

Mangrove Rehabilitation and Coastal Resource Management in Cogtong Bay: Addressing Mangrove Management Issues Through Community Participation

by
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Introduction

Community-based resource management focuses on people's empowerment specifically the control over and ability to manage productive resources in the interests of one's own family and community. It invokes the basic principle of control and accountability, where "the control over an action rests with the people who will bear its consequences" (Ferrer 1994).

In the Visayas, pioneering activities in coastal resource management was initiated by academic and research institutions. As early as 1974, Siliman University in cooperation with the town of Oslob in Cebu pioneered coastal management in the Philippines by declaring and managing a municipal marine reserve in the waters of Sumilon Island, with the cooperation and active participation of 100 fishers. After this initial success, Siliman University initiated the Marine Conservation Program (MCOP) in 1984 to organize community-based marine resource management in three small islands in the Visayas.

The pioneering efforts by academic and research institutions was followed by government Initiatives when the Central Visayas Regional Project (CVRP-I) piloted projects in regional rural development in 1984. CVRP-I was founded on the principles of devolution and community-based resource management (Ferrer, 1994).

The Rainfed Resources Development Project (RRDP) of the Department of Environment and Natural Resources (DENR) implemented its Cycle II phase in CY 1987-91, employing the community-based approach for its upland and nearshore mangrove areas. In 1989, the Candijay-Mabini Mangrove Rehabilitation and Coastal Resource Management was implemented in Cogtong Bay in Bohol.

Lessons from the Cogtong Bay CBCRM experience confirm that resource management issues are best addressed with community participation. This is the focus of this case study.

Community and Resource Description

Cogtong Bay is located in Southeastern Bohol in the Central Visayas Region. Two municipalities, Mabini on the north and Candijay on the south, share the bay's 10,000 ha of

municipal waters which include 2000 ha of mangrove forest land. Of these 1,400 ha are still intact while the rest have been converted to fishpond.

The bay is bounded on the north by Cabulao point and on the south by Lamanok point. Limestone hills and a thin fringe of mangroves border the outer portions. The inner portion of the bay has extensive mangrove stands bordered by irrigated rice fields and coconut lands. Three rivers empty into the inner portions of the bay which is very shallow and contains 3000 ha of sea grass beds. Four mangrove islands (Lumislis, Cati-il, Tabundio and Calanggaman) totaling 275 ha in area are found at the outer edge of the sea grass beds. The islands have been declared mangrove wilderness by the national government. Sparse coral formations fringe the outer edges of the sea grass beds north of Lumislis island. Coral forms a barrier reef to the southeast of Lumislis Island. The outer edge of the bay is delineated by Tagaytay reef, a large (0.6 x 7 km) sand and coral structure found 2-3 kilometers east of the sea grass beds.

Fishers and other dependents on mangrove resources constitute about 15 percent of the workforce in these two towns with a total population of 52,500 persons in 9300 households. Fishing is almost entirely small scale, with hand lines, gill nets, spears, cast nets, fish corals and fish traps being the dominant gears. One commercial fishing gear called bag net (*basnigan*) is based in Candijay and five Danish Seines (*hulbot-hulbot*) are based in Northern Mabini, just outside the project site.

Mud crabs (*alimango*) and mangrove clams (*imba*) are important mangrove fisheries while shrimps and prawns are commonly caught in the rivers. Rabbit fish (*danggit*), mullet, blue crabs, sea cucumber and sea weed (*gracilaria*) are taken from the sea grass beds. Small pelagic fishes including sardines and mackerel dominate the offshore catch.

Nipa shingle making is a major income generating activity, particularly in the inner portion of the bay. On the other hand, firewood gathering is the primary income source of a few families in large (200 or more ha) mangrove areas.

Fourteen coastal barangays are found bordering Cogtong Bay, four in Candijay and ten in Mabini. The national highway bypasses the bay proper but passable secondary roads extend along the edge of the mangrove near the two points which demark south and north boundaries of the bay. Agriculture dominates the economy in both municipalities. In 1985, average annual family income was reported to be P 5,000.

Key Issues

Fishpond Development Related Issues

a. Contradicting Government Policies

A conflict in resource use arose in Candijay in April 1989 when workmen from outside the community began clearing in 60-hectare area in Barangay Panas for fishpond development. Barangay residents stopped the development of the area after a few hundred square meters had been cleared because they considered the mangroves as a valuable community resource which they have utilized for generations. The community sought and received a temporary court injunction prohibiting further development.

Subsequent investigation revealed that the area was released for fishpond development in 1982 despite its being very well stocked with mangrove trees. The developers have fishpond lease agreements (FLA) issued in 1985 but they did not have a valid cutting permit from DENR to clear the area.

Two basic issues arose from this incident. The first relates to CBCRM project credibility. Area residents started asking why they should be expected to plant new mangroves and refrain from cutting the existing trees when outsiders were allowed to come in and destroy 60 hectares of good quality forest. Their point was well taken. The government needs to be consistent in its resource use policies if projects like Rainfed Resources Development Project (RRDP) are to succeed. As the RRDP staff are the DENR's de facto front line troops in this case, it is their credibility with the people and that of the project which were at stake.

The second issue is the government's policy on fishpond development. The Department of Agriculture provincial staff has strongly encouraged fishpond development even to the extent of appearing in court in behalf of the Fishpond Lease Agreement (FLA) holders who failed to be present at two separate court hearings. At the same time, the DENR had refused to issue a clearing permit necessary to begin fishpond development. As a result of the DENR's stance and other factors, some 250 hectares declared available for fishpond development in 1982 in the municipality of Candijay still remained intact. Should development be allowed to proceed considering the new DA policy which disallows new fishpond in mangrove areas? The government needs to speak in single, rational voice (Vande Vusse, personal communication).

b. Fishpond Development in Apparent Timberland

As far as records within the region show, areas in the municipality of Mabini have been recommended for release for fishpond development as early as 1979 (again despite their being stocked with mangrove trees) but have never been approved and formally released. From their proposal, several persons began fishpond development and one is currently attempting to expand his area by clear cutting mangrove trees. Site staff has also been drawn into the struggle because they represented the DENR (for this project) in mangrove management, and to tolerate clear cutting in timberlands within the site would definitely affect the credibility of the project. The Community Environment and Natural Resources Officer (CENRO) however, responded by filing charges against the offenders. Status of the 10-year-old proposal for release needs to be clarified. Given the new DA policy, it was recommended that the said area be retained as mangrove forest and any illegal fishpond development be dealt with promptly and firmly (Vande Vusse).

c. Fishpond Dike Blocking a Natural Waterway

An existing (and probably illegal) fishpond in barangay Panas included construction of a special dike to tap freshwater stream and diverting the water into the pond area. This action flooded springs used as a source of drinking water by over 100 families in the adjacent areas. It also eliminated the free ebb and flow of the tide and prevented marginal fishers from reaching their usual landing for their bancas. This alone was a clear violation of P.D. 704. Barangay residents appealed to government in 1986 when this dike was constructed and were promised action. The DA and the DPWH had done no more than to point fingers at each other while the illegal activity persisted and 100 families were deprived of their water supply.

The entire credibility of the government is at stake in this case. This 15-hectare fishpond development also lies within the mangrove forest preserve declared in 1981 (Vande Vusse).

Illegal Fishing Issues

The adverse effects of illegal fishing, especially dynamite fishing, has contributed to the degradation of the fishery resources of Cogtong Bay. Blast fishers reportedly came from Tintinan, an island off the coast of Ubay, a town adjacent to north of Mabini. Most explosives used were obtained from another island called Bilang-bilangan in Talibon. Apprehended blast fishers however, refused to identify their supplier.

Another type of fishing gear widely denounced by small fishers is the hula-hoop known locally as the “*liba-liba*” or “*hulbot-hulbot*”. The gear is efficient in catching fish and usually use illegal fine mesh nets. The method is destructive to sea grass and soft bottom habitats.

Addressing Property Rights

Cogtong Bay has a large mangrove area. Nearly 2000 hectares were classified as timberlands. About 700 hectares had been released for fishpond development or illegally cleared for that purpose. The remaining 1,300 hectares remain intact but need a sustainable management program.

In 1984, portions of bay mangroves were declared Mangrove Wilderness and Mangrove Swamp Forest Preserve under Presidential Proclamations 2151 and 2152 respectively. Wilderness areas were found in four islands namely: Lumislis, Cati-il, Tabundio and Calangaman totaling 275 hectares. About 330 ha of mangrove swamp forest preserve extended 6 to 7 kilometers from barangay Panas to Lamanok Point in Anda.

Mangrove management in the project site began in 1985 (before RRDP) when the DENR through the Bureau of Forest Development (BFD) implemented the Integrated Social Forestry (ISF) program in Barangay Cogtong, Candijay. The rest of the mangrove areas remained under an open access arrangement.

The open access character has led to uncontrolled use of mangrove resources through extensive cutting for firewood or for fishpond development. The RRDP program wanted to shift the community's tradition from mere resource users to managers as well.

To achieve RRDP program goals, the program addressed the issue of property rights over the coastal resources. Assigning property rights to a defined community of users is the backbone of CBCRM. This means a specific community effectively becomes the primary managers and beneficiaries of coastal resources (Rivera, 1995). In close coordination with the integrated Social Forestry program of the DENR, the project accomplished 110 hectares of reforestation, 108 hectares of enrichment areas and 25 hectares for Assisted Natural Regeneration (ANR). Parcellary Survey covered 349 hectares. Two hundred sixty five (265) beneficiaries were awarded the Certificate of Stewardship Contracts through the smallholder mangrove management system.

Complimentary to the mangrove management program, the project also introduced coral reef management which included the installation of 42 clusters of artificial reefs and the management of the Tagaytay Barrier Reef by the project participants.

A total of 405 participants in 13 people's organizations in 11 barangays and sitios became the defined community of users for RRDP's CBCRM program.

The Candijay - Mabini Mangrove Rehabilitation And Coastal Resource Management Program

The Rainfed Resources Development Project (RRDP) is a resource management program of the Department of Environment and Natural Resources (DENR) for its upland and nearshore mangrove areas nationwide. The project is financed through a grant from the United States Agency for International Development (USAID).

There are two phases of program implementation, Cycle I and Cycle II. Cycle I approved in 1982 focused on pilot testing of agroforestry technologies, strengthening of institutional capabilities and establishing a policy framework for implementing community-based management of land and water resources. Cycle II is an extension of Cycle I and covered CY 1987-1991. Cycle II put emphasis on the implementation of broad-based field projects which applied lessons learned in Cycle I. It also continued to field test and explore new management systems and technology.

The Candijay-Mabini Mangrove Rehabilitation and Coastal Resource Management Project was the lone coastal resource management project of RRDP. The rest were upland projects.

The project was implemented under contract by ACIPHIL, Inc. for duration of 2 years (January 1989 to September 1991). Upon its expiration, ACIPHIL, Inc. entered into a joint memorandum of agreement with The Network Foundation, Inc. (TNFI) to sustain the project until December 1991, with a grant from the World Wildlife Fund (WWF-US). The project was finally turned over to the DENR on March 22, 1995.

The Network Foundation, Inc.

The Network Foundation, Incorporated (TNFI) is a non-stock, non-profit corporation organized in 1985 by a group of development practitioners in Cebu, Philippines. It is composed of people with a wide variety of expertise and experiences in countryside development work. TNFI provides them opportunities for combining their talents in order to address developmental problems such as poverty and resource degradation.

TNFI is a development-oriented organization primarily concerned with poverty alleviation and environmental protection. Through its expertise and services, TNFI seeks to improve the quality of life of impoverished families who rely on communal resources for their livelihood and, at

the same time, promote the protection and conservation, rehabilitation and regeneration, and proper management and sustainable use of these communal resources.

Program Objectives

RRDP's general objective was to rehabilitate 360 hectares of mangrove under a community planned approach which will provide 480 families with Certificate of Stewardship Contracts (CSCs). It also aimed to install approximately 240 artificial reef clusters in coastal waters adjacent to areas with mangrove rehabilitation in order to increase fish population.

The project's main strategy relied on the effective mobilization of the people being the "means" and the "end" of the project and ultimately the nation, specifically in the upland and the mangrove areas.

The RRDP's Resource Management Philosophy were:

1. Community-planned and implemented project. The communities as social units take center stage in the planning and implementation processes, their development is a matter of choice and thereby a right, rather than a privilege. In the same vein, the practice of this right entails accepting the corresponding responsibilities of sustainable development. Communities and their individual members are thereby empowered in a participatory process of planning and implementation.

2. People-centered - Residents are facilitated to see and understand their real situation, plan how to deal with it and define objectives according to their own positive values.

3. Resource-based - The main substance, the economic base of the project, is the natural resource present in the location and not transported from the outside. It attempts to improve status of existing resources towards their efficient and equitable utilization.

4. Locally-implemented - Indigenous production tools, instruments, materials, forces, expertise and distribution systems take precedence over alien and imported ones as the basis for development.

5. Social Forestry Officer (SFO) catalyzed - The social forestry officers and extension workers serve as facilitators through which the community residents can see them and their situation. The SFOs initially help establish the processes that enlighten understanding, develop consensus, focus implementation, enable technology refinement and encourage intentional reflection on life's meaning among the farmers they work with.

6. Government-assisted - The cumulative capital base and public services of the duly constituted government units line up to effectively SUPPORT local site implementation. Thus, RRDP program sites are fundamentally local community projects assisted by the government.

Scope of the Program

The project targeted eight (8) coastal barangays. These included Panas and Cogtong in Candijay and Poblacion I, Cawayanan, Minol, Banlas, Tambo and Marcelo in Mabini. The project, however, eventually expanded its coverage to five more barangays upon request by residents who saw the benefits of the program.

These coastal communities would manage and develop mangrove areas under a smallholder mangrove management system. Under this system, tenurial instrument such as the Certificate of Stewardship Contract (CSC) will be issued by the DENR to the program beneficiaries. Mangrove management would also cover dedicated mangrove areas including 330 hectares of mangrove swamp forest preserve and 275 hectares of mangrove wilderness.

1. The Coastal Resource Management (CRM) Technology Interventions included the following

- a. Smallholder mangrove reforestation and management;
- b. Development of management systems for large mangrove areas dedicated to specific purposes i.e. wilderness, forest preserve, etc.;
- c. Sea Farming/Mariculture; and
- d. Coral reef management including establishment of Artificial reefs.

2. The project has five major components. These are:

- a. Community Organizing;
- b. Mangrove Management;
- c. Artificial Reef and Coral Reef Management;
- d. Sea Farming; and
- e. Infrastructure.

Community Organizing

The project's community organizing component took the lead role in the overall program implementation. This component, through the project catalyst (community organizers), established the community organizing processes including the establishment of people's organizations, awareness drive, and institutional capacitations towards institutionalization. During the initial stage of project implementation, eight barangays were covered as originally planned. Later, the project

expanded its coverage to five more barangays upon request of barangay residents who saw the benefits of the program.

The community organizing has two phases of implementation: social preparation and institutionalization organization building.

Mangrove Management

This component is one of the basic Coastal Resource Management (CRM) interventions. Three major activities were incorporated in this component. These included smallholder mangrove reforestation and management, sea farming beneath the mangrove canopy and the management of large mangrove areas such as mangrove swamp forest preserve, wilderness and communal forest. Activities included reforestation, enrichment planting and purely mangrove management.

One of the key elements in the smallholder system is the security of tenure. The project addressed the property rights of the project beneficiaries through the issuance of the Certificate of Stewardship Contract (CSC). The CSC however had so many flaws for use in mangrove. A more appropriate tenural instrument was later formulated by the DENR. The contract is called Mangrove Stewardship Agreement (MSA).

Reforestation activities included areas at the outer edge of existing mangrove stands extending 50 to 100 meters seaward and to some areas illegally cleared for fishpond development. In this case, reforestation efforts were done through the initiatives of the Barangay Council officials.

The primary reforestation species is the bakawan (*Rhizophora* spp.) Other species were also considered such as *tabigi* (*Xylocarpus Granatum*) and *Api-api* (*Avicennia* spp.). Areas technically suited for mangrove reforestation and management were delineated for project clients. Specific areas for planting were earlier agreed through public meetings with Barangay officials and the clients themselves. Areas spared for the activity were those used for boat lanes or passageways and bathing beaches.

Before planting activities commence, each applicant for stewardship contract should develop farm plans. This is required for individual lots after the parcellary survey. The plan will state in detail areas for new and enrichment planting, planting species to be used and maintenance procedures.

Sea farming beneath mangrove canopy were conducted in Barangay Sagumay Daku. Mangrove clients experimented with brush holes, small 3m x 10m x 1m deep brush filled holes. Local fisherfolks called it *Amatong*. The brush holes or *amatong* were located in open places within

the mangrove areas (not necessarily plantations) which were exposed during low tides. Fry of valuable species such as *Kitong* find the hole and used it as their base during low tide. During high tide, they forage in the food rich mangrove shallows. They grow to marketable size in 9 to 10 months.

Cogtong Bay also boasts of large mangrove forest dedicated to specific purposes which also require management system. These included mangrove swamp forest preserve extending from Barangay Panas to Lamanok Point in the southern portion of the bay and mangrove wilderness located in four islands of Lumisli, Cati-ill, Tabundio and Calanggaman. In the wilderness areas, management system such as the Assisted Natural Regeneration (ANR) was used.

Artificial Reef

The RRDP project consultants developed a concrete artificial reef modules which were utilized in the site. The modules were constructed and placed by the fishers themselves. The concrete artificial reef modules were less expensive per cubic meter of reef volume than the commonly used bamboo. The concrete reef was observed to be more practical because they were permanent.

An extensive area suitable to artificial reef placement was found along the 10-fathom depth contour across the mouth of the bay. This had been designated artificial reef zone by the project.

The artificial reef developed were concrete "X" modules. These were dropped individually to form a cluster in the designated reef zone. Each cluster contained 25 X modules. This was the most expensive resource management activity. The project provided for the construction materials while the fisher participants provided for the labor as their counterpart.

Sea Farming/Mariculture

The shallow water of Cogtong Bay presents opportunity for small-scale sea farming and ranching. To complement the mangrove rehabilitation and management activity, sea farming had been incorporated in the program. These were the commercial culture of oyster *talaba* and green mussel *tahong*

Oyster culture was implemented at the mouth of Sagumay River in Barangay Cogtong. Green mussel culture was implemented by selected fishers associations in shallow areas of the bay.

Infrastructure

The project's infrastructure component involved the construction of pump boat and flatboat. These were essential equipment in carrying out the activities in the resource management interventions particularly the artificial reef. The placement of reef was best done with the use of flatboat from the construction site to the placement site. The pump boat was used to tow the flatboat carrying artificial reefs. It was also used when clients gather mangrove seeds from offshore islands.

Part of the infrastructure activity was the reconstruction of the old public market in Cogtong. The building was partially destroyed by a storm sometime in 1986. The municipal government of Candijay provided the G.I. sheets and some needed lumber from its demolished old municipal hall. Barangay residents provided for the labor and a counterpart fund from RRDP. The building housed the RRDP office and a portion served as staff dormitory.

Addressing Mangrove Management Issues Through Community Participation

Project Strategies

The project utilized the community-based coastal resource management (CBCRM) strategy in its implementation. It involved both a program of interventions and a process of capacitating communities to undertake their own development. The strategy also empowered community residents to manage their productive resources.

Community-based coastal resource management recognizes that the coastal residents are the real day-to-day managers of their day-to-day resources. They are the ones who decide each day whether to exploit their productive resources mindlessly or to manage it for long term, sustained yields.

Community-based approach is a people centered approach. If the coastal residents are the real day-to-day resource managers, they must also be the implementers of any program which seeks to affect that resource. The community-based approach employed by the program involved a number of specific activities which include:

1. Community Organization to catalyze people to begin to work together on problems of mutual concern. This involved formation of groups with common interests and/or working with the barangay level governmental planning unit, i.e. barangay development council.

2. Education which made the people aware of the forces, both natural and social, which affect their lives.
3. Situation analysis, a process taught and catalyzed by site-based staff, which allowed the community to collectively identify constraints to their development, prioritize needs and plan projects to meet those needs. After implementation of the project, the process was repeated and the new situation was analyzed.
4. Identification and training of local leaders within the community who can learn to continue the community organization process as well as to extend the technologies used.

Project Management

The project established a site management office in Barangay Cogtong in Candijay. All the members of the project management team resided full time in the project area. Other members of the project team assigned in the other barangays covered by the project also resided in their respective sites. On a weekly basis, the team met to discuss accomplishments, strategies, status of project operations and problems and issues encountered. This pattern of personnel assignment hastened the community study, integration and identification of potential leaders.

The scheme also recognized the difficulties of serving nearshore communities. The need for constant and active contact with the community became evident to overcome the problem of low government credibility among most coastal communities. It was necessary to regain the people's trust in government to successfully effect innovations introduced in the community.

Community Organizing Process

A Call to People's Participation

The extent of resource use in Cogtong Bay over the years remained unabated because it is a free-for-all nature of access with no management regime at all. In 1984, the Bureau of Forest Development (BFD) initiated mangrove management within the project site with the introduction of the Integrated Social Forestry (ISF) program on a mangrove area in Barangay Cogtong in Candijay. The program has generated the interest and participation of the barangay residents and introduced good potential for further development in the resources of Cogtong Bay.

The development initiatives of RRDP for the coastal resources of Cogtong Bay came at a time when mangrove destruction was already evident due to the influx of non-coastal residents and outsiders, particularly the fishpond developers from the neighboring provinces of Cebu and Leyte.

While some government agencies were too slow to respond to the state of mangrove destruction, others even encouraged fishpond development for expanded fish production. The fate of the mangroves already rested with the people from outside of the community, i.e. fishpond developers, commercial woodcutters, etc. The situation really demanded a collective effort from the affected communities to thwart the inevitable mangrove destruction.

The awakening phase of the program's community organizing process challenged many of the coastal residents to put their acts together in defense of the mangroves and other fishery resources. Part of this awakening phase convinced coastal communities of the value of the bay's resources to their lives amidst the problems and issues confronting them.

During the initial stage of community organizing, the project staff identified prospective participants to address management concerns of the program. As per project criteria, participants must be coastal residents dependent (totally or in part) on the resources of the bay. From the prospective participants, potential leaders were identified who later served as a core group, preparatory to the establishment of a full-fledged people's organization.

The process gave birth to 13 people's organizations in eleven barangays and sitios. The first that was organized was the "Panaghiusa sa mga Gamay'ng Managat sa Cotong" (PAGAMACO) which consisted of 41 members.

The formation of people's organizations was concretized with the formulation of constitution and by-laws by each organized POs. The by-laws state among other things the organizational structure, membership, set of officers, etc. These were prerequisites to their registration with the Bureau of Rural Workers of the Department of Labor and Employment.

Legitimizing people's organization was a necessity in the empowerment of the people. It gave them the necessary legal personality in addressing resource management issues.

The project generated the participation of some 405 legitimate participant/beneficiaries. The participants were marginal fishers, shell gatherers, nipa shingle makers and mangrove firewood cutters.

The project also noted less women participants than men. Of the total 405 participants, only 60 or 15% were women while there were 345 or 85 percent men. Most women participated only in mangrove activities. All other CRM interventions were dominated by men.

Community Protection Efforts

Community-based coastal resource management is anchored on the formation of a strong, sustainable and legitimate fishers organization. In Cogtong Bay, the emergence of an empowered community as deterrents to efforts that degrade the coastal resources highlighted the community's participation in the program.

The two key issues presented were the biggest constraints to the program. The project relied heavily on the community's participation to prevent any further efforts to degrade the resources of the bay.

Fishpond development in the mangrove areas of Cogtong Bay started many years back and mostly were illegal. During that time, fishpond developers did not meet any resistance from the affected coastal residents, not until the RRDP program was implemented in the area.

Citing an incident on April 6, 1989, Fisher's Association (FA) members from barangay Panas trooped to the RRDP site office in Cogtong early in the morning, to report the arrival of fishpond developers in the area. Upon their arrival at the scene, the RRDP staff was surprised to see placards denouncing the cutting activity displayed on the mangrove stands. The fishpond workers, after cutting only a few stands, were already nowhere to be found. The people stopped the activity. A people power loomed.

The struggle continued, finding its way into a legal battle. Fishpond developers insisted on developing the fishpond on the solid ground that they have the legal documents, approved Fishpond Lease Agreement (FLA). On the other hand, the DENR stood firm that the developers should be equipped with valid cutting permits. A case was filed in court by a prominent Cogtong lawyer in behalf of the people of Panas. The court later issued an injunction prohibiting any further development in the mangrove areas. FA members and barangay officials stood witnesses to the case.

A similar incident happened in barangay Tambo in Mabini. The people's resistance could no longer be ignored by the DENR. The DENR again responded by filing a case against the fishpond developers.

The project on the other hand had to expand its role to include protection to compliment weak responses from concerned government agencies. The project requested for the formal forest

ranger deputization of legitimate FA officers and members, similar to the DA's Bantay-Dagat but was not acted upon by the DENR until the project terminated.

The federation of fishers associations in the two municipalities addressed the issue of illegal fishing as well. During their monthly regular meetings, issues on illegal fishing were tackled and, in some instances, they agreed on the conduct of routine sea borne patrols. The activity had resulted in the confiscation of illegal fishing gears from apprehended illegal fishers, and chased away dynamite fishers. To make the activity more effective, the Mabini federation requested for fast sailing boats from the provincial government. The request was considered by a member of the provincial board but no boat was issued.

Phases of Community Organizing

The community organizing process involved two phases of implementation namely, social preparation and institutionalization.

Existing fishers or fisher/farmer groups were utilized wherever they existed. There was no need to form new groups just for the sake of having a project. These groups were strengthened through trainings and hands-on implementation experience as the project proceeded and they were linked with local government units and regional line agencies (RLAs).

During the social preparation phase, the project sought to develop a sense of awareness and commitment among the beneficiaries through the following activities:

1. Holding an information drive among prospective participants informing them about the project, its goals and objectives, technology interventions and environmental situations in the locality;
2. Holding consultation meetings among local government units, attending barangay and municipal council sessions to generate their support;
3. Formation of fishers associations, including registrations with appropriate government registering agencies; and
4. Conducting trainings on leadership, value formation and basic resource management technologies and hands-on experience.

Coastal resource management (CRM) interventions were introduced at this phase of community organizing when the project participants had already developed the awareness and commitment to the project. It was also at this stage when the coastal residents realized that the

continuous destruction of the remaining mangrove and other fishery resources would not bear well for their future.

Some problems and issues in project implementation were addressed in this phase. The conversion of mangrove areas into fishpond and illegal fishing were among the resource management problems that coastal residents had been drawn into struggle to stop any further abuse of the resources.

The institutionalization phase on the other hand, was designed to sustain the efforts once the project phase out. The following activities were carried out in this phase:

1. Deputization of leaders of fishers associations as fish wardens or Bantay-Dagat by the Department of Agriculture. Deputization seminar was conducted on September 17-19, 1991 jointly sponsored by the DA Regulatory Division of Bohol and RRDP.

2. The federation of fishers associations for Candijay and Mabini. In Candijay, five associations were federated called "Pederasyon sa mga Gagmay'ng Mananagat sa Candijay". In Mabini, the federation was named "Mabini Small Fishermen's Federation". Both federations were duly registered with the Bureau of Rural Workers of the Department of Labor and Employment.

3. Introduction of alternative livelihood projects to fisher's associations including project proposal preparation and fund sourcing. Six FAs in Mabini availed of the Micro-Enterprise Development Program (MEDP) of the Department of Trade and Industry. The MEDP's credit program entitled each FA to credit amounting to fifty thousand pesos with an interest of 7% per annum, payable in three years. The Department of Social Work and Development also extended livelihood assistance to an FA in barangay Minol, also in Mabini, amounting to fifty thousand pesos. The municipality of Mabini, being a low-income municipality had been the recipient of government livelihood assistance. FAs in Candijay opted not to borrow since they were the project's beneficiaries for mariculture.

4. Linking the fishers associations with other rural workers organizations in the region. The project staff, in its effort to institutionalize the FAs, attended the Regional Rural Workers Conference accompanied by the FA leaders from the two municipal federations. The conference was held in Cebu City from September 11-13, 1991, was a forum for leaders of rural workers organizations to establish networking in Region 7, Central Visayas.

5. Conducting trainings on basic financial management, strategic planning and cooperative orientations. Part of the institutionalization process was to provide FAs with their training needs on financial management and development planning. These trainings were conducted in cooperation

with the Department of Trade and Industry and the Bol-anon Foundation, Inc. After the training, the two municipal federations came up with a three-year development plan that started in 1992 upon phasing out of the RRDP.

6. Cooperative formation. The project had encouraged the FAs to convert itself to a cooperative by providing cooperative orientations and trainings, considering that some FAs had already engaged in economic activities from their loans. Cooperative formations, however, were options left to FAs. Only two FAs converted themselves to cooperatives. These were the Lunsodaan Nipa and Bakawan Producers Association in Candijay and the Bonbon Small Fishermen's Association in Mabini.

7. Awarding of Certificate of Stewardship Contract for the smallholder mangrove management. The Certificate of Stewardship Contract (CSC) and Mangrove Stewardship Agreement (MSA) were tenural instruments awarded to beneficiaries under the smallholder mangrove management system. A total of 265 beneficiaries were awarded the CSCs or MSAs by the Department of Environment and Natural Resources after compliance with the requirements stated in the contract.

Throughout the institutionalization process, the people become the project implementers, the local government units coordinated, and the government's line agencies provided, the technical support.

Lessons/Recommendations

The experiences during project implementation have generated several learnings that provide good lessons to improve similar project activities in the future. The experiential learnings include the following:

1. On fishpond development within mangrove rehabilitation areas. Fishpond development, both legal and illegal, within the mangroves discouraged people's participation in planting and rehabilitation activities which was further aggravated by disappointments in the government's allegedly protection program that was non-existent sometimes.

2. On government's resource management policies. Conflicting government policies on resource use came to surface when an empowered community stopped fishpond development in a thickly forested mangrove area. Two government agencies, the DA and the DENR, were at odds as to whether the fish pond should be developed. Because of this, it is recommended that government

policies on resource management that will enhance community protection efforts in addressing resource management issues be legislated.

3. On alternative livelihood. The identification of alternative livelihood that will alleviate poverty and at the same time reduce community's dependence on the coastal resources should be built in within the program. Land-based projects are best recommended as alternative livelihood to be implemented by the people's organizations, which will have to ensure organizational sustainability.

4. On property rights. The degradation of the coastal resources of Cogtong Bay had been greatly attributed to the open access character or free-for-all nature of ownership of the coastal resource by the coastal residents. This nature of ownership has even attracted resource users even from outside of the province. A coastal management scheme must be initiated by Local government units, in the absence of a well-funded resource management initiatives from the government or other funding agencies.

5. There are remaining barangays outside of project coverage with thick mangrove areas that need management. With the presence of the project, those areas have become haven for mangrove cutters and refuge for illegal fishers.

6. Watershed development adjacent to the bay should be considered in the future. In Cogtong Bay, four large rivers empty into the bay. During rainy season, floodwaters from the mountains cause siltations in the shallow portions of the bay.

Postscript

The Candijay-Mabini Mangrove Rehabilitation and Coastal Resource Management Project started implementation on January 1989 and ended on September 1991 under the USAID funding. The project was extended up to December 1991 through a grant from the World Wildlife Fund (WWF). More than three years after the project was completed, it was formally turned over to the DENR on March 22, 1995 by The Network Foundation, Inc.

Writing a case study of a CBCRM experience from the project started on May 28, 1995 during a brief visit to the project.

Fishers associations were still intact but were not as vibrant as when the project staff was still around. In Mabini, the DENR implemented the Coastal Environmental Project (CEP) through the RRDP's organized communities that started in 1994. Some fishers associations who obtained loans

from the DTI and DSWD had completed payments while some had extended payment schedules up to 1995.

The community protection efforts were still effective on the mangrove aspect especially among CSC beneficiaries who are maintaining their areas. The efforts to eliminate illegal fishing which went into high gear during the project implementation has waned when local government officials who were supportive of the project were replaced during the 1992 elections. Blast fishermen were again reported to have intruded into the management areas of the bay.

With the implementation of the Local Government Code, local government units had intensified their tax collections that included collecting fines only to the confiscated illegal fishing gear from illegal fishers. Such penalties entitle illegal fishers to get back the illegal fishing gears and go back to their trade. The scheme had demoralized active FA members involved in the protection efforts and the whole community as well.

The mariculture project initiated by RRDP did not sustain. Mariculture beneficiaries from barangay Cogtong complained of the high cost of maintaining the project particularly the cost of materials for _____ replacement like bamboos.

The project had indeed a great impact to the community especially that the community had prevented fishpond development in mangrove areas, reforestation participated in the activities and other management areas were still maintained by the beneficiaries. The municipal government of Candijay and Mabini had legislated a ban on mangrove firewood sold outside of their respective municipalities.

There might be some more things to be done as suggested in lessons and recommendations, nevertheless RRDP was a worthwhile CBCRM experience.

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