1957	Residents of Banacon Island, Gatale, Bohol start mangrove plantations (📺 On Common Ground)
1932	Fisheries Act gives most fisheries management responsibility to central government
1918	POPULATION: 10 million; MANGROVES: 450,000 has

under the LGC to manage coastal resources through an integrated, participatory and community-based process (*CRMP 2000*).

Using previously tested approaches to CRM, the Project initially worked in six Learning Areas with an aggregate coastline of 680 kms to develop systems that would integrate CRM in local governance and promote it as a basic LGU service. It built local capacities in CRM by engaging local government workers in a planning process that was self-sustaining and included important elements of development management, such as community involvement, resource allocation, plan implementation and monitoring and evaluation.

The process was supported by a simple but robust benchmark system that CRMP initiated to measure progress in coastal management through local governments. The system included key benchmarks such as allocation of LGU budget for CRM, adoption of CRM plans, the presence of active FARMCs, coastal law enforcement, and marine protected areas, among other best practices. Laws were passed and systems were put in place to enhance the protection of marine sanctuaries and mangrove areas, and promote compliance with coastal laws.

Simultaneously, CRMP addressed issues at the national level, to make national government more effective in its role as technical assistance provider to LGUs, as well as to pursue its expansion objective.

The 1998 International Year of the Ocean gave CRMP a major opportunity to carry out its expansion strategy. Using high-impact events to promote its cause, the Project generated tremendous media mileage and public interest that opened doors to strategic partnerships with major stakeholder groups.

CRMP's partnership with the LMP, which counts among its members the country's more than 800 coastal mayors, proved particularly productive. In 1999, as an off-shoot of the Project's campaign, May was declared as Month of the Ocean in the Philippines, providing impetus for the holding of the historic Conference of Coastal Municipalities of the Philippines. The Conference was attended by top national officials led by the President and drew more than 700 coastal mayors who pledged to undertake CRM in their respective municipalities.

National consciousness of CRM reached an all-time high. In 2000, a nationwide survey revealed a high level of awareness of coastal problems and their solutions among fisherfolks, with 40% of respondents in CRMP's Learning Areas claiming they took positive action after learning about CRM.

Working with other institutions and donor-funded projects, the Project made remarkable progress in pushing for policy reform, building capacities at all levels of government, refining the implementing systems

and tools for CRM, and promoting their adoption among a network of partners nationwide.

In 2002, DENR's Coastal and Marine Management Office was established, institutionalizing the coastal management function in a major program that builds on CRMP's gains. National consultations were held to polish a draft National CRM Policy aimed at building on coastal management capacities already developed.

As the institutionalization of CRM took hold, the pace of management efforts quickened: A number of municipalities passed ordinances delineating their municipal waters to define their area of management and jurisdiction. A certification system based on CRMP's coastal management benchmarks was instituted at the regional level to serve as a roadmap for LGUs to evaluate their progress and plan their next steps. Provinces began taking an active role as technical assistance providers in CRM. And the first two municipalities were awarded a Level 1 certification that signified they had taken all the necessary first steps in managing their coastal resources and sustained these for at least one year.

CRMP closed in 2004, leaving a foundation for sustaining CRM well into the future. Nationally, the adoption of various CRMP guidance documents by relevant national agencies and projects provided a mechanism to harmonize and promote common policies, approaches and methodologies for coastal management. At the local level, 113 LGUs had embarked on a long-term program to manage their coastal resources – 22 LGUs had been certified at Level 1 CRM implementation. The key indicators in these Project-assisted areas showed a definite deepening of local CRM efforts: the average annual budget allocated for CRM rose to nearly 500,000 pesos in 2003, compared to just over 100,000 in 1995; 119 people's organizations were organized and participated in the CRM effort; more than 3,000 hectares of mangroves were placed under the DENR's community-based forest management program; and the number of marine sanctuaries jumped from 26 in 1995 to more than 100 in 2003, with significant improvements in fish abundance within and around the sanctuaries (*CRMP 2004*).

The critical mass theory states that a self-reinforcing mechanism emerges when a critical mass – 10-30% of the targeted population – has adopted a particular behavior. Together, the more than 100 LGUs that are now known to have embraced CRM as a priority program of development represent 13% of all coastal governments in the Philippines, with influence on more than 3,500 kms, or 18% of the country's coastline. Clearly, they have the numbers required to push the CRM agenda further.

Success is by no means certain. The Philippines has only just installed the governance systems necessary for CRM to take hold. There is much left to do to ensure that the systems are applied in the manner that they

should, and that primary coastal stakeholders get the full benefits of CRM. But one thing is certain: National and local initiatives have achieved a momentum that can only push CRM forward, fanning hopes that the Philippines is finally on its way to fully reversing the tide of decline and destruction of its coastal resources.

Coastal Law Enforcement Council, Bohol

NETWORKING WORKS

Law enforcement remains one of the most daunting challenges of CRM for LGUs, often requiring materiel and personnel that strain local government resources. In Bohol, the campaign against illegal fishing is made less costly and more efficient with LGUs sharing resources and information through an inter-LGU, multi-agency, multi-sector Coastal Law Enforcement Council (CLEC).

For a long time, illegal fishers in Bohol evaded apprehension simply by moving from one town to another. Their activities had enormous negative impacts on the coastal environment: reduction in fish catch, destruction of marine habitats, loss of income of some 80,000 small-scale fishers, increased fish prices and reduced availability of marine products, and a host of other related problems.

In 2000, the Provincial Government of Bohol, supported by CRMP, called all fishery stakeholders to a Coastal Law Enforcement Summit to discuss and identify solutions to the illegal fishing problem. Their conclusion: illegal fishing can be more effectively addressed through coordination and an integrated approach to coastal law enforcement. To effect this, the Provincial Government created a CLEC in each of Bohol's three congressional districts.

Ten municipalities belong to CLEC-1, 9 fall under CLEC-2, and 11 comprise CLEC-3. Each CLEC was given a fully-equipped patrol boat and allocated funds for maintenance and operating costs.

The CLEC, represented by all LGUs in its district, serves as the main planning and coordinating body for all activities related to coastal law enforcement within the district. Council members elect their own set of officers who preside over monthly meetings and spearhead awareness campaigns on specific enforcement issues and procedures. The words they live by: "There is one set of laws for everyone, big or small, influential or not."

Once a year the 3 CLECs meet to discuss accomplishments and challenges. Thus far, their reports have been encouraging. Collaboration between municipal governments has improved in terms of resource sharing. Through training and sharing of information, law enforcers, prosecutors and judges have become more technically equipped to handle cases involving violations of coastal laws.

Enforcement is accompanied by a campaign to inform and educate fishers, middlemen and market vendors on what fishing methods and gears are allowed and which ones are not, and the penalties they face for violating the law.

One strategy that has worked well is CLEC's use of the 1998 Fisheries Code in the filing of cases. Compared to local ordinances, the Fisheries Code provides harsher punishments and no compromise on penalties, and requires cases to be filed in court. There has been a significant drop in the number of violations since CLEC began filing cases against illegal fishers based on the provisions of the Code.

This strategy has a downside, however: Because the cases are handled by the courts, the LGU cannot impose local fines. This means CLEC has less funds for operation. Indeed, when it started using the Fisheries Code in prosecuting fisheries violations, CLEC saw its funds dwindle and at times run out, hampering its effectiveness.

Law enforcers also say that while the threat of a court case deters many would-be violators, illegal fishing cases are actually hard to prosecute because of difficulties in getting evidence that is admissible in court. CLEC has many cases against illegal fishers dismissed by the court for lack of evidence, resulting in some level of frustration among law enforcers who worked so hard to bring those illegal fishers to court.

Still, CLEC officers find enough reason to believe they are making a difference – in some instances, it is estimated that the incidence of illegal fishing has fallen by 75-80%, simply because of the law enforcers' high visibility. Given this and realizing what they can achieve when they network with each other, they are not about to give up on working together.

Gilutongan, Cordova, Cebu

IF YOU BUILD IT...

Government projects in the Philippines are vulnerable to loss of financial support when the LGU leadership changes, or when the LGU changes its priorities. The Gilutongan Island Marine Sanctuary has weathered loss of LGU support, only to emerge strong institutionally and financially, thanks to a user-fee system that now fully funds its operations, as well as contributes to the development of the entire island.

Gilutongan is an 11-hectare island 3 nautical miles off the southernmost part of the municipality of Cordova, Cebu. It is surrounded by naturally rich marine waters, waters that have however become depleted from years of destructive fishing. In the 1980s, despite the declaration of Gilutongan and its neighboring islands as a marine reserve, dynamite fishing was so rampant the area was dubbed a 'war zone'.

The threat to Gilutongan did not go unnoticed. In 1991, the now defunct Coastal Resource Management Office (CRMO) of the Provincial Government of Cebu declared about 10 hectares of waters around the island as a pilot marine sanctuary. Protection was provided by some resident watchmen under the province's payroll.

The marine sanctuary quickly showed its promise, with the number of fish inside the protected area visibly increasing. But when a new provincial government was elected, funding for the sanctuary stopped, leaving the watchmen struggling to maintain it.

For 4 years, the sanctuary was left without any operational funds. One by one, the watchmen quit, until only one man remained to guard the sanctuary.

In 1997, CRMP assisted the municipal government of Cordova to reactivate the sanctuary. For a time, the Project paid the wages of the lone watchman who stayed, Timoteo Menguito, who was designated project director. To ensure that funding would always be available for the sanctuary's maintenance, CRMP also helped the community and the municipal government to develop, install and run a user-fee system that would support management and conservation activities at Gilutongan.

Under the system, foreign visitors pay an entrance fee of Php50 per person; domestic tourists get a 50% patrimony discount. The fees are paid directly to the Municipal Treasurer's Office at the Cordova Municipal Hall or through accredited dive shops and boat operators in Mactan. They entitle visitors to swim, dive or snorkel in the sanctuary's multi-use buffer zone (the core zone is off-limits to visitors, except those doing authorized research and reef monitoring activities).

Revenues pay for the sanctuary's upkeep, including salaries and annual reef checks. Whatever is left after operational funds are deducted is shared between the municipality and the community of Gilutongan, with 70% going to the municipal government and 30% channeled back to the island.

From Php3,500 during the first month the system came into operation, collections grew to Php2 million in 2004, enough for the municipal government to fund the marketing and promotion of the sanctuary as a tourist destination, and for the community to pay for several projects, such as medical assistance, micro-financing for livelihood activities, and shoreline clean-ups.

As tourists continue to flock to Gilutongan, the sanctuary's financial future is assured, but its managers are facing a new challenge: The growing number of visitors raises the issue of how many are too much. Although the reef is in excellent condition, practical management considerations will require a limit on the number of visitors that can enter the sanctuary at one time, and ensure sustainability over time.

How this can be done is still being studied. The municipal government and the community are being assisted by a number of non-governmental organizations in looking for ways to strengthen the management of the sanctuary, employing approaches that seek to simultaneously address the issues of carrying capacity, financing, law enforcement, population, and resource management.

Meanwhile, buoyed by what they have achieved with their user-fee system, the community looks to the future with a confidence rooted in their determination to protect and build on the sanctuary's gains.

Masbate City, Masbate

BECOMING

Much of the current challenge of CRM in the Philippines involves behavioral change – to modify problem behaviors that contribute or cause coastal degradation and to acquire positive behaviors that promote conservation and responsible resource use. As well as the institutionalization of CRM as a governance function, behavioral change leading to the integration of environmental ethics in local society is the key to achieving sustainable coastal development. In Masbate City, the LGU, while addressing the direct causes of coastal resource depletion, is spearheading a campaign to promote environmentalism as a way of life through education.

Masbate City is the capital of the Province of Masbate, which is composed of more than 60 islands lying exactly at the center of the Philippine archipelago. Surrounded by both deep ocean trenches and shallow marine waters, the islands have easy access to several of the country's richest fishing grounds. As elsewhere, these resources have been depleted by habitat destruction caused by illegal fishing practices and uncontrolled shoreland and foreshore development, overfishing, and in a few areas, pollution. In the 1990s, there was an increased employment shift to the fishing sector, as farmers were pushed to the coasts by such diverse causes as insurgency, depletion of land resources, and insecurity of land tenure (*PPDO-Masbate 1996*). With nearly 70% of Masbateños directly dependent on fishing activities for livelihood, these problems contributed directly to the high incidence of poverty in the province (81.3% in 1994).

Thus, in 1999 during the historic Conference of Coastal Municipalities, several mayors from the province were in attendance, paying close attention as presenter after presenter warned about the brewing crisis in the coastal zone. They did not need convincing – they had firsthand knowledge of the severity of the crisis. But they needed advice on how to mitigate it.

After the Conference, upon the mayors' urging, the Provincial Government sent CRMP a formal request for technical assistance. In 2000, coinciding with its expansion phase, CRMP began a training program at the provincial level that spurred the adoption of CRM by 16 of the province's 21 LGUs.

The effort in Masbate City was particularly determined. In 2001, embracing CRM as a strategy to reduce poverty, the City began implementing an integrated CRM plan that included mangrove management, anti-illegal fishing campaign, marine sanctuaries, community organizing, and livelihood development.

Within one year, dynamite fishing and the intrusion of commercial fishers in municipal waters were fully controlled. In another year, with two marine sanctuaries operating, fish catch with hook-and-line more than doubled to 5kg, and a year later to 7kg (from 2kg at the start of CRM). Initially resistant to LGU-imposed restrictions on their fishing activities, fisherfolk, who comprise more than half of the City's population, became strong advocates of CRM.

Behavioral change models say there are generally four stages of change: Awareness, action, sustainability (maintenance) and way of life. Along this line, Masbate City in 2003 was moving from the action stage to sustainability: the systems for CRM had been institutionalized and enjoyed support from primary stakeholders.

But city officials knew they had to, in John Paul II's words, 'sustain and stimulate ecological conversion' to a point where CRM has become a way of life for all. They knew education would be the key, and here they faced a daunting challenge.

Masbate City has a largely rural population, a large segment of which is underserved in terms of library, museum and similar services that provide opportunities for non-formal education. The dearth in cultural institutions combined with poverty to turn a once proud community into a people isolated from itself and its (essentially coastal) environment, showing little appreciation or concern for its rich natural history.

Toward the end of 2002, CRMP began to package 'CRM showcases' in a study tour especially designed for LGUs. The activity would include the establishment of a CRM interpretive center in each of the showcase areas, provided the LGU was willing to invest in exhibit and office space and personnel for the center.

Masbate City officials were quick to express their interest – they agreed to house the center in a heritage building that used to serve as the municipal hall, and set aside Php1 million for its restoration and the purchase of equipment and furnishings. In September 2003, after 6

months of frenzied work, the Masbate Coastal Resource Management Interpretive Center (CRMIC) opened, becoming the first LGU-run, coastal ecosystem-centered cultural institution in the Philippines (plans to set up similar institutions in other areas fell through when CRMP could not get specific commitments from LGUs to invest in the centers).

Today, the CRMIC is at the forefront of the City's effort to revitalize itself. As the City Government tackles the brass tacks of CRM, the CRMIC focuses on creating an eco-centric learning landscape that reconnects people with their natural environment through various modes of non-formal education. To accomplish this goal, the CRMIC has set short-, medium-, and long-term objectives. In October 2003-September 2004, its 1st full year of operation, it focused on building constituency among local schools, generating private sector support, and setting into motion the management systems needed to make its services both efficient and responsive to its constituents' needs. At the same time, it positioned itself to be the main portal to an experience of Masbate outdoors. Between October 2003 and November 2004, the Center's various information and social mobilization activities benefited a conservatively estimated 25,000 people (25% of the population).

The most heartwarming and more significant results are not as easy to quantify. They are in the emotional response of visitors to the exhibits, in a city councilor's offer of assistance to the CRMIC, in a village chief's resolve that his community will have its own marine sanctuary, in a teacher's effort to adopt an 'eco-centric' approach to education, in the government employee and bank manager who pay for a study tour for indigent children, in the students who volunteer in CRMIC activities, in the mother who vows to teach her child the values of environmental stewardship and responsibility, in the little boy who diligently picks up any plastic bag or candy wrapper he chances on the street because "it can kill dolphins."

The Center has stepped up efforts to serve a wider constituency, reaching out to indigent families and resource-dependent residents of remote coastal villages through creative sponsorship programs involving both government and the private sector, slowly but surely building on a growing tradition to transform Masbate City into a truly earth-caring society.

Chapter 3

Getting There

Tremendous progress has been made in the last decade to institutionalize CRM in Philippine governance. Now more than ever, the country has the opportunity to successfully tackle the still daunting challenges remaining, most notably the decline of the economically important fisheries sector. It is an opportunity that must not be squandered, because so much opportunity has already been wasted, and time is running out fast.

Scientists have described the Philippine Islands as “the center of the center of marine shore fish biodiversity” (Carpenter and Springer 2005). They theorized a confluence of geologic events led to island integration and the formation of new fish species across the archipelago, and played an important role in shaping such diversity.

At the same time, the islands have been identified as “the most highly threatened center of endemism.” (Roberts et al 2002)

With over 2.2 million square kms of highly productive seas at its disposal, the Philippines has predictably developed fisheries as a major economic sector. The Philippines was the 12th largest producer of fish in the world in 1998 (Garrido 2002), and in 1994, it was 14th among the world’s industrialized fishing fleets. Fisheries support a multitude of stakeholders, including municipal and commercial fishers, canneries, fish markets and various industries. Fish provides direct income to some 1.3 million small fishers and their families (Hancock 1995).

But all of the Philippines’ main fish species and marine organisms are showing severe signs of overfishing. As early as the late 1960s, the country had reached the maximum economic yield of its demersal fish stocks, except in the offshore hard bottoms around Palawan, Southern Sulu Sea and central part of the country’s Pacific coast (Silvestre and Pauly 1989). Lingayen Gulf, a major fishing ground in northern Luzon, Philippines, reached its maximum sustainable yield more than 20 years ago (Hilomen et al 2002; Yap 1997). Overall, fish are being harvested at a level 30% more than they are capable of producing. This excess fishing is resulting in economic losses conservatively estimated at about Php6.25 billion per year in lost fish catch (ICLARM 2001).

It is the Filipino masses who are feeling most of the pinch of a shrinking resource. The Philippines, one of the world’s 40 largest fish-producing nations, is also among the 10 low-income, food-deficit countries of the world (Kurien 2002). In 1997, the National Research and Development Extension Agenda and Program estimated that the

Philippines had a national nutritional deficit of 666,140 tons (*Garrido 2002*).

Fish accounts for more than half of the total animal protein consumed in the country (*ADB 2001*), but national consumption per capita of fish dropped from 40kg in 1987 (*FNRI 1987*) to 24kg in 1996 (*Bernascek 1996*). By some estimates, if no appropriate action is taken to reverse declining fish production trends, only about 10kg of fish will be available annually for each Filipino by 2010 (*Bernascek 1996, BFAR 1997*).

Fortunately, there is much that can be done to avoid such scenario. The critical issues affecting fisheries are well-understood, if not universally accepted (*DA-BFAR. 2004*). Worldwide, the reasons for overfishing are the same (*FAO 2001; Greenpeace 1999*): open access; widespread technological advances; economic development policies of governments, especially those providing subsidies to keep inefficient boats running and encouraging even more investment in fishing technology and boats; growing human population; and insatiable demand for fish from a growing, lucrative global market.

In the Philippines, the issues are similar but somewhat more complex – the problem facing Philippine fisheries is not just one of resource decline; it is also an issue about social equity.

Philippine fisheries have two major sectors: municipal fisheries using boats smaller than 3 gross tons, and commercial fisheries using boats of 3 gross tons and higher. By law, municipal fishers have the preferential right to use so-called municipal waters including coastal waters up to 15 kms from the shoreline, while commercial fishers can fish outside the 15-km boundary, an area covering as much as 83% of the country's total marine waters.

In the past, the national government held most of the responsibility for fisheries management and its policy was to encourage full exploitation and utilization of the country's fishery resources by promoting investment in technologically advanced more efficient fishing gears. In a setting where small fishers used to be unorganized and without any means to represent their interests in government affairs, government support was skewed – not quite intentionally – in favor of the commercial fishing sector. As the resource became depleted, competition among fishers intensified, subsequently creating a conflict between small- and large-scale fisheries that pushed many small fishers to the extreme edge in the distribution of fishery resources.

The problem was exacerbated by habitat loss: across the Philippines, coastal habitats were vanishing at a rapid rate under the onslaught of destructive fishing by both small and large-scale fishers, and of their conversion to other uses.

As the problems became known, government responded by adopting a policy of conservation and management, and by passing new laws that banned the use of destructive fishing gears and regulated access to fishery resources. Enforcement, however, was spotty at best and in many cases rendered ineffective by systemic weaknesses.

Today, the picture is somewhat different. In the last decade, the Philippine government went through a major reorganization that saw the ascendancy of the LGU as front-line managers of coastal resources, and caused the institutionalization of ‘people power’ that resulted in a better representation of small fishers in government affairs. Technical assistance projects such as CRMP built capacities in CRM across all levels of government, paying close attention to installing the systems and expertise needed at the LGU level to facilitate the delivery of CRM as a basic government service. As a result, there is now wide acceptance of CRM as a priority program of government at all levels, and more importantly there is sustained action at the local level to address specific CRM concerns.

And there lies the opportunity to avert any worsening of the decline of Philippine fisheries. With the problems known and widely accepted, and with the implementation systems for CRM up and running, there is now much room to turn to the specific causes of the fisheries crisis.

Through the USAID-funded FISH Project, the Philippine government is using the lessons and achievements of past CRM initiatives to launch an assault on the fisheries problem with a new focus. FISH is working locally with LGUs in the Danajon Bank (Bohol), Calamian Group of Islands (Palawan), Surigao del Sur and Tawi-Tawi to take up specific fisheries issues. Simultaneously, it is working at the national level to fill any remaining policy gaps and improve the government’s overall capacity to manage Philippine fisheries in all its complexity. All told, the task involves strengthening the foundation of CRM built over three decades and building new capacities to meet the key requisites of fisheries management, namely, habitat protection, reduction of fishing effort and sustained management. In specific terms, it involves working out the many small details that together add up to fisheries decline, or to loss of opportunity to reverse the decline. For instance, more than 500 marine sanctuaries have been legally established throughout the country, but less than half are functional – a determined effort to make them work will reap great benefits in terms of fish catch and the overall health of fishery resources across a large geographical area.

The solutions are not always simple, but they are well-understood, available, doable and most urgently needed to save Philippine fisheries, not only for its sake but for the whole world:

“The concentration of limited range endemics in the Philippines poses a danger of mass extinctions on a marine scale similar to endangered Brazilian rainforests... Solely as an example of peak diversity and endemism, there is ample justification to prioritize the Philippines for conservation.” (*Carpenter and Springer 2005*)

Urgent actions needed to promote the sustainability of Philippine coastal and fishery resources

(*DENR 2001; CRMP 2003*)

1. Encourage local leadership – Continue to promote CRM as a basic service of LGUs by:
 - Adopting and implementing municipal and city CRM plans that include the essential elements of habitat and fisheries management;
 - Establishing effectively managed MPAs in all coastal LGUs;
 - Improving enforcement of national and local laws in municipal waters – given the high mobility of illegal fishers, law enforcement must be both intensive and extensive; and
 - Adopting and implementing provincial CRM framework plans.
2. Realign national institutions and responsibilities – Support LGU initiatives in CRM by realigning national institutions and responsibilities.
3. Enhance the effectiveness of multi-sector support systems –
 - Establish a regular multi-sector review system to identify and resolve overlapping, conflicting and inconsistent policies, laws and programs affecting CRM;
 - Establish regular multi-sector review and assessment of the following: all national and marine protected areas, the Environmental Impact Assessment System, all shoreline and foreshore development policies, laws and implementation mechanisms, and the small and medium-scale commercial fishing industry;
 - Provide relevant and reliable data on the status of municipal fish stocks, marine water quality and coastal habitats and ecosystems to local government and assisting organizations for use in CRM;
 - Develop CRM training and technical assistance core groups at national, regional and provincial levels;
 - Develop and implement a targeted, policy-relevant research agenda for enhanced management and stewardship of coastal resources; and
 - Increase public awareness of environment-related responsibilities for coastal resources and their uses.

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THE DOCUMENTARY

Executive producer: The Fisheries Improved for Sustainable Harvest (FISH) Project of the Philippines' Department of Agriculture-Bureau of Fisheries and Aquatic Resources and United States Agency for International Development
Line produced by: NOVA Productions International Inc.

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Segment producers	Aniceta Gulayan & Asuncion Sia	
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Production crew	Lito Llana	
Utility	Arnaldo Mendoza	

about the DOCUMENTARY

Filmed in Bohol, Cebu, Masbate and Negros Oriental, 'Under Construction' is a richly-textured, engaging and eye-opening retelling of the Philippines' vast and still growing experience in the management of its once-bountiful, now diminishing, coastal resources. It issues a compelling call to complete the process of national change, and offers hope for fully reversing the tide of environmental destruction and decline now sweeping the country's coastal communities and bringing poverty and despair upon millions of fishery dependents and their families.

The documentary is divided into three main chapters. The first chapter 'Evolution' talks about the Philippine experience in coastal management and how it developed in the last half century.

The second chapter 'Modeling the Way' is composed of seven vignettes that tell about some of the Philippines' best experiences in coastal management.

The third chapter 'Getting There' zeroes in on the continuing – and by most accounts, still growing – fisheries challenge, and how development efforts must now proceed to ensure the survival of Philippine marine life and those who depend on it.

about this PUBLICATION

This publication is provided as a standalone reference as well as a collateral material to enhance the viewer's learning experience from watching the documentary. It is divided into three chapters and follows the same story line as the documentary, but provides more details about the evolution of the Philippine coastal experience than can be shown on video.



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