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# Tambuli

A Publication for Coastal Management Practitioners

# Onwards to More Agressive Leadership in Philippine Coastal Resource Management

Fisheries declined, mangrove forests were devastated, coral reefs were battered and coastal communities became impoverished. Such were the problems that surfaced in the Philippines in the 1970s and 1980s and still confront the country today. For the last 20 years, non-government organizations (NGO), research institutions, government agencies and people's organizations have been conceptualizing and implementing a vast array of coastal management projects in the Philippines.

Indeed, coastal resource management (CRM) has been in the Philippines for almost two decades. It is also known by other names: coastal management, coastal zone management, coastal area management, integrated coastal resources management and integrated coastal management. Whatever the name, however, over time, coastal management practitioners have come to agree that it should be multisectoral and multidisciplinary, considering the whole gamut of activities in the coastal environment, well within the framework of sustainable development (Figure 1).

Amidst the cornucopia of coastal management efforts in the country, the **Coastal Resource Management Project** (CRMP) aims to contribute to the continued development of CRM in the Philippines and, hopefully, in other countries, too.

A major theme of the CRMP is the challenge of coastal resource leadership. The nation is confronted with problems of overexploitation of resources,

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FIGURE 1. A CONNECTED ENVIRONMENT REQUIRES INTEGRATED SOLUTIONS.

# contents



# editorial

This first issue of TAMBULI—A Newsletter for Coastal Management Practitioners, is not an entirely new undertaking. Rather it follows in the footsteps of two previous Asian newsletters on coastal management supported by the United States Agency for International Development (USAID), namely, *Tropical Coastal Area Management*, (1986 to 1992) and *Coastal Management in Tropical Asia*, (1992-1996). With this history, TAMBULI has an important niche to fill while bringing a new focus and refreshing ideas. TAMBULI is centered on the Philippines and its efforts to implement integrated coastal management projects and programs throughout the country. While being a Philippine publication to share information on coastal management within the country, it is open to international readership and contributions on relevant topics.

The Philippines is endowed with an 18,000 kilometer coastline which harbors a vast array of natural resources. As most of us know, these resources are under threat and are declining in abundance and productivity. Integrated coastal management and its various permutations, are the response to this threat and resource decline. Since the mid 1980's the Philippines has seen an increasing number of projects focused on coastal resource management problems. The spread of these projects and a few programs are wide and varied. Some have been successful and achieved their objectives. Most have either only partially met their expectations or failed. But, all have generated lessons to share in the ever expanding quest for answers on how to effectively manage coastal resources. TAMBULI will help share these many lessons.

Now, in the Philippines, the stage is set for maintaining and building on the existing network of coastal management practitioners and scientists. We at the Coastal Resource Management Project (CRMP) being implemented by PRC Environmental Management Inc. based in Cebu City are taking the lead in initiating this newsletter and network for coastal management. TAMBULI will encourage the publication of useful primary information on research findings and implementation experience pertaining to coastal management. Articles will be substantive in content and concise for fast reading. The contributors and audience are government, non-government and academic professionals involved with implementation and research related to coastal management in some form.

TAMBULI encourages an open editorial board to assist with coordination and contribution of articles or other inputs. Yet, the success of the newsletter and network depends solely upon your participation. As members, you can contribute by sending:

- √ Substantive articles on your experiences and research
- √ Examples of leadership in coastal management activities
- √ Short news articles on your field and work projects
- √ Publications which can be made known in the newsletter
- √ Letters or comments for publication
- √ Suggestions on how to make the newsletter and network more effective

This issue introduces the Coastal Resource Management Project of USAID in the Philippines and sets the tone for its work. You will notice a strong emphasis on the need for leadership in coastal management in the Philippines. Since it is known that good leaders can make a real difference, what constitutes a 'good leader' is discussed.

An overview of lessons from various coastal management initiatives in Asia over the past decade is presented to remind us all that we are not starting from scratch in our coastal activities. There is a history and many lessons to build on. Our task is to adapt these lessons to the current situation in the Philippines. In relation to past project experience, a summary of the evaluation of the Central Visayas Regional Project (CVRP) is included by H. Calumpong of Silliman University. The real difficulties of success in such large projects are highlighted. Can we improve on this record?

A regular section in TAMBULI will be 'leadership models'. This will highlight persons who have contributed to coastal management in extraordinary ways. Your suggestions on who to feature are welcome.

Finally, please note that if you receive this issue of TAMBULI, it does not mean you will continue to receive it without communicating with us. Please fill in the enclosed membership form to confirm your address and interest in the newsletter. This will ensure that you are current in the address database of the CRMP and that you will continue to receive the newsletter.

Happy reading and PLEASE let us know that you exist by sending materials of interest for the newsletter. We look forward to your contributions!

**Editor**

*Continued from page 1*

pollution and habitat destruction, compounded by rapid population growth and slow economic development (Box 1). CRMP suggests that sustainable use of coastal resources in the Philippines is a battle that can only be won through strong leadership, particularly from within the community.

The CRMP therefore, aims to identify, cultivate and promote the current and future coastal resource leaders in the Philippines for implementation of coastal resource management plans. How? The five practices of effective leaders espoused by Kouzes and Posner (1995), will be adapted for CRM leadership and used as a guide (Box 2). These are:

***Challenge the process***. Search for answers to the open access problem and stop destructive practices. Take risks to achieve extraordinary results.

***Inspire a shared vision***. Enlist all stakeholders to share a vision of sustainable use of coastal resources where active participation and management is the norm.

***Enable others to act***. Foster collaboration in planning and implementing coastal resource management by soliciting participation and sharing information.

***Model the way***. Set an example by participating in and contributing to coastal resource management activities.

> CRM is the process of planning, implementing, and monitoring sustainable uses of coastal resources through participation, collective action, and sound decision making.

***Encourage the heart***. Recognize the hard work and commitment of others and advertise the successes to other coastal communities.

The next question then is, how will this be accomplished?

The project will promote CRM as the process of planning, implementing and monitoring beneficial and sustainable uses of coastal resources through participation, collective action and sound decision making. The CRMP will blend multiple tacks that highlight integrated, strategic and sustainable strategies for coastal resource management implementation (Box 3). While individual strategies being used by the project may have been accomplished before, CRMP is designed to take advantage of opportunities for synergy to achieve results beyond which any one effort could have accomplished alone.

Past experience shows that an essential element of successful coastal resource management is

BOX 1:

# The Coastal Situation

How often have you heard someone say, *I remember, when I was young, the fish were abundant, the water was clear, the beach was clean. I remember, when we did not worry whether we would catch enough fish to feed our family or to make an income.* The sea was a seemingly inexhaustible provider of life. The memories of those who have connections, current or past, with the coastal water of the Philippines are vivid and clear. These individuals remember a time when the coastal resources upon which their lives depended on were abundant and could be counted on to provide for their families. To these individuals, the dramatic decline of fisheries and the quality of coastal habitats in the Philippines is without question. But while the memories of these individuals are vivid and pictures of the past can be recalled in their minds and through stories, their children have no memory, no connection with this ennobling past.

Coastal resources, such as finfish and shellfish, and the habitats that nurture them—coral reefs, seagrass beds and mangrove forests—are among the most fundamental elements of the Philippine environment. Over half of the population live in the 815 coastal municipalities of the country and more than 50% of the animal protein consumed by the average Filipino comes from fish captured along the 18,000 km of coastal waters. Open access to coastal resources and use of destructive methods are resulting in overfishing and habitat destruction. This, compounded by pollution, rapid population growth and slow economic development have led to unsustainable use of coastal resources.

BOX 2:

# Leader Roles in CRM

Leaders are needed who will: take a stand on what is becoming the most difficult problem of our time, realize that the sea is not an infinite provider, that there is a limit to which resources can be extracted without causing significant and possibly irreversible (in the case of loss of species) impact to the integrity of the coastal ecosystem; and act to improve the lives of the individuals they care about and represent.

These leaders exist in the government, in non-government organizations (NGO) and in the communities. They are those who dare to challenge the status quo to achieve extraordinary results. Leaders are not necessarily born with special qualities. Leadership can be learned and practiced.

Government Leaders have the courage to stand by their convictions, the integrity to make informed decisions and a vision that environmental quality, social equity and economics must be embraced in every decision. NGO Leaders reach out to those who are outside the mainstream of society and foster active participation in problem solving in coomunities, NGO groups as well as in government. Community Leaders make difficult day-to-day decisions that will impact on the quality of life for their families and their communities. Youth Leaders recognize early in their lives that they can act now to make a difference to give them hope for the future.

active participation by the entire community including the:

- Day-to-day resource users such as fishers
- Local government
- National government
- Non-government organizations
- Private sector
- Other stakeholders

The project will assist communities in developing CRM plans through a participatory process involving preparation of coastal area profiles using participatory coastal resource assessment and identifying and evaluating management options (Figure 2). Implementation of the CRM plans will be facilitated by assistance to local government units to institutionalize coastal resource management. Monitoring coastal resource use will be strengthened by assisting national government agencies and law enforcement branches of the government.

The CRMP will promote an integrated coastal management approach that focuses on sustainable coastal resource use and the direct impacts on coastal resources from fishing, aquaculture, and tourism. It will also consider land-based activities, such as deforestation and urbanization. This integrated approach will be accomplished by collaborating with ongoing projects of the municipal and national governments and other donor-assisted projects focused on the coastal environment and its governance. It also entails a variety of strategies and activities such as:

- Participatory coastal resource assessment
- Coastal resource management planning
- Economic development for coastal resource users
- Implementation of limited access regimes such as marine reserves and sanctuaries
- Training in skills relevant for CRM implementation
- Legal instruments required for effective support of CRM
- Policy analysis and formulation
- Monitoring and evaluation

These activities will be implemented at national and local

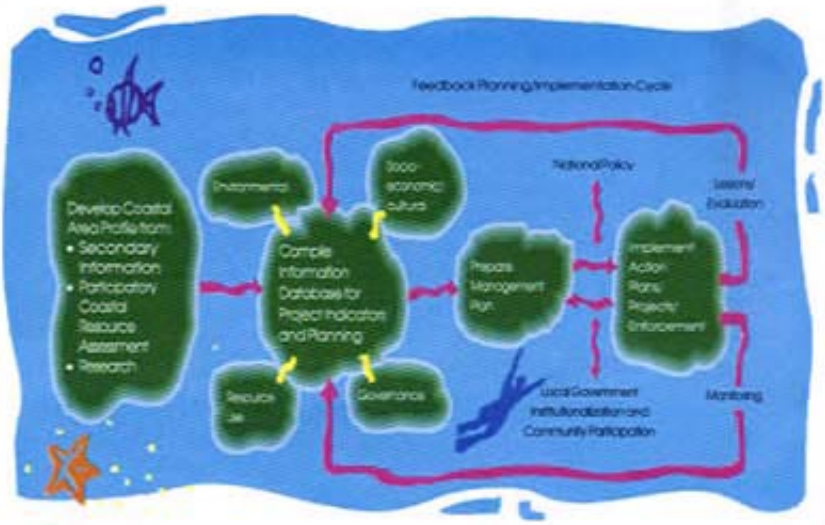


FIGURE 2. PARTICIPATORY PLANNING AND IMPLEMENTATION PROCESS.

*The overall goal of CRMP is to catalyze CRM in the Philippines to achieve a threshold that will expand nationwide and be sustainable beyond the project life.*

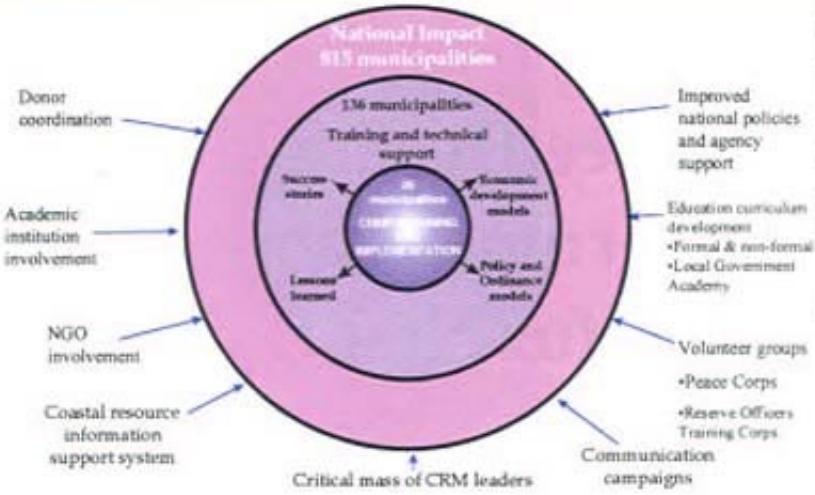


FIGURE 3. STRATEGIC EXPANSION MECHANISMS AND LEVEL OF IMPACT.

levels to achieve strategic expansion of the project activities to 3,000 km of Philippine coastline (Figure 3). With sustainability of each intervention as the mainstream, six learning areas will serve as models for coastal resource management as well as achieve a threshold of CRM activity in the Philippines that will continue beyond the life of the project. The six areas include: Northwest Bohol; Olango Island, Cebu; Malalag Bay, Davao del Sur; Southeast Negros Oriental; San Vicente, Palawan; and Sarangani Bay.

The CRMP vision for the future of Philippine coasts is that:

- Communities will effectively manage their coastal resources.
- Limited access regimes will become accepted and common.
- Income for coastal resource users will be stable.
- Local and national government will have clear mandates and roles in CRM.
- Participatory monitoring will continue the planning cycle refining CRM plans.
- Increased private and public investment in CRM will expand the process.
- Coastal enterprises, less dependent on natural coastal resources, will thrive.

The CRMP is an initiative of the Government of the Philippines that began in March 1996 and is supported by the United States Agency for International Development. CRMP is jointly implemented by the Department of Environment and Natural Resources, Department of Agriculture-Bureau of Fisheries and Aquatic Resources, local government units, non-government organizations and other assisting organizations. Technical support and management are provided by the PRC Environmental Management, Inc.

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**BOX 3:**

## Key Coastal Resource Management Project Implementation Strategies

### Integrated

- Promotes participation through multi-sectoral partnerships that include fisherfolk government, non-government and private sectors
- Highlights sustainable, enterprise-driven coastal resource management options
- Links watersheds and coastal areas

### Strategic

- Targets the municipality as the basic operational unit
- Driven by issues and needs of the coastal community
- Builds upon lessons learned and the best information available
- Expands geographically to areas with high potential for success

### Sustainable

- Strengthens institutional capacity of local government units and academe
- Develops critical mass of CRM leaders in coastal communities
- Establishes sustained investment in CRM at national and local levels
- targets a threshold of CRM activities nationwide to sustain expansion

# Mangrove Resource Decline in the Philippines: Government and Community Look for New Solutions

*[This article is modified from CRMP Document No. 4, which is available at the CRMP library.]*

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## Introduction

Mangrove forest cover in the Philippines has declined substantially during this century. From an estimated 450,000 ha of mangroves in 1918, only less than 150,000 ha exist with 46% (68,000 ha) of this located outside the islands of Palawan and Mindanao (DENR 1988) (Figure 1).

The most rapid decrease occurred during the 1960s and 1970s when government policies encouraged the expansion of aquaculture. Today, fishponds cover about 289,000 ha, 80 to 90% of which are in areas once covered with mangroves (ADB 1993; DENR 1989). This expansion occurred largely during a period when real prices for fish and shrimp were steadily rising. Despite a 1980 government ban on further conversion of mangroves to fishponds, the reduction of mangrove area since that year through 1991 continued at the rate of about 3,700 ha/yr. This decline parallels the increase of fishpond area, approximately 4,100 ha/yr over the same period. However, conversion of mangrove areas to fishponds has sometimes been the final step in a process of destruction that began with over-harvesting of mangroves for fuelwood, frequently by persons other than those who ultimately built the fishponds (World Bank 1989).

Cutting of mangroves for fuelwood, charcoal making and construction is probably the second most pervasive intrusion on the resource. Small bakeries for example, prefer

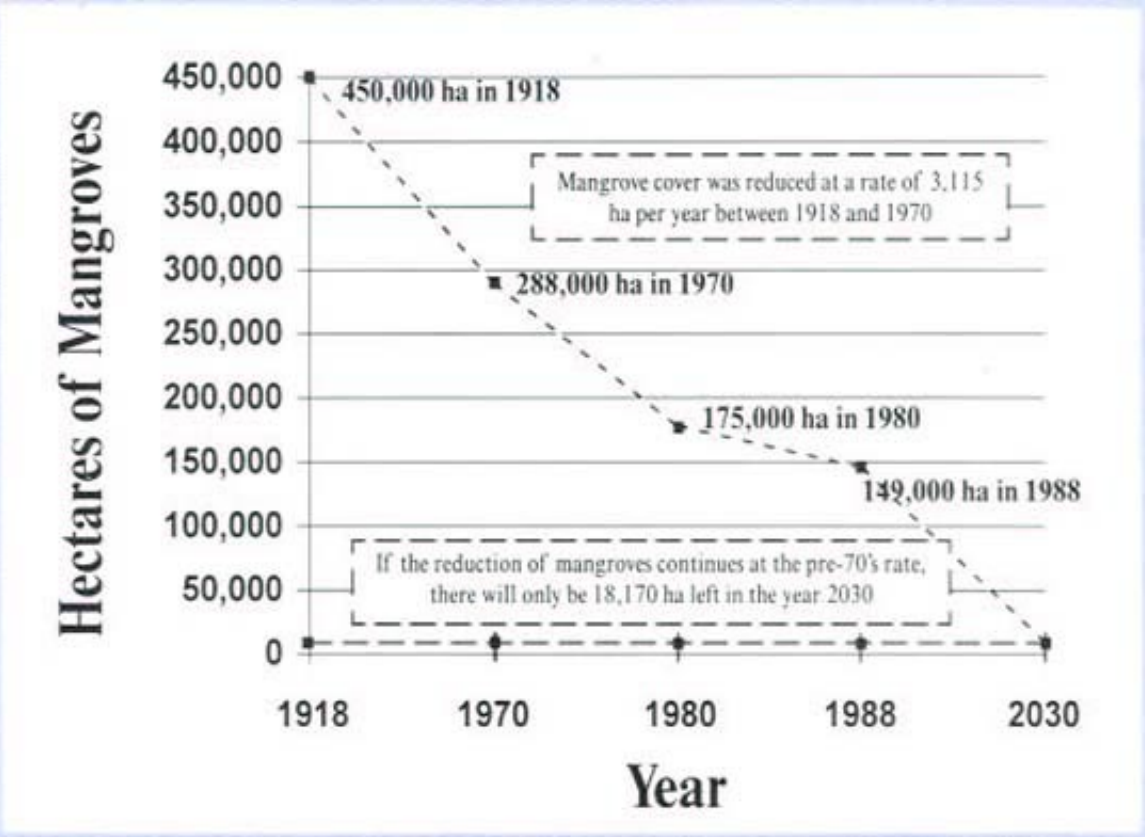


FIGURE 1. MANGROVE RESOURCE DECLINE IN THE PHILIPPINES (WORLD BANK 1989; DENR 1988).

mangrove wood. The demand for these products leads to illegal cutting, over harvesting, and subsequent degradation of the habitat and ecosystem. This, in turn, contributes to the decline of nearshore fisheries. Degraded areas are more easily reclassified as disposable lands, which makes conversion more likely.

The deterioration of mangrove resources have stimulated various responses to slow and reverse the process. Laws have been passed protecting mangroves. Policies have been suggested to provide economic disincentives to the conversion of mangrove forests for fishpond use. Since 1990, various community-based projects have engaged coastal residents in reforestation, rehabilitation and management efforts. This article describes the new policy direction of the government and summarizes management efforts to reverse the decline of mangroves in the Philippines.

## National Policies to Encourage Mangrove Conservation

The Bureau of Fisheries and Aquatic Resources (BFAR) is responsible for licensing the development of fishponds on government land. About 95,000 ha has been allocated for the development of fishponds of which about 63,000 ha is under 25-year fisheries lease agreements (FLA). Another 16,000 ha is under short-term leases and about 8,000 ha has been turned over to private ownership. Some are illegally occupied, and about 17,000 ha was undeveloped in 1990 (Schatz 1991).

One problem with the FLAs is that the fees and yearly rental are extremely low (about $US2/yr/ha). This means that conversion to fishponds carries no penalty for low production and pays little back to the government or local community for losses associated with conversion of mangrove systems. In fact, many of the fishpond areas under lease are under-used or not used at all for aquaculture while the natural fisheries and wood resource values of the mangrove system have already been lost.

A large Fishery Sector Program (FSP) for the Philippines started in 1991 by immediately supporting

TABLE 1. ESTIMATED NET ANNUAL ECONOMIC VALUE (SUS) OF PHILIPPINE MANGROVE AREAS FOR DIFFERENT LEVELS OF MANAGEMENT.

| Level of Management | Wood Products (value/hectare) | Fish Products (value/hectare) | Total |
|---|---|---|---|
| a. Mangrove plantation | $156 | 538 | 694 |
| b. Managed naturally regenerated | 90 | 538 | 628 |
| c. Unmanaged under-stocked stranges | 42 | 538 | 580 |

*Note: Wood harvest value based on average price of about $12/m³ of wood; fish products based on average annual weight of fish and shrimp/ha associated with mangrove ares and an average price of $.80/kg; values based on Philippine peso (P) amounts in 1991 and converted at P25/1 $US. Source: Schatz 1991.*

several resource economic and policy studies concerning the plight of mangroves. The economic analysis showed that the fishpond lease fee was way too low to: (1) encourage efficiency in the use of land for fishponds; and (2) discourage the conversion of mangrove swamp area for aquaculture.

The opportunity cost for the replacement of mangrove systems was determined to be quite high and was consistent with studies in other countries. Dixon (1989) had reported that estimates of opportunity cost of one hectare of complete mangrove ecosystem to be $500-$1550 annually. The FSP study summarized various researches made on the minimum economic rent for one hectare of inter-tidal land in the Philippines into $US550 annually (Table 1).

The Fishery Sector study recommended that FLA lease fees be raised to $360 to 800/ha/yr. The study also recognized that the value attributed to marine fishery products dependent on mangrove system health were weak because more research was needed. It was thus suggested that the basic wood value of mangrove stands be used as the initial economic rent level, which was about $156/yr/ha. This would mean that at a very minimum, the fishpond leases should provide this amount per year to the Philippine government. Although, a schedule was recommended to implement an increase of lease fees over several years, this was not accomplished because of resistance from lease holders and political intervention. In spite of reluctance among lease holders to the increased fees, it is ironic that the Philippine rental market for privately held fish and shrimp ponds flourishes and derives annual rents from about $US120 to 600 per hectare per year.

National laws (Presidential Proclamation 2146, 1982; Republic Act 7161, 1991) prohibit the cutting of any mangroves in the country. Most important mangrove forests are legally protected in forest reserves. But these laws have not prevented the mangrove forest decline. This situation has prompted the government to attempt reforestation of mangroves and return of abandoned fishpond areas to mangroves, with the assistance of projects and new policies.

The mangrove decline has stimulated experiments in reforestation using contracts with local communities, giving stewardship agreements and encouraging communities to protect and manage the resource in their own ways. The first national policy on mangrove management that encouraged community level stewardship was in 1990 (DENR Administrative Order 15). This provided long-term security of tenure through the issuance of Mangrove Stewardship Agreements. In 1994, the non-government organization (NGO)

assisted Community-Based Mangrove Forest Management approach was endorsed by the Department of Environment and Natural Resources (DENR) (DAO 30,S). Now a legal conflict has become apparent between the total banning of mangrove cutting versus the need to allow limited use by community stewards.

## Reforestation through the Fishery Sector Program

Between 1991 and 1994, the Department of Agriculture and the DENR collaborated on the Fishery Sector Program initiative on mangroves. Initially, replanting was accomplished by contracting local communities to plant seedlings and young trees. This system had many problems. In 1991, only 6,900 ha were reforested, well below the target of 30,000 ha. It was replaced by a more community-based management system with non-government organization assistance. Although targets were not achieved, the FSP has recognized that the latter system of involving the community directly will be the more sustainable approach to reforestation and maintenance of existing resources (FSP 1996).

## Local Government and Community Involvement in Management

In the Philippines, some, but not all, coastal communities near mangrove areas are aware of their resource value. They associate some fisheries with the health of mangrove ecosystems and realized that fishpond development has taken its toll in natural productive benefits of fish, shrimp, wood and other products.

As early as 1964, some mangrove rehabilitation efforts have been initiated in Bohol Island, Visayas. One community in Jetafe reforested 100 ha. Another reforestation project by students and school officials in Calape, Bohol in 1968 planted a 20 m band along 4.8 km of coast for protection against wind and storm waves (Yao 1986). Also, harvesting of mangroves for firewood and poles has long been a practice knowing that by thinning the mangroves, they will grow more efficiently. This type of harvesting is seen as an incentive for community groups to enter into stewardship agreements for management.

Learning from earlier community projects, the Central Visayas Regional Project, which began in 1984, experimented with the provision of secure tenure to one individual or family in return for maintaining an area as healthy forest. This arrangement was called a Stewardship Agreement. It was initially used to promote reforestation in open areas because national policy at that time would not allow small hold management of existing mangroves. Although mangrove planting progressed rapidly, long-term success rates were less than 50 percent because information on methods and sites was lacking. Also, planting outside of natural mangrove habitat predisposed efforts to failure. Another limitation was suitable planting material, which consequently led to single species dominance in newly planted areas (Vande Vusse, pers. com.).

The initial experiments in stewardship agreements were followed by the contracting individuals and groups to plant mangroves. When communities were directly responsible with stewardship agreements, the cost/hectare was about $US80. Contracting individuals without any community organization or volunteer labor increased the cost to more than $US400/ha. In addition, the communities participated in the exercise primarily to make money more than for enhancement of the environment. The success rate was less than 50%.

In 1991, the management of existing, but degraded mangrove forest, began using a Mangrove Stewardship Agreement at Cogtong Bay, Bohol Island. Designated seed trees were allowed to grow while others were harvested for fuel wood and poles. Forest quality and the abundance of naturally occurring seedlings increased. The need to stop fishpond development was highlighted through community opinion and resistance to fishpond development in the area. This success has encouraged the DENR to increase its focus on the rehabilitation and management of existing forest in its programs through community involvement (Janiola 1996; Vande Vusse, pers. com).

The Buswang Mangrove Reforestation Project in Kalibo, Panay Island has been particularly successful. Here, the government contracted Kalibo Save the Mangrove Association, an organization with 26 family beneficiaries, to replant 50 ha. Four years after the project started in 1990, the organization was able to harvest and earn from the Nipa leaves on 5 ha of the area. DENR awarded the organization with a 25-year Forest Land Management

M. Saito

*Endangered Chinese Egrets (*Egretta eulophotes*) roosting on a mangrove (*Rhizophora*) in Olango Island Wildlife Sanctuary, Cebu, Philippines*

Agreement in 1995 (Primavera and Agbayani 1996).

## New Policies Support Sustainable Use and Management

In view of all that has been learned from past experiences, the following policies are suggested:

- Priority must be given to saving and managing existing forest and habitat. The basic bio-physical and environmental factors that support mangrove ecosystem growth and sustenance must be considered in all project areas.
- Community level individuals and groups must strengthen their will and capacity to protect and use the resource wisely. This requires a lengthy process of community organization and training with support from government, NGO and other assisting organizations using integrated approaches. The assisting organizations will have a full-time, live-in presence in the coastal area and be responsible for community organization, training and facilitation of community roles in management activities.
- Mangrove Stewardship Agreements (MSA) shall be used to promote local responsibility in maintaining permanent mangrove forested areas. The MSAs should allow limited but sustainable use in some cases to promote forest succession and provide economic incentives to local community managers. The DENR will monitor each stewardship area to determine the level of compliance with the area management plan.
- Areas released for fishpond purposes but are not used for that purpose and do not meet certain criteria shall be reverted to DENR for mangrove rehabilitation and management.
- An area management approach requires that all mangrove resources be included in the management plans for any given area regardless of the previous classifications for the area of concern.
- Sanctuaries may be established over mangrove areas as determined by local communities with guidance from the DENR or BFAR and the legal support of local government.
- The DENR and other government personnel will provide technical

assistance but not take full responsibility for field achievements.

- Accurate mapping of mangrove resources and the immediate uses of land such as for fishponds is the responsibility of the DENR and BFAR.
- Local government units will lead or participate in community planning and assist to coordinate with other government services.

# Conclusions

The Philippines has lost much of its mangrove resources to other uses. The downward trend has prompted many experiments in community-based and cooperative management guided by local and national government. The Mangrove Stewardship Agreement system is becoming effective in stabilizing mangrove resources in some areas in the country. The first successful tests have been on the islands of Bohol and Panay.

While the government ceased approving mangrove conversion to fishpond and an increased economic rent for leases is on the verge of approval, illegal conversion still occurs in some areas. In areas where communities have been organized and given responsibility for management, degradation has slowed or stopped. Consequently, the promotion of Stewardship Agreements is a primary tool of the national government in protecting the resources. It is also intended that as integrated coastal resource management plans are developed for particular areas, all mangrove resources and habitat areas will be included and targeted for sustainable use in their original state.

It is now important that national economic policies be improved to encourage improved management of mangrove resources. Equally, discrepancies should be minimized between national law and the practice of sustainable use to encourage community participation and stewardship.

## Acknowledgments

Contributions and assistance were forthcoming from Dr. Fred Vande Vusse (United States Agency for International Development), Ms. Betty Dar (DENR), and Mr. Sonny Gendrano (DENR). The references of Dr. J. H. Primavera were helpful. Otherwise, errors, omissions and opinions are assumed by the authors.

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# The Central Visayas Regional Project: Lessons Learned

*[This article is a short summary of the draft report, "Assessment of the Central Visayas Regional Project-I: Nearshore Fisheries Component" undertaken by the Silliman University Marine Laboratory. The full text of the report is available from Silliman University]*

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The Central Visayas Regional Project (CVRP)-I was a pilot project on integrated rural development using community-based approaches. One of the project's major concerns was watershed management wherein one of the components was Nearshore Fisheries (NSF) Development. Of the $35 million provided by the World Bank for CVRP-I costs, an estimated US$3.5 million was devoted to the NSF.

The NSF implemented a coastal resource management (CRM) program in Central Visayas from July 1984 to December 1992. The program had four major interventions: mangrove reforestation; coral reef management with sanctuary establishment; placement of artificial reefs (AR) and deployment of fish attracting devices (FAD); and mariculture. These interventions were primarily designed to rehabilitate and restore the degraded marine resources and also increase family income of sustenance fishers through improved fish catch within the target areas. Management of these interventions was done through community organization. A total of 182 *barangays* (smallest political unit), composed of 8,086 families, became involved in the nearshore fisheries activities during the 7 years (CVRP 1991). The program covered selected towns in Region 7, specifically in the provinces of Bohol, Cebu, Negros Oriental and Siquijor (Figure 1). At the end of 1991, the NSF reported positive results from the various interventions in all CVRP-I sites (CVRP 1991)(Table 1). Considering 5-year targets that were determined earlier, percentage accomplishments were: a) mangrove reforestation—97.4%; b) mariculture—186.45%; c) fish aggregating devices—103%; d) artificial reefs—86.9%; and e) coral reef area management—112.8%. Of the latter, it is noteworthy that 3 years after the project ended, 6 out of 10 sanctuaries established in Cebu and Bohol still functioned. Based on this performance report, the CVRP-I Project was considered quite successful. This record has encouraged a more in-depth evaluation of the CVRP to extract lessons that could be applied to a nation-wide coastal resource management program.

The United States Agency for International Development (USAID) contracted the Silliman University Marine Laboratory to conduct an assessment of the project four years after its completion to determine the status of the project's four major interventions and their impact on the ecosystem and the community. Two sites were sampled, Cebu (from Ronda to Malabuyoc) in December 1995 and Bohol

(Talibon to Pres. C. P. Garcia) in March 1996. A combination of standard marine survey methods described in English, Wilkinson and Baker eds. (1994) were used together with prepared questionnaires, ocular observations and test fishing.

## Lessons Learned

When assessing any past project, it is important to keep in mind the existing condition at the time of the project. It is very often different from the present. For example, how much was known in 1984 about mangrove reforestation or artificial reef placement? CVRP-I was a pioneer of sorts in coastal management. Much has been learned since and certainly, from CVRP-I. The following lessons are based on observations of the survey team and the reported results of CVRP-I. These lessons can be refined as more information becomes available.

### 1 The need for baseline information and monitoring cannot be over-emphasized.

Baseline information on the status and condition of the ecosystems and their resources, including the utilizing community, need to be established before the start of any major field project. The main problem encountered in the assessment of the impacts of all the four interventions deployed by CVRP was the lack of baseline information with which to make comparisons. For example, the impact of marine sanctuary establishment on the fish population or the coral reef could not be determined as no information was gathered on fish standing stock or coral cover before the area was declared a marine sanctuary. It was thus difficult to determine whether marine sanctuary establishment has increased the fish catch as no baseline information was available for comparison.

Project monitoring is critical in determining whether project activities are achieving objectives. CVRP reports lacked information on monitoring indicators or monitoring done during the project to determine whether the objectives were achieved. The project was quota focused with success gauged on the number of interventions deployed. For example, the target for FADs was 237 units, 103% of this quota was achieved by 1991. But, no data were collected on fish species and catch to determine the socioeconomic and ecological impacts of this intervention and to establish information for the improvement of technology.

Monitoring is especially important for short-lived interventions such as FADs. Due to the nature of the materials used in construction of the FADs, they were easily destroyed by strong waves and currents. Since no monitoring was done, the impact of the intervention could not be determined.


FIGURE 1. CVRP-I NEARSHORE FISHERIES PROGRAM SITES.

### 2 A participatory site planning process will help determine the appropriate interventions and ensure that technical accuracy is tested before implementation.

Participation in the planning for CRM interventions at the community and the local government level is essential to ensure that the people affected by the interventions are in agreement and will take responsibility for implementation. This participatory planning process must be guided by CRM technical experts. Once a planning process is in place,

TABLE 1. PHYSICAL TARGETS (REVISED) AND ACCOMPLISHMENTS OF NEARSHORE FISHERIES COMPONENT DECEMBER 1991 (CVRP-I, 1991).

| Nearshore Fisheries | 5-Year Target | 1984-1990 Accomplishment | Year (CY) 1991 Current | | Percent Accomplishments (As of Dec. 1991) | |
|---|---|---|---|---|---|---|
| | | | Annual Targets | Jan.-Dec. Accomplishment | Over 5-Years | Over CY 1991 |
| *Barangays* Covered (no.) | 180 | 163 | 17 | 19 | 101.1 | 111.1 |
| Families Benefitted (no.) | 6,069 | 8,086 | 0 | NA | 133.2 | NA |
| Artificial Reef Clusters (no.) | 1,236 | 929 | 307 | 145 | 86.9 | 47.2 |
| Mangrove Reforestation (ha) | 1,000 | 919 | 135 | 54.5 | 97.4 | 40.4 |
| Coral Reef Area Mgt. (ha) | 3,716 | 2,902 | 1,344 | 1,288 | 111.1 | 91.4 |
| Livestock Dispersal (no. | 63 | 63 | 0 | 0 | 100 | NA |
| Livestock Redispersal (no. | 76 | 45 | 20 | 24 | 90.8 | 120.0 |
| Stewardship Contracts (no.) | 1,736 | 1,225 | 525 | 235 | 85.8 | 44.8 |
| FADs (unit) | 237 | 212 | 52 | 32 | 103 | 61.5 |
| Mariculture (ha) | 48 | 33 | 15 | 56.5 | 186.5 | 376.9 |

decisions for CRM projects at the local level can be made in the local context. This gives more ownership to the community participants. There is evidence that the CVRP approach moved too quickly to suggest and implement technical solutions which either were not tested or necessarily favorable to the community participants. More of the interventions would still be existing or functioning today if a participatory planning process had been followed.

The artificial reef and FAD programs, for example, were proposed as alternative fishing grounds to decrease fishing pressure on the coral reefs where marine sanctuaries were being established. Although the ARs and FADs were well received by the community, the planning process did not consider the possibility of over-fishing from these devices. Although appropriate fishing methods were prescribed, the number of fishers was not specified. Planning needs to consider that an artificial reef makes only a small contribution to habitat due to its relatively small area compared to natural reefs. If fishing is allowed to occur, it should be regulated since artificial reefs may merely serve as a fish aggregating device and thus contribute to over fishing. These points are not obvious to fishers or local government officials, thus, the participatory planning process needs to incorporate education and discussion to a sufficient degree so that participants can make informed decisions. Although hindsight is usually better, CVRP could have been more careful to educate the community about these pitfalls and build up a planning process that could address problems as they arise in the future.

## 3 Linkages, collaboration and integration are necessary to ensure sustainability.

CVRP was a pilot project in community-based resource management (Vande Vusse 1991). Its interventions were implemented through community organizations, specifically fishermen's associations (FA). In the Cebu and Bohol sites, a total of 25 FAs were organized (CVRP 1991). However, the 17 FAs in Cebu did not endure while only 5 out of 8 in the Bohol site still exist (Table 2). The existing ones owe their longevity to assistance by an NGO or government agency after CVRP phased out. For example, in Bohol, there was support from the Department of Environment and Natural Resources, the Bohol Resource Management and Development Foundation, the Small Island Agricultural Support Service Program and the Parents Teachers Association. Such linkages are essential for project sustainability.

Involvement and coordination with the private sector and local communities are also necessary for the project to be effective. For instance, in Sta. Cruz, Ronda, a resort was established in an area targetted for mangrove

reforestation. This inappropriate location discouraged the beneficiaries from supporting the mangrove reforestation activities.

Success in the maintenance of marine sanctuaries like Zaragosa and Saavedra in Cebu and Aguining and Pinamgo in Bohol is attributed to the continuous support that the community receives from non-government agencies (e.g. German Development Service of Cebu and the University of San Carlos in Saavedra).

Failure of other CVRP marine sanctuaries is in part due to the weakness of community organizing work that led to poor leadership and management capabilities of fisher's associations. Officers of several FAs said that weak leaders, compounded by not including the majority of the local fishers and not having sufficient training to strengthen the organizations contributed to the failure (Table 2).

Continuing survival of the sanctuaries resulted from the "adoption" by various NGOs after CVRP-I ended. The same is undoubtedly true for the Apo Island Reserve given its continuing relationship with Silliman University after the end of the project which established it in1986.

## 4 Marine-based livelihoods have limited potential except in appropriate situations and when established technical guidelines are followed.

The CVRP mariculture intervention introduced relatively "new" mariculture techniques which needed technical assistance. Since many fishers are slow in or even resistant to the adoption of new technologies especially those using culture techniques, perhaps the one-year assistance provided by the CVRP technician was not enough.

Suitability of a project intervention often determines its success. The mariculture program of CVRP introduced oyster culture in Polo, Cebu and two sites in Bohol; fish cage culture in 4 sites; seaweed (*Eucheuma denticulatum* and *Kappaphycus alvarezii*) culture in 4 sites; ark clam (*Anadara maculosa*) culture in one Bohol site; miracle holes in Palanas, Cebu; and clam (*Phacoides philippinarum*) and cone shell (*Telescopium telescopium*) culture in Sinandigan, Ubay (SUML 1996). The first three did not flourish while the last two were purposely stopped to protect the mangrove forest from destruction caused by harvesting of clams.

Only the miracle holes and ark clam (*litub*) culture are still existing. Of these, only the miracle holes are relatively successful because they provide regular income to fishermen from harvest of Rabbitfishes, Sea-catfish, various groupers, snappers, moray eels, gobies, mullet, goatfish, parrotfish and crabs. Miracle holes are owned and maintained by fisher families. In the selection of sites for miracle holes, each fisherman beneficiary was assigned to a specific area for its construction. One factor which discouraged some fishermen beneficiaries of fish cage culture was that there were many owners (FA members). Calumpong (1988) attributed the success of seaweed (*Caulerpa*) farming in Mactan Island "to the huge intertidal and the farms which were owned by families". Many fishing families in Manjuyod, Negros Oriental are successfully growing seaweeds in Bais Bay. The effectiveness of community-based mariculture projects versus family-based mariculture projects needs to be examined.

Ark clam (*litub*) culture was abandoned by the fisherfolk beneficiaries to non-members particularly the gleaners of the community. Low marketability of the cultured species prompted this. The culture of seven species of shellfish were likewise attempted. The fish cage culture in Zaragosa was also abandoned. Fisherfolk beneficiaries attributed this failure to poor market value of cultured fishes like snapper (*mangagat*) which were mistakenly identified by buyers as Tilapia.

The marine sanctuary sites were only limited to coral reefs, which in the Bohol site, were severely degraded. Seagrass and soft bottom areas could have been included with feeding and nursery grounds of commercial fish species (e.g. mullets, goatfishes, rabbitfishes, breams and crustaceans). In Aguining and San Francisco, Bohol, oyster culture did not flourish as the site was not brackish.

## 5 ARs and FADs require planing, management and tenure (stewardship) or ownership to be effective otherwise they should not be used.

Based on current knowledge and recent references, the CVRP-I artificial reef program did not follow ecological and siting principles resulting in poor sites and incorrect arrangements of tire and concrete artificial reefs. Selection of materials and design of the ARs were not durable enough to withstand physical stress from wave action and strong currents. The clusters were not tightly tied and

TABLE 2. STATUS OF FISHERMEN'S ASSOCIATION IN BOHOL* CVRP-I SITES (FROM J. Luchavez, SUML 1996).

| Site | Fishermen's Association | Number of Members | Status |
|---|---|---|---|
| 1 *Liberty, Unido* | | 40 | inactive |
| 2 *Pinamgo, Bien Unido* | Mananagat nga Nagkahiusa sa Pinamgo | 90 | inactive |
| 3 *Aguining, Pres. C.P. Garcia* | Aguining Fishermen's Association | 20 | active |
| 4 *Sagasa, Bien Unido* | Nagkahiusang Gagmay nga Mananagat sa San Francisco | 60 | 54 active |
| 5 *San Francisco, Talibon* | Kapunungan sa Gagmay nga Mananagat sa San Francisco | 44 | inactive |
| 6 *Bagacay, Talibon* | Kapunungan sa Gagmay nga Mananagat sa Bagacay | 25 | active |
| 7 *Calituban, Talibon* | Calituban Fishermen's Association | 20 | active |
| 8 *Achila, Ubay* | Achila Fishermen's Association | 44 | 36 active |

* *The 17 FAs organized by CVRP that were assessed on Cebu Island were no longer functioning. Common causes of failure were lack of supervision, disunity, end of CVRP, no return from activity, lack of interest and others.*

anchored so they scattered during deployment. In areas where illegal fishing, specifically trawling, is rampant, the coastal community accepted the artificial reef project readily as artificial reef structures could destroy nets, and thus, deter these forms of illegal fishing. Yet other management considerations were not implemented.

The basic problems with FAD maintenance and replacement were: (1) the lack of secure tenure over FADs (commercial fishers often intruded), and (2) strong community organizations are needed to ensure that daily contributions from catch are remitted faithfully and held until needed.

If FADs placed in municipal waters are harvested exclusively by handline and commercial fishing is not allowed near these FADs (as CVRP-I recommended and is now supported by the Local Government Code), overfishing becomes difficult. FADs contribute to overfishing because of their extensive use by an unregulated commercial fishery using purse seines.

**6 Mangrove reforestation requires planning, site appropriateness, stewardship and community organization to work.**

Although experience in mangrove reforestation was lacking in 1984, a large area was reforested with mangroves during the 5-year duration of the project, 495.3 ha for the Cebu and Bohol sites alone, but survival rate was low (17% for Cebu; 19% for Bohol). Several CVRP mangrove activities failed due to poor site selection which probably reflects over-enthusiastic work of local technicians and facilitators.

In some mangrove reforestation areas, the recommended technology (e.g. establishment and preparation of site materials, construction, the recommended protection and maintenance, and the operations during harvest) of the project were

not implemented as planned leading to poor management and low survival of mangrove plants. Also, some 1,490 Certificates of Stewardship were issued for the whole duration of the project but monitoring and assessment were weak. Nevertheless, the issuance of tenure through stewardship agreements was an important contribution of the CVRP-I, this being the first test in giving local ownership and control over mangrove areas.

**7 Responsibilities of managing resources at the community level must be clearly defined and the benefits of doing so obvious and real, otherwise continued efforts by the community will die.**

Sustainability of project interventions, especially when community-managed units are involved, require legal support. For example, mangrove reforestation readily caught on as participants were promised some tenurial security through stewardship contracts. The lack of interest of beneficiaries in replacing lost FADs and ARs was mainly due to the lack of ownership. Those CVRP interventions which survived, namely fish sanctuaries, miracle holes and some mangrove agreements reflect clear lines of responsibility to either families or well organized community groups.

# Conclusion

The lessons above are self explanatory. CVRP broke new ground in many areas of CRM in the Philippines. In undertaking this evaluation, we became aware of the need for better planning for such projects. The planners and implementers must be very clear on their goals and objectives. And, they must establish a practical and working baseline from which to measure their objectives, activities and progress. Such planning and monitoring was lacking in CVRP. Planners must decide whether short or long-term interventions, or a combination of both, are desired and determine what is required to make either or both survive in time. FADS and perhaps ARs provide short term benefits to fishers. The long term value or impact of those interventions should be considered by the planners.

CVRP can be viewed within the context of the condition and knowledge that existed in the 1980's. Factors such as tenure are now seen to be very important in long term success—this was less clear in 1985. The Local Government Code has changed some of the jurisdictional problems encountered in the 1980s. Technical assistance, often seen as essential, must be completely integrated into the project design and implementation process. A difficult problem is how to make the real resource managers (the coastal residents and local officials) more technically aware. For participatory CRM to proceed, people at all levels must understand and support the few good solutions that exist. This requires education and experiential learning. CVRP made a first stab at community-based CRM in the Philippines. We can now learn from both its successes and failures.

[This evaluation offers guidance for future projects in CRM. A great deal of time and effort went into collecting and analyzing the data presented in the main evaluation report. The challenge for such an evaluation is to carefully consider what data are available and what then can be compared before undertaking such a task. This evaluation also highlights the need for baseline data collection, analysis and monitoring during any such project as CVRP. Editor]


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# Integrated Coastal Management: Lessons to Build On

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## Introduction

The topic of integrated coastal management (ICM) is broad and can be approached from different perspectives. However, agreement exists among coastal management specialists that ICM efforts must fit within a comprehensive framework that integrates the range of activities and constitutes sustainable development in coastal areas. In the Philippines, most resource management approaches have been sectoral and fragmented. Thus, I will define what we mean by integrated coastal management in the context of the Philippines while drawing from other examples in tropical Asia.

## Integrated Coastal Management

### Sustainable Development and Use

Since the overriding goal of ICM is 'sustainable development', this term warrants further definition. A current consensus is that sustainability needs institutional and structural economic changes that will improve human welfare without foreclosing options for similar development in the succeeding generations (Fallon and Chua 1990).

For the benefit of coastal resource management, however, there is much specific research being conducted to supply information relevant to the sustainable use or carrying capacity of a particular resource, such as mangrove forests or coastal land for aquaculture. Coral reef fisheries, for example, have been sufficiently studied so that fish yields around coral reefs under particular environmental conditions and fishing effort can be predicted and set as objectives for management. Such information can lead to sustainable use of a reef fishery when applied correctly. Indeed, there are site-specific examples of sustainable use of a fishery resource that have benefited from fishery-related research and application (Alcala and Russ 1990; White and Savina 1987). Nevertheless, such successes constitute neither comprehensive programs nor examples of sustainable development, both of which are larger and more complicated problems.

The widespread phenomena of overfishing because of open access regimes throughout tropical Asia, is less a problem of poor law enforcement than one related to stagnant or declining economies, poverty, a lack of alternative sources of income and poorly defined tenure. Thus, some fisheries researchers suggest

*Coral mining in Sri Lanka, although illegal, is difficult to stop because of the socio-economic implications to those employed in the industry.*

that narrowly defined problems are unlikely to beget solutions to overfishing. This realization indicates that appropriate solutions include a more holistic and integrated approach to resource and fisheries management than simply dealing with one site-specific fishery without considering the site's social, economic, cultural and other environmental aspects. Thus, based on increasing failures in the management of fisheries (Emerson 1994), as an example, a strong argument can be made for integrated and multidisciplinary management of the resource. This assertion can be carried even further when an assortment of related resources such as mangroves, lagoons, coral reefs and beaches, typical of Philippine coasts, is the subject of management and sustainable use (or development) (Tobin and White 1992).

Drawing on poor nearshore fisheries (and access) management as an issue, the relative lack of successful management in the Philippines indicates a focus on the relief of symptoms rather than addressing underlying causes. For example, banning the use of certain gears such as 'muro-ami' or use of explosives is only the first step in ICM. And, although the government policy is to support a community-based and self regulatory approach to management and conservation, there are still only a few examples of truly successful community-based or collaborative fisheries management. This situation exists because of the 'common property' nature of fisheries resources and the lack of national policy support to change this regime.

This general failure in fisheries management highlights the need for integrated approaches where all facets of the problem can be addressed within a comprehensive framework. Any strategy for integrating CRM in the Philippines should address:

a) Control of coastal environmental degradation caused by past development and current practices
b) Restoration, enhancement and sustainable use of coastal resources to achieve specific development goals
c) Economic weaknesses and the need to generate new wealth and relieve pressure on coastal resources

## What Constitutes an ICM Program

Integrated coastal management (ICM) comprises activities that achieve sustainable use and management of economically and ecologically valuable resources in the coastal areas which consider interactions among and within resource systems as well as those of humans and their environment (White and Lopez 1991). ICM consists of multi-sectoral and strategic approaches to efficient allocation of scarce resources among competing uses while minimizing adverse impacts to the environment. ICM is the management of sectoral components as part of a functional whole, recognizing the fact that human behavior and not just fishes or land is the focus of management (Scura 1994). Indeed, integration is a key ingredient for effective

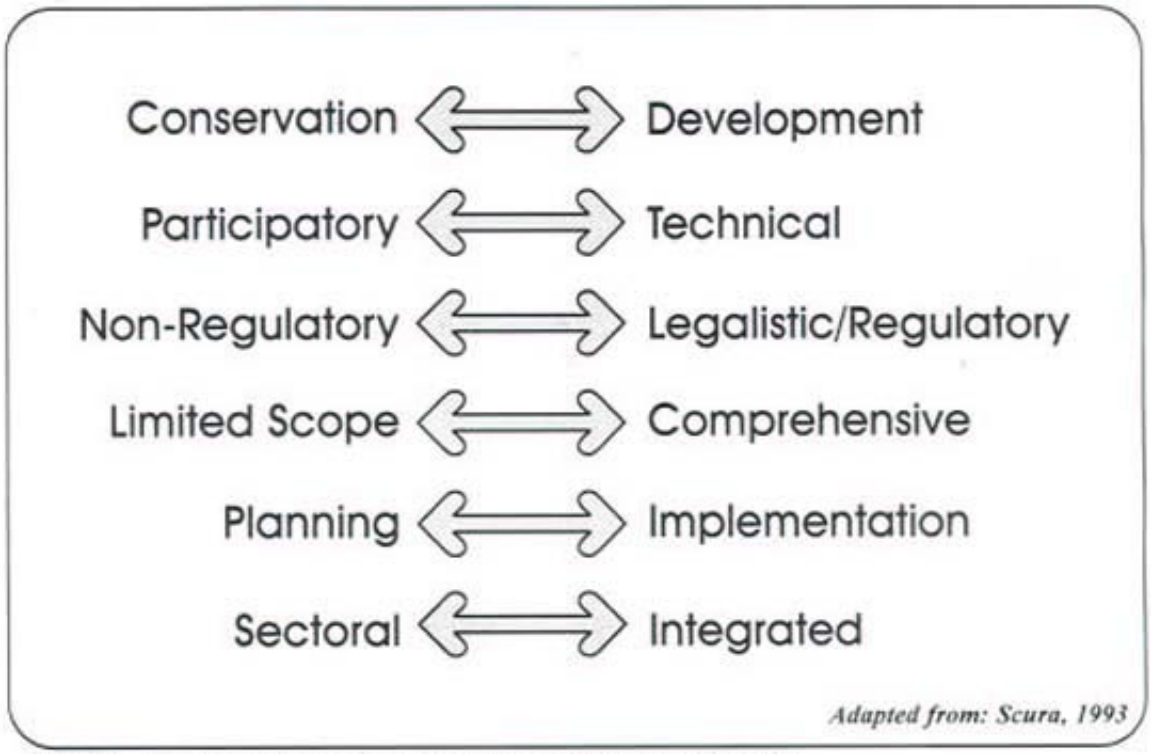



FIGURE 1. RANGE OF ORIENTATION OF COASTAL MANAGEMENT PROGRAMS.

coastal management, however, it is rarely being applied in practice.

Within these definitions, ICM programs vary considerably in approach, scope, focus and degree of integration as indicated in Figure 1. There is no single model for how they should manifest themselves (Scura 1993). But, in general, practical and implementable statements on CRM are represented in plans where issues are crisply analyzed, objectives clearly stated and implementable actions specified. A CRM program must take a practical approach which generates tangible results within two to three years. The program must focus on issues important to the users of coastal resources to maintain local interest and support and concentrate planning and policy on resolving selected issues, rather than on diluting efforts by attempting to cover every conceivable problem (Robadue et al 1994).

A CRM program must find efficient ways for planning, decision making and implementation, and address the question of what will happen after an initial intervention. Community organizing, education, awareness raising, constituency building and training of staff can give large returns but these efforts must be focused on the problems at hand and be adequately supported to be effective within the limited time frame.

A CRM program must be monitored and be measurable. The ultimate test of policy is whether coastal ecosystems are improving or are continuing to degrade and whether the quality of life of resource users is being maintained. Thus, a practical CRM program can be held accountable for the status of the resources and the socioeconomic situation of coastal communities where it is implemented.

Successful CRM programs have some common ingredients.

- Selection and support of field implementation and intervention sites which will serve as testing grounds for strategic interventions; as potential models for replication; and to inform national or international policy.
- Capacity-building (individuals and institutions) through 'learning by doing' and through short term and long term training.
- Emphasis on program documentation, monitoring and lesson drawing at all levels to extend the benefits of the results from field intervention sites.
- Promotion of CRM-related national policy dialogue and reform by providing discussion venues on major lessons and output from the project sites.

- Adoption of a program management structure and style that is integrated, efficient and adaptive, while also promoting internal program learning.

Lessons from various projects also indicate what information types are important for coastal resource management planning and implementation. These are:

- Biophysical and environmental
- Social, economic, resource use patterns, markets
- Institutional, legal and organizational
- Opportunities for management interventions

Bio-physical type information needs to be complemented along with socioeconomic, human use patterns, cultural and legal/ institutional types of information. And, collection needs to allow participation in information gathering by community groups and non-scientists in appropriate instances. These international lessons in coastal management now being applied in Sri Lanka also have much relevance for the new Philippine Coastal Resource Management Project supported by USAID.

## Special Area Management for Coastal Resources

Special Area Management (SAM) is a localized version of ICM. It is a means to achieve sustainable resource management within a defined geographical setting. The limited geographic scope focuses on management strategies making them more effective relative to application in a broader area which has more variability. The cause and effect factors can be better understood within the geographical, ecological and institutional scope of concern.

Community participation is possible in SAM planning and implementation to a degree not possible in broader area planning. SAM can better look at and consider the total ecosystem including the communities and their potential role in the process of planning and implementation. If the community perceives that it is deriving tangible benefits from better management, then the people will continue to manage their own resources. The planner, the planning agency or the organization group play only a catalytic role in

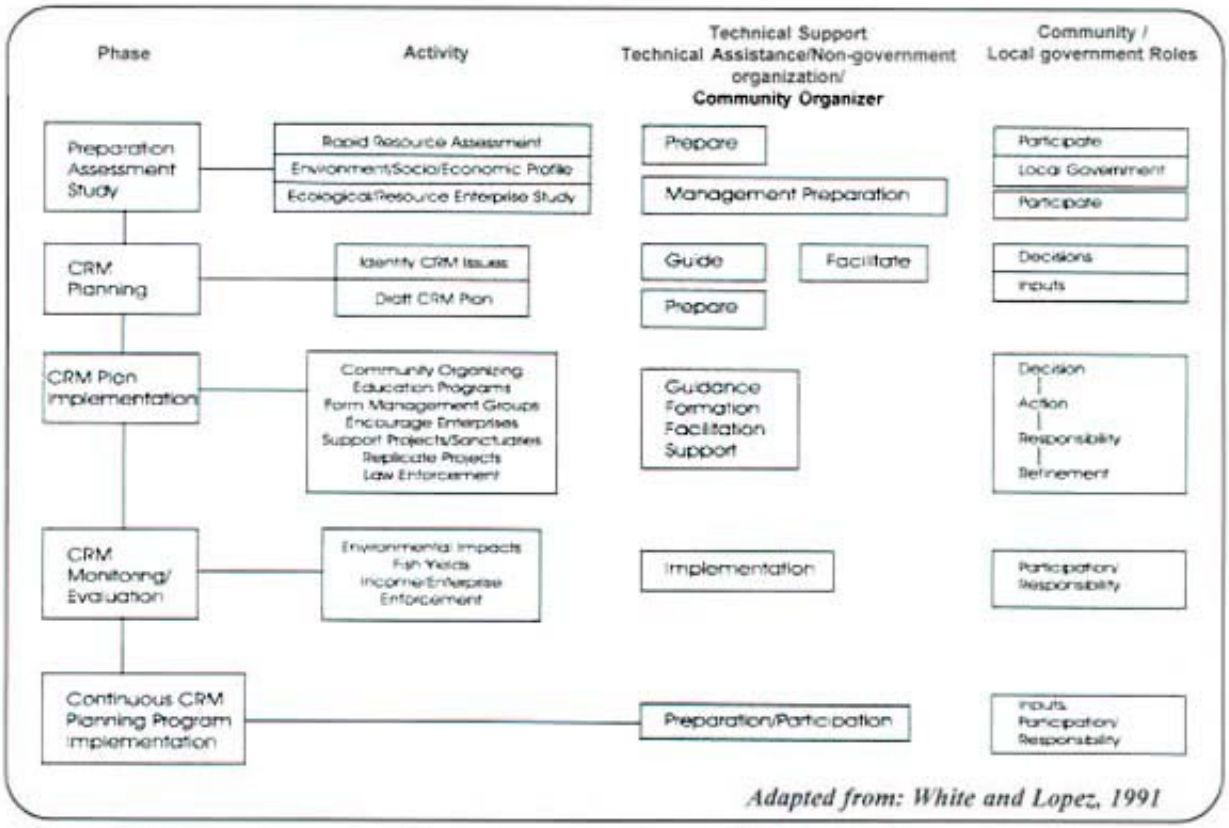



FIGURE 2. PHASES, ACTIVITIES AND RESPONSIBILITIES IN A COASTAL MANAGEMENT PROCESS.

organizing the local community. They can provide technical and financial support for the management effort that is formulated and implemented as a local community and/or local government effort. For successful management of natural resources within the context of a SAM site, implementation and monitoring becomes a local responsibility and reduces the need for outside support in the long term.

Below is a summary of the steps in the SAM process of a project in Sri Lanka (White and Samarakoon 1994):

a) Agreement on need for SAM process at the national level.

b) Compile an Environmental Profile of the area and determine the priority management issues.

c) Enter the community with full-time professional facilitators and community organizers in order to liaise with community stakeholders, organize education programs, facilitate the planning process with these interest groups and to organize core coastal resource management groups on a case-by-case basis.

d) Conduct planning-cum-training workshops in the SAM site.

e) Organize resource management core groups according to their dependence on different resources such as a lagoon fishery, small-scale beach tourism or agriculture.

f) Draft management plan that reflects the management objectives of community groups, local government and key national agencies through community involvement and determination of indicators for monitoring.

g) Implement pilot projects while planning continues to show real results.

h) Refine management plan from experience and broaden implementation to ensure long term acceptance.

i) Review and refine institutional arrangement for implementation to ensure implementation and sustainability. This knowledge about institutional arrangements can only evolve as part of the SAM process because it will be closely tied to the local and national situation for a given place and time.

### Community and Participation-Based Initiatives in CRM

It is useful to emphasize the role of community projects in providing lessons for larger, more integrated and comprehensive SAM and CRM programs. The Philippines has benefited from several, well publicized projects in the 1980s which showed that small fishing communities can and will maintain sustainable use programs for coral reef resources if they derive tangible benefits from their efforts (White 1989). Three or more such projects are now totally supported and continued by the communities involved without any long term outside financial or institutional support (Ferrer et al 1996). The incentive for this sustainable situation is the continued supply of fish, improved condition of coral reefs, increasing numbers of tourists who come to scuba dive and swim, and the pride derived from sharing the management techniques and successes with neighboring communities with similar interests.

A framework for field level interventions and the roles and responsibilities of various participants is shown in Figure 2 which is derived from the CRM component of the Fishery Sector Program for the Philippines and SAM implementation in Sri Lanka. This framework highlights the need for participation at the community and municipal government level which is essential for long term adoption of any natural resource management plan.

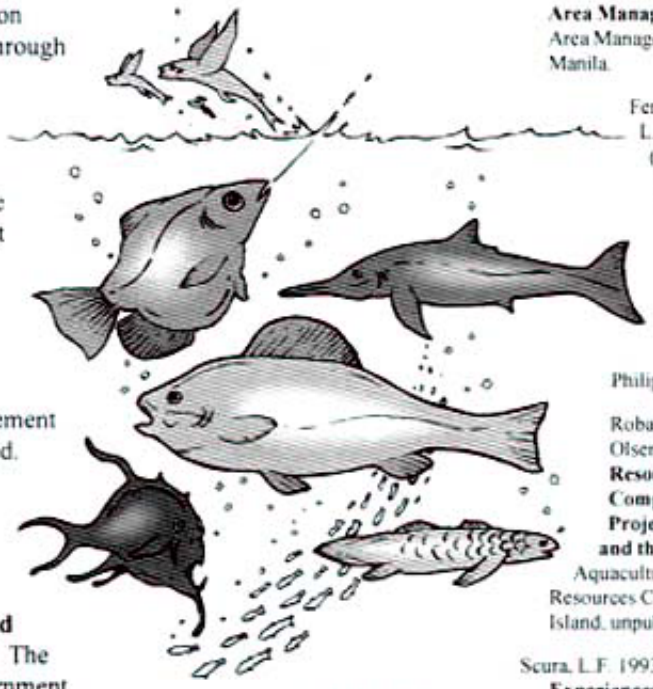
## Conclusions

The linkages between sustainable development, integrated coastal management and the practical application of these concepts must be very strong to succeed. The challenge is not to advocate broadly based strategies, but rather to identify management issues and institutional barriers and to provide viable frameworks for action. ICM and SAM planning and implementation must focus on what works to practically maintain the natural coastal resources through modification of human behavior. This means finding out what is appropriate for site specific situations through the process of Special Area Management. For example, the development of aquaculture in Rekawa Lagoon, Sri Lanka was a very controversial issue. The prevailing attitude was that aquaculture, especially shrimp culture, would only damage the environment and disrupt local traditions and environment. Thus, community fear of shrimp culture by outside investors has virtually blocked any development. Any aquaculture project would have to consider the perspectives and needs of local residents. And, even with consideration of community values and roles, the community response will be cautious.

We also need to measure and monitor our gains so that lessons can be drawn and be used to refine efforts. And, most important, all

lessons learned and information generated must be with and through local communities and local government personnel as partners in the process. Lessons learned from the SAM process in Sri Lanka are substantial. They indicate that the SAM process has potential for wider application for integrated coastal management in the country and that with some refinements, fisheries management could easily be accommodated. Lessons of particular relevance to the Philippines are:

- **The SAM process must be open, participatory and work towards consensus**. The government and non-government groups must work together and continue to have open dialogue during the planning and implementation process.
- **Decisions must be clear and well documented**. Any binding decisions must be very clearly communicated and abided by. Otherwise mistrust will grow and goodwill lost.
- **National government agencies must understand and accept the process.**
- **Stakeholder groups must be equally represented in the management process.**
- **Implementation results should be apparent within three years and responsive to local management issues**. If results are not forthcoming, all concerned lose interest in the process.
- **Monitoring and feedback of results make the program tangible**. Monitoring ensures that changes over time are recorded and understood by all concerned and that positive results will reinforce



- **Collaborative management is a more appropriate concept than community-based management for coastal resources.**
- **Community groups can make the difference in success or failure.**

The potential of SAM and ICM is that they can manage complex situations and consider the whole ecosystem including its human participants, economic needs and political forces. The ICM or SAM plan can grapple with management concerns for a given geographical area in a systemic manner while maintaining a focus.

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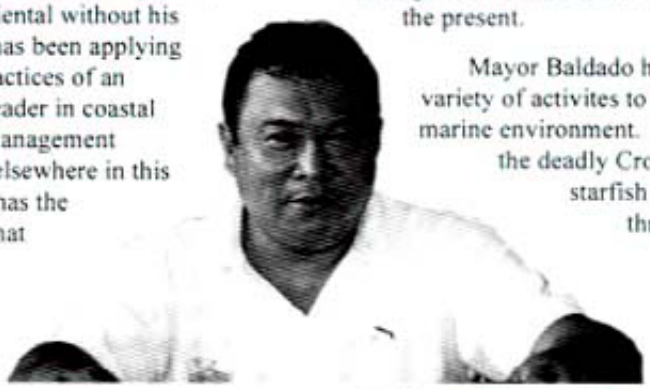
leadership models

# Mayor of Manjuyod, Negros Oriental Leads the Way

*[This article is the first in series to highlight leadership models for CRM in the Philippines.]*

We sometimes wonder who will take the lead to start coastal resource management (CRM) actions. Mayor Jose A. Baldado of Manjuyod, Negros Oriental without his knowing, has been applying the five practices of an effective leader in coastal resource management described elsewhere in this issue. He has the charisma that inspires curiosity and admiration and is liked by the common person as his heart and mind are with the masses.



"Petit" to his friends, Mayor Baldado was the youngest to be elected into public office as Municipal Mayor in 1977. He was then 27 years of age. Mayor Petit is not a mere politician. He is many things rolled into one: an excellent community worker, a good administrator, a development advocate, in short, a leader. While old and young politicians come and go, this dashing Mayor continues to be undefeated, serving the town for almost 20 years.

The Mayor's interest and involvement in CRM started in 1988 when Manjuyod became an expansion site of the Central Visayas Regional Project-I (CVRP). He recalled that Manjuyod's inclusion in the CVRP was due to his adamant insistence to participate in the project. He has been organizing and mobilizing communities to plan and implement coastal resource management initiatives in Manjuyod until the present.

Mayor Baldado has supported a variety of activites to protect the marine environment. In 1995, when the deadly Crown-of-thorns starfish (*salanay*), threatened the coral reefs in Negros, he (then Mayors League President of Negros Oriental), launched "Oplan Salanay" inviting local divers to pluck them out to save the corals. A scuba diver, he led some 40 diver-volunteers in controlling the Crown-of-thorns that had a population outbreak in the 50-ha marine reserve in Campuyo, Manjuyod. The province's Resource Management Division (RMD), the Center for the Establishment of Marine Reserves in Negros Oriental and the German Development Service (GDS) provided technical and personnel assistance.

For almost a decade, the ban on use of explosives and poison for fishing in the municipality has been enforced by the sea-watch (*Bantay-Dagat*) groups of the town. The reefs in the municipality are recovering from past damage. To enhance the recovery process, the municipality, with the technical assistance of RMD and GDS, has deployed artificial tire reef modules in several areas including

designated marine reserves in the coastal villages of Bolisong (10 ha) and Mantuyop (50 ha).

"Our marine sanctuary in Bolisong is the best in Negros Oriental outside Apo", quips Mayor Baldado.

Asked about the status of the white sand beach controversy wherein both Manjuyod and Bais City claim ownership, Baldado said: "I changed drastically. I am now willing to sit down with the Mayor of Bais and discuss the possibility of joint development and management of the area. We will not be only thinking of coastal tourism but more about coastal management of this area." He likewise said that the *Sangguniang Bayan* (Municipal Council) of Manjuyod and the *Sangguniang Panglungsod* (City Council) of Bais City should jointly discuss the management of the area, instead of fighting in court. He added that since part of Bais Bay is Tanjay and Manjuyod, the three mayors should discuss how they can better protect the area.

Other CRM projects in Manjuyod are managed by the communities themselves: mangrove reforestation, fish catch monitoring and the GDS-assisted swine production for fisherfolk.

To complement coastal rehabilitation efforts, the mayor has initiated a watershed management project in the hinterlands through agroforestry development with emphasis on soil and water conservation techniques.

Mayor Baldado expressed grave concern over the proposed construction of the controversial multi-million peso cement plant across the deep Tañon Strait in Malabuyoc, Cebu. He laments that this plant could seriously affect the marine environment and jeopardize the livelihood of hundreds of subsistence fishers operating in the Tañon Strait. Not only that, the whale watch tourism feature of Bais City would decline if the diverse marine mammal fauna of the strait is affected. "We welcome industrialization but it should not be at the expense of the environment", he stressed.

His love and dedication to coastal resource management can be gleaned from his completion of the first International Course on Integrated Coastal Management held in Silliman University in 1993, and recently his active participation in the Coastal Resource Leadership Challenge Workshop for Region 7, September 5 to 6, 1996. During the workshop, he committed five percent of the municipality's Development Fund to coastal initiatives.

Mayor Baldado is in his last term as mayor. In the remaining days, he plans to focus on heightening the awareness not only of the people of Manjuyod, but also known leaders so that they may become active leaders in coastal resource management. He wants to obtain a masters degree in coastal resource management and says he will enroll when Silliman University offers the course. He intends to continue his involvement in CRM through policy advocacy.

Mayor Baldado has marked his term by his vision, determination, action and a deep sense of shared destiny with the people. These characteristics of a leader are needed in other municipalities as well.

Contributed by: **William E. Ablong**, CRMP Learning Area Coordinator (Negros Oriental), c/o PPDO Resource Management Division, Capitol Area, Dumaguete City, Negros Oriental, Philippines

[Readers are welcome to submit articles highlighting the role of leadership models in CRM. Editor]

the news

# Partnering with the Private Sector via Adopt a Learning Area Program

*...the Government, by itself, cannot muster all the resources and capability to address the ever expanding extent of environmental and natural resources problems in this country. We need to obtain what other resources and capabilities there are in other sectors of our society....*

*- Ben Malayang III, 1993*

The Coastal Resource Management Project (CRMP) is an initiative of the Philippine government. However, the private sector has as much to gain or lose in Philippine coastal resources as the government sector. Business and industry's participation in CRMP is equally significant if not as imperative. Hence, the project is initiating a partnering strategy that will underscore the private sector's role in managing coastal resources. This partnering strategy is called the ***Adopt a Learning Area Program***.

Learning areas are CRM project sites which will serve as the nuclei for the expansion of coastal resource management innovations throughout the Philippine coastline. The project has six learning areas: San Vicente, Palawan; Olango Island, Cebu;

**It's a Jeepney!**
**No! It's the CRM Mobile!**


The CRM Mobile is a proposed innovative medium of getting the coastal resources management message across CRMP's learning areas and beyond. It combines the concept of the Mobile Library with that of an Audio-Visual Van. However, it is also envisioned as a utility vehicle that would serve transportation needs of the project

Southeast Negros Oriental; Northwest Bohol; Sarangani Bay; and Malalag Bay, Davao del Sur. *In the Adopt a Learning Area Program*, business and industry will be given an opportunity to serve as corporate sponsors to these sites. The mechanism for participation would be the corporate foundation.

Under the scheme, the project will encourage corporate foundations to adopt a learning area. Each area may have more than one corporate sponsor. Being a corporate sponsor of a learning area entails only one thing: donating a CRM mobile (*See box*) to the site.

Corporate foundations may want to participate in this program for a number of reasons:

***Public service and corporate responsibility*** purposes. Some corporate foundations are usually the instruments of private business for achieving social objectives. Participation in this program would be in accordance with corporate responsibility.

***Institutional advertising and exposure*** purposes. Participation in the program provides adequate testimony to and widespread exposure of the company's concern for coastal resource management and environmental protection. Company banners and logos would be respectively borne by and painted on the CRM mobile.

***Tax Shelter*** purposes. Corporate donations of this nature are tax deductible.

The *Adopt a Learning Area Program* has the following objectives:

- To encourage private sector participation in coastal resource management.
- To increase corporate awareness of and responsibility for coastal resource issues.
- To provide key industries in the learning areas with a sense of project co-ownership for CRMP.
- To generate additional project resources in the learning sites.

For more information, contact: **Alexander G. Flor and Catherine A. Courtney**, Coastal Resource Management Project.

It could be in a form of a *jeepney*, a medium culturally appropriate to the coastal communities. It will have four functions:

A Mobile Interpretive Center. An interpretive center is a facility that increases awareness, understanding and appreciation of the environment. The CRM Mobile would be equipped with sideboards that can be displayed during various community gatherings to increase awareness of coastal resource issues and solutions. It will also serve as a mobile library on coastal resource management.

An Information Education and Communication Van. The CRM Mobile will be literally an Information, Education and Communication vehicle. It will be designed to carry a *karaoke* unit which could double as a public address cum recording system, a video playback system with monitor, and a video camera. A built-in ladder and a small stage on the hood or roof would enable a speaker to address a large crowd. Local talents could use the karaoke to record their performances on tape to be played back again and again. Locally recorded or canned video presentations on coastal resources themes may be shown to crowds with this facility. The equipment will also serve the training needs of the CRMP learning area coordinators.

A Utility Vehicle. The CRM Mobile will fulfil the transportation requirements of project activities in the learning areas. It will shuttle clients and partners as well as project staff to and from activity venues.

A fully-equipped CRM Mobile would cost around P500,000. It is expected to last beyond the five-year lifetime of the project and would eventually be turned over to the provincial or municipal planning and development offices concerned with coastal resources management. The CRM Mobile may become a familiar site in coastal communities all over the country.

# Local Government Officials from Three Regions in the Philippines Undergo Workshop on Coastal Resource Leadership


*Coastal Resource Leadership Challenge in Puerto Princesa, Palawan*

Is leadership the key to sustainable development and coastal resource management? Evidence exists from decades of development work that identifies leadership as a key factor in success. A series of workshops for local government officials in three Philippine regions revolved around this theme. Dubbed as the Coastal Resource Leadership Challenge, this two-day workshop series was organized and implemented by the Coastal Resource Management Project (CRMP) of the Philippines, supported by the United States Agency for International Development.

The Coastal Resource Leadership Challenge workshops were conducted at Dumaguete City (September 5-6); General Santos City (September 26-27); and Puerto Princesa City (October 14-15, 1996). The workshops were designed for local government, provincial and national agency officials, particularly municipal mayors and planning officers, from the six learning areas of the CRMP.

The leadership concepts promoted in the workshops were adopted from the popular book, *The Leadership Challenge* (Kouzes and Posner 1995) and presented by C. Courtney, CRMP Chief of Party. It promotes effective leadership and links it to specific challenges that the Philippines faces in managing its natural coastal resources. To place the need for Coastal Resource Management (CRM) in perspective, information on the state of CRM was presented by A. White, CRM Coordinator. He highlighted the economic value of coastal resources such as coral reefs, mangroves, nearshore fisheries and water quality being lost to poor management practices. The legal backing for CRM in the country was outlined and discussed by Attorney M. Maxino of Silliman University who highlighted jurisdictional responsibilities for CRM under the Local Government Code. Finally, key coastal resource management issues and needs were identified.

Over 100 participants representing 3 provinces, 4 cities and 15 municipalities attended the Dumaguete workshop. A similar number were present in General Santos while Palawan had about 50 participants from the island.

The workshop series provided an overview of the CRMP and generated statements of commitments from the municipal and provincial government units, in the form of Memoranda of Agreement. Poster contests were conducted in each venue to enable the participants to share information and experiences about current or past efforts on CRM. The poster entries contained texts, photographs and drawings which were rewarded with prizes at the end of the workshop.

The two-day sessions resulted in each local government group formulating a work agenda for the next year in collaboration with the CRMP. The proceedings of the workshop are summarized in a "Coastal Resource Management Guidebook" (also known as the Blue Book) which also includes blank spaces for future coastal area profiles and plans generated during the project.

By **Alexander G. Flor**, IEC Advisor, Coastal Resource Management Project.

# A National Course on Integrated Coastal Management: Philippines

Developing human resources capability in coastal management planning and implementation is a priority task in coastal management projects in the Philippines. It became even more imperative with the implementation of the Fisheries Sector Program of the Department of Agriculture (DA) and the Coastal Environment Program (CEP) of the Department of Environment and Natural Resources (DENR). Both programs worked with local government units (LGU) whose ranks were unprepared for the responsibility of managing the coastal resources as provided by the Local Government Code of 1991.

In response to this need, six organizations involved in coastal management namely : the DA; DENR; Philippine Council for Aquatic and Marine Research and Development, Haribon Foundation; the International Institute of Rural Reconstruction; and the International Center for Living Aquatic Resources Management, collaborated to develop and implement the National Course on Integrated Coastal Management (ICM). Its main objectives are to develop a pool of coastal managers in each region of the country and to develop a training package for local and regional use.

The National Course on ICM has been developed with the inputs of coastal management practitioners from various organizations in the country. Two national workshops were convened for this purpose in 1994 and 1995. The resulting nine-module curriculum seeks to accomplish the following course objectives:

- To expound on the key elements of an integrated coastal management program
- To conduct stakeholder analysis in the coastal zone
- To identify, evaluate and prioritize the issues in a given coastal area
- To formulate objectives and evaluation criteria of a coastal management program
- To formulate strategies and action plans to address prioritized issues
- To illustrate the nature, features and process of selecting site specific management instruments
- To demonstrate the process of designing institutional arrangements and adopting integrated coastal management programs
- To identify the traits and practice the skills and roles of a coastal manager
- To share insights from past experiences on integrated coastal management implementation

Sixty-two middle-level officers representing different agencies (e.g. DA, DENR-CEP, LGUs, non-government organizations, Philippine Navy, academe) have completed the course. Three different sessions were held in Bolinao, Pangasinan; Davao; and Misamis Oriental earlier this year. Thus far, post training results are encouraging. Participants to the training kept in touch and informed the organizers on how they applied what they learned. Technical assistance was provided where appropriate.

The project is assisted by the Rockefeller Brothers Fund and counterpart resources are provided by collaborating institutions and other partners. The Third Regional training course held in October in Baybay, Leyte was supported by the Visayas State College of Agriculture-German Technical Cooperation Tropical Ecology Program. The fourth run, to be held in Cebu in November, will be supported by the United States Agency for International Development-funded Coastal Resource Management Project. Similar collaboration is sought for the succeeding courses.

Refinements to the curriculum based on module and course evaluation is ongoing. The course is currently being considered for inclusion in the TrainSeaCoast list of standardized training packages for exchange. The TrainSeaCoast Programme is a United Nations program for capability building in coastal management through training and networking. An impact assessment will be conducted upon completion of the project in 1997. A training of trainers and an adaptation of the course for LGUs are also being planned. Negotiations are underway for the Local Government Academy to lead the course implementation. Prospects are also being explored for the adaptation of the course in Cambodia, Vietnam and Indonesia. A project training bulletin is distributed to participants and other Coastal Resource Management practitioners.

For more information, contact:
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[ The National Course on ICM described above and the new CRMP of USAID will jointly implement a course for Region 7 in Mactan Island in November and hope to continue collaboration in 1997 with a series of joint courses. Editor]

facts & figures

ENVIRONMENT

# Why Manage Our Coastal Resources?

The Philippine coastal habitats are under stress and most people agree that improved management is needed to protect the coastal resources of the country. Facts indicating the severity of the situation can help focus our efforts to manage the resources at stake.

- The Philippines is estimated to have 18,000 km$^2$ of coral reef. In 1991, about 70% of the coral reefs were considered to be in poor or fair condition. Excellent reefs comprised only 5% of the total (Gomez *et al* 1994).
- Good to excellent coral reefs can produce 20 tons or more of fish and other edible products per square km per year. Once destroyed by use of dynamite or cyanide, production may be reduced to less than 4 tons/km$^2$/ year. The sustainable catch from a good reef over 10 years is about 200 tons while a destroyed reef catch over the same period is only 72 tons—the loss being 128 tons of fish (White and Savina 1987; White 1989; White 1987).
- Pollution can cause a significant decrease in the average depth of coral growth, thus decreasing the area and productivity of living coral such as in Jakarta Bay, Indonesia where the average depth in 1931 for living corals located 8.5 km from land was 12 m compared to an average depth of 1 m in 1993. This change is all attributed to a decease in water quality from various kinds of pollutants (Tomascik *et al* 1993; Cesar 1996).
- The net present value of benefits from blast fishing to individuals over 25 years (10% rate) is only US$14,600 compared to losses of more than US$400,000 from loss of tourism potential, more than US$190,000 from loss of coastal protection and about US$108,000 from foregone sustainable fishery income, all dependent on a healthy coral reef (Figure 1) (Alcala and Russ 1990; Galvez *et al* 1989; McManus *et al* 1992; Rubec 1988; Cesar 1996).
- Mangrove forest cover was about 450,000 ha in 1918, now it is less than 150,000 ha. At the current rate of decline, only about 18,170 will remain by the year 2030 (DENR 1988).
- Overfishing of small pelagic and demersal fishes resulted in rent dissipation of about US$400 million per year in 1987. Fishing effort 2 to 3 times that required for an optimal effort to produce a "sustainable yield" is the primary cause of this loss (ICLARM 1992).
- The economic benefits from logging a watershed once in 10 years are less than 50% of the sustainable income from tourism and fishing when considering the degradation on the marine environment from the impact of logging sediment and pollution deposited in the marine waters and coral reef areas.

TABLE 1. NET PERCENT VALUE OF LOGGING VS. NO-LOGGING

| | Logging-Ban | Continued Logging |
|---|---|---|
| Tourism | 25.5 | 6.3 |
| Fishery | 17.2 | 9.1 |
| Logging | 0.0 | 9.8 |
| Total | 42.7 | 25.2 |

Source: Hodgson & Dixon (1988). Note: Data on fishery do not include tuna fishery. Cesar 1996

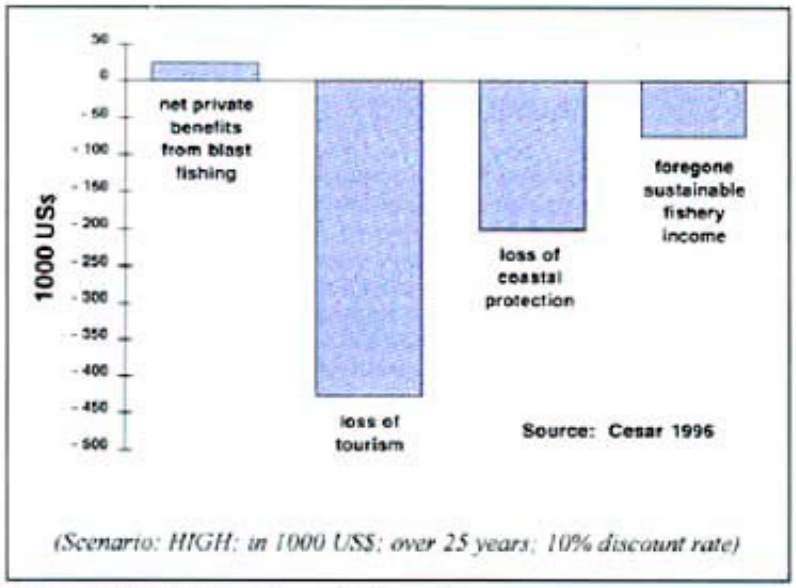


**FIGURE 1. NET PRESENT VALUE OF BLAST FISHING TO INDIVIDUALS AND ASSOCIATED LOSSES TO SOCIETY PER KM² OF REEF.**

supporting tourism and fisheries. This finding is based on a case study of Bacuit Bay, Palawan by Hodgson and Dixon (1988).

- A small but well managed marine reserve with an above average quality coral reef of at least 1 km² can accrue significant economic benefits to local community and tourism operators in terms of increased fish yield (US$8,000/year); island-based tourism (US$22,000/year); off-island tourism (more than US$50,000/year) and the value of larval dispersal, existence, scientific and biodiversity in general ($???) (Vogt 1996; White and Savina 1987).

These facts all show the economic need to manage coastal resources such as reefs, mangroves and wetlands, beaches and water quality. As these resources become increasingly degraded, the economic and quality of life loss to individuals, communities and society mounts. These large losses will become more obvious as we begin to pay to make the reparations required to recover the health and quality of these coastal resources. The unfortunate reality is that prevention of destruction is essentially free but the reparation and recovery operations are extremely expensive—and they may not even bring back the original resource lost in its natural and most productive form.

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[Excerpted from presentations of Alan White, at Coastal Resource Leadership Challenge Workshops]

## POLICY

# MANAGING COASTAL RESOURCES THROUGH THE LOCAL GOVERNMENT CODE

The Philippines is said to have one of the most comprehensive sets of environmental laws although, there are some impediments to effective enforcement of these laws. To minimize such obstacles, the Local Government Code (LGC) was promulgated adding to the estimated 118 laws related to the environment (Oposa 1996).

Under the Local Government Code, coastal resource management (CRM) is the primary responsibility of local government units (LGU) (Pimentel 1993). LGUs have the responsibility and authority to adopt measures to safeguard coastal resources in their respective provinces and to impose appropriate penalties for acts which endanger the environment. However, while the LGC places the management of coastal resources within municipal waters 15 km from the shore on LGUs, other national laws exist that relate to coastal resource management. A summary of the key areas of responsibility of LGUs related to CRM under the LGC is provided below. More laws and other policy related information will be presented in the following issues of TAMBULI.

### SUMMARY OF LGU RESPONSIBILITIES UNDER THE LOCAL GOVERNMENT CODE (RA 7160)

| LGU RESPONSIBLE | SECTION OF LGC | DESCRIPTION |
|---|---|---|
| **Province** | | |
| Governor | 465(1) | • General supervision and control over all provincial programs and projects |
| | 465(3)(v) | • Adopt measures for conservation |
| | 465(3)(iv) | • Issue and revoke permits to extract natural resources |
| *Sangguniang Panlalawigan* (Provincial Board) | 468(1) | • Pass ordinances and resolutions |
| | 468(1)(i) | • Review ordinances of component cities and municipalities |
| | 468(1)(vii),4(i) | • Adopt measures for conservation |
| | 468(1)(vi) | • Impose appropriate penalties for acts which endanger the environment |
| **Municipality** | | |
| | 447(a) | • Legislate for the general welfare |
| | 447(1)(vi) | • Impose penalties for acts which endanger the environment |
| | 444(3)(iv);447(2) (xi) | • Grant permits for fish corrals, fish pens, aquatic beds, taking of fish or prawn fry |
| | 444(3)(vii) | • Adopt measures for conservation |
| | 17(2)(i) | • Enforce fishery laws in municipal waters |
| | | • Research services and facilities related to fishery activities |
| | | • Conservation of mangroves |
| | 149 | • Exclusive authority to grant fishery privileges in municipal waters |
| | | • Licensing of fishing vessels of three gross tons or less |
| | MOA between DA and DILG, signed April 5, 1994 | • Issue permits to construct fish cages within municipal waters |
| | | • Issue permits to gather aquarium fishes within municipal waters |
| | | • Issue permits to gather *Capiz* shells within municipal waters |
| | | • Establish "closed seasons" in municipal waters |
| | | • Issue permits to gather/culture shelled mollusks |
| | | • Issue licenses to establish seaweed farms within municipal waters |
| | | • Issue licenses to establish cultured pearls within municipal waters |
| | | • Issue auxiliary invoices to transport fishery |
| **Barangay** | | |
| | 391(a)(1) | • Enact ordinances |
| | 389(b)(1) | • Enforce all laws and ordinances |
| | 399-422 | • Dispute resolution |
| | 391(a)(5) | • Recommend actions/plans |

In addition to the sections referred to above, Section 33 is noteworthy and provides for an important provision to facilitate the planning and implementation of CRM. Section 33 describes cooperative undertakings among LGUs. The LGC provides a mechanism for municipalities to group themselves and consolidate their efforts, services and resources for purposes commonly beneficial to them. In support of these efforts, LGUs involved may contribute funds, equipment and other kinds of property, or assign personnel upon approval of the *Sanggunian* through Memoranda of Agreement with the participating local units. This provision is extremely useful for municipalities to join forces to facilitate integrated CRM planning and implementation and to share the costs associated with these programs.

The summary of LGU responsibilities was presented by Mikhail Maxino of the Silliman University during the Coastal Resource Leadership Challenge Workshops conducted in Dumaguete, Negros Oriental; General Santos City, South Cotabato; and Puerto Princesa, Palawan, September and October 1996. For more information, please contact Annabelle Cruz-Trinidad, CRM Policy Analyst, Coastal Resource Management Project.

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## Coastal Resource Management Hotline Solicits Questions on Policy and Legal Issues

Over the last several months, the Coastal Resource Management Project (CRMP) has been fielding a variety of questions from Local Government Units (LGU) that are faced with implementing coastal resource management (CRM) as mandated in the Local Government Code with respect to other and sometimes conflicting legal instruments. The need to clarify the CRM-related policies and laws has been identified and CRMP has initiated a national policy component that will assist in the development of jurisdictional guidelines. The guidelines will provide clear descriptions of the roles and responsibilities of various actors in the CRM arena. Building on this, operational guidelines will be developed to assist LGUs in implementing CRM. These guidelines will be produced by technical working groups composed of government agencies, non-government organizations (NGO) and the academe, assisted by CRMP. A major goal of the technical working groups will be to produce guidelines that will receive signatory approval by the key line agencies involved in CRM.

To facilitate the development of the CRM jurisdictional guidelines, CRMP has initiated a CRM Hotline to field questions from LGUs, NGOs and other stakeholders. The CRM Hotline will begin by soliciting questions on legal issues in CRM. Answers to these questions will be formulated by the technical working group and will form a basis to prioritize key policy and legal issues. Eventually, the CRM Hotline will be expanded to solicit questions on all topics related to CRM.

Warning! A major goal of the CRM Hotline is to respond to questions with answers that are accurate and consistent. To enable this, questions received will be posed to and answered by the technical working group. As such, your questions may not get an immediate (in the true sense of the term "hotline") response as you may expect. We ask for your patience so that we may provide solid answers and ultimately serve the long-term goals of CRM.

As the CRM Hotline matures, a variety of communication channels throughout the country will be developed including Internet, radio and print media. As a modest beginning, please mail or fax your questions to Catherine A. Courtney at the CRMP office in Cebu.

information section

# Useful References and Sources of Information

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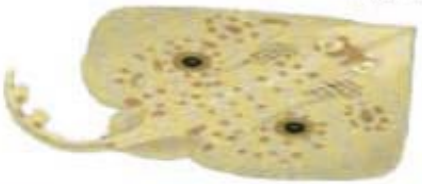

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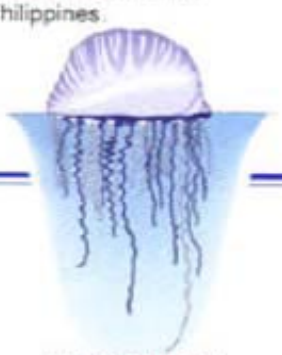

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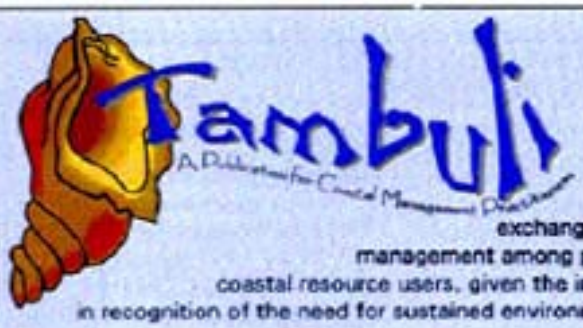


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