



SEEDS OF HOPE

A Collection of
Case Studies on
Community-Based
Coastal Resources
Management
in the Philippines

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Elmer Magsanoc Ferrer
Lenore Polotan dela Cruz
Marife Agoncillo Domingo
Editors

SEEDS OF HOPE

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**A Collection of Case Studies on
Community-Based Coastal Resources
Management in the Philippines**

**ELMER MAGSANOC FERRER
LENORE POLOTAN-DELA CRUZ
MARIFE AGONCILLO-DOMINGO**
Editors



**College of Social Work and Community Development (CSWCD)
University of the Philippines
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**NGO Technical Working Group for Fisheries Reform and Advocacy (NGO TWG)
Quezon City**

July 1996

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Table of Contents

Foreword	i
Acknowledgement	iii
Introduction	v
 Part I: Mindanao Case Studies	
Marine Sanctuary Establishment: The Case of Baliangao Wetland Park in Danao Bay <i>Arjan Heinen and Aida Laranjo</i>	2
Fishery Sector Program - Community-Based Coastal Resource Management in Panguil Bay, Mindanao <i>Dante T. Gauran</i>	23
Reactions to Case Presentation <i>Roger Ricafort and Samuel Formilleza</i>	39
 Part II: Visayas Case Studies	
Mangrove Rehabilitation and Coastal Resource Management in Cogtong Bay: Addressing Mangrove Management Issues Through Community Participation <i>Eutiquio S. Janiola, Jr.</i>	49
The Fishers of Talangban: Women's Roles and Gender Issues in Community-Based Coastal Resources Management <i>Luz Lopez-Rodriguez</i>	67
The Sustainable Coastal Area Development Program in Barili, Cebu <i>Joel S. Gutierrez, Rebecca A. Rivera and Quirino L. Dela Cruz</i>	83
Coastal Resource Management: The Experience from Eastern Samar <i>Jose Eleazar R. Bersales</i>	99
Reaction to Case Presentation <i>Alfredo Isidro</i>	111

Part III: Luzon Case Studies

The Formation of Coastal Resource Management Council for the CBCRM of Pagapas Bay <i>Mariquit Melgar and Marita Rodriguez</i>	115
The Coastal Resource Management Experience in San Salvador Island <i>Jose Carlos Albert M. Dizon and Gloria C. Miranda</i>	129
The Bolinao Community-Based Coastal Resource Management Project (Initial Phase): Towards an Interdisciplinary Approach <i>Elmer M. Ferrer, Liana T. Mcmanus, Lenore Polotan-Dela Cruz and Allan G. Cadavos</i>	159
Reactions to Case Presentation <i>Marivic Abello, Efren Flores and Willie Quizon</i>	187
Synthesis <i>Gary F. Newkirk and Rebecca A. Rivera</i>	195
Appendices	203
Welcome Speech <i>Gen. Valerio Perez (Ret.)</i>	
Opening Remarks <i>Prof. Jocelyn T. Caragay</i>	
Keynote Address <i>Hon. Oscar M. Orbos</i>	
List of Participants	

FOREWORD

Community-based resource management has been practiced by rural community developers prior to the 1970s. However, it was not applied to the conservation and management of coastal resources until the mid-1970s. At this time, conservationists were beginning to see unmistakable signs of degradation of coastal environments and depletion of fishery stocks.

By coincidence, the 1970s marked the rise in the popularity of the self-contained underwater breathing apparatus (SCUBA) as a tool which allowed marine scientists and other professional groups to observe at first hand the underwater world. A substantial amount of information gathered by these observers tended to link decreased levels of fishery production to environmental degradation brought about by such human activities as upland deforestation, mangrove cutting, and coral reef destruction.

Government's initial response to the deterioration of coastal environments followed traditional lines of action. The Natural Resources Management Center (NRMC), for example, attempted to address the issue by promoting the establishment of "protected areas" regulated and controlled by the government (top-down approach), with practically no community involvement. This approach did not work, and coral reef areas proclaimed as marine parks continued to be ravaged by fishers and users of destructive fishing methods.

In the mid-1970s, efforts toward the protection of coastal resources (primarily coral reefs) began with the establishment of Sumilon Island, Central Visayas as a research facility, by Silliman University. The research program of Sumilon, which included some elements of community participation, established the concept of marine reserves in the protective management of coral reefs. Recently, the concept has been extended to include the idea of networks of marine reserves to ensure fishery security. Marine reserves are a key element of today's community-based coastal resource management (CBCRM) projects in the country and are now generally accepted as a management tool by coastal resource managers throughout the world.

The 1980s saw the rapid acceptance of CBCRM as an effective approach to ensure sustainable management of coastal ecosystems, including coral reefs, mangroves and seagrass beds, primarily by non-government organizations (NGOs) and academic institutions. Through CBCRM, several protected areas in the Visayas and Luzon were established and maintained by organized communities, notably on the small islands of Apo (Negros Oriental), Balicasag and Pamilacan (Bohol), and San Salvador (Zambales). Apo Island has attracted many visitors wishing to learn more about the CBCRM approach.

In the 1990s, NGOs employing the CBCRM strategy have continued to establish more protected areas. Some of these projects have received support from the Foundation for the Philippine Environment (FPE).

Government agencies, in contrast, were slow to recognize and adopt the CBCRM strategy. The first government-led project to incorporate community organizing was the Central Visayas

Regional Project in the 1980s. In the early 1990s, two major coastal resource management programs of government, the Fisheries Sector Program of the Department of Agriculture and the Coastal Environment Program of the Department of Environment and Natural Resources have incorporated community participation.

The apparent superiority of CBCRM over other approaches is indicated by the fact that most successful programs on coastal resource management are community-based. The key to understanding why this is so lies in the nature of coastal resources. Unlike most land resources, whose legal ownership is covered by appropriate tenurial instruments, coastal resources, such as fisheries, are open-access resources. Under this condition, there are no property rights, only possession or actual use. This situation has been blamed for unrestricted exploitation resulting in environmental damage and resource depletion. What CBCRM provides to resource-users, through full participation, cooperation and empowerment of the stakeholders, is the sense of being proprietors and claimants of the resources. The organized fisherfolk or communities are the *de facto* day-to-day managers of resources. Such conditions are conducive to protection and proper management of coastal resources.

It is understandable, therefore, why earlier government attempts to manage coastal resources using the *de jure* regime did not succeed.

It is in the light of the foregoing discussion that this book, "Seeds of Hope: A Collection of Case Studies on Community-Based Coastal Resources Management in the Philippines," acquires importance and relevance at this time. For indeed organized coastal communities, the primary stakeholders of coastal resources, are the key players that will help ensure the sustainability of these resources.

The book, which is the result of the proceedings of three workshops attended by project representatives of non-government organizations, people's organizations, government agencies and the academe in Luzon, the Visayas and Mindanao, provides a balanced sectoral and geographical sampling of the activities carried out in CBCRM projects.

It is hoped that community developers will find the book, which contains case studies and documented concepts, methods and experiences in CBCRM projects, useful in avoiding past mistakes and improving those elements which tend to ensure success.

The Community-Based Coastal Resources Management Resource Center of the University of the Philippines College of Social Work and Community Development and the NGO Technical Working Group for Fisheries Reform and Advocacy deserve a word of commendation for this fine work. Likewise, we congratulate Professors Elmer Ferrer and Lenore Polotan-Dela Cruz, Ms. Marife Domingo and the members of the editorial board for their efforts in ensuring the publication of this book.

ANGEL C. ALCALA, Ph.D.
Chair, Commission on Higher Education
DAP, Pasig City, Philippines

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This book, as well as the Festival-Workshop on Community-Based Coastal Resources Management in the Philippines, would not have been possible without the participation and material, technical and moral support of the following:

the people's organizations and agencies who shared their experiences in the case studies;

the case study writers;

the workshop participants;

the workshop secretariat (Mira, Lyn, Robby, Marife);

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To them we express our sincerest gratitude.

INTRODUCTION

Seeds of Hope : Lessons from Community-Based Coastal Resource Management Experiences

In early 1986 I delivered a Professorial Chair Lecture entitled "Learning and Working Together: Towards A Community-Based Coastal Resources Management." At that time I described the "fragile structure and degraded condition of the life systems of the Philippines" particularly in the Lingayen Gulf. I warned of the seeds of ecological disaster that have been sown in the marine environment and called for the undertaking of "effective community-initiated, run and controlled social organizations as essential instruments in giving meaningful expressions to the views, interests and demands of the rural poor ...". In other words, I proposed a community-based approach to coastal resources management.

A decade hence, the marine environment of the Philippines continues to be degraded and the resources are over-exploited. However, a ray of hope beacons in the horizon as more and more coastal resources management initiatives are undertaken by non-government organizations (NGOs), people's organizations (POs), and local government units (LGUs) either singly or in cooperation with each other.

This book documents the experiences and lessons learned in the implementation of nine Community-Based Coastal Resources Management (CBCRM) programs in Mindanao, Visayas and Luzon.

Our Coastal Areas Continue to be at Risk

The 18,000 kilometers of coastline that surround the Philippines' more than 7,000 islands continue to be at risk. Coastal habitats are degraded and the resources therein depleted both directly (i.e. through destructive fishing practices) and indirectly by massive siltation from deforested upland areas and poor agricultural practices and inappropriate land use activities in coastal watersheds.

Most nearshore fisheries are overfished with extraction rates two to three times above sustainable levels. Of the three to four million hectares of coral reefs, about 70 percent are in poor to fair condition due to destructive fishing practices and siltation. Mangroves have been reduced to about 450,000 hectares representing about forty percent of the original cover, as a result of conversion to aquaculture ponds and other uses.

This situation is of grave concern to coastal communities and coastal managers as the coast is where the majority of the people live and work. More than 80 percent of the country's population resides within 50 km of the coast of the main islands.

The fisheries sector contributes significantly to the Philippine economy. It employs over one million people, or about five percent of the national labor force. Approximately 825,000 fishers (part-time or full-time) are in capture fisheries, more than 770,000 of whom are municipal or small scale. An estimated 250,000 are in aquaculture. In addition, another 50,000 people are employed in the service industries — post-harvest handling, processing and marketing, boat-building and equipment manufacture and distribution.

Another cause for concern is the fact that locally captured fish accounts for about 60 percent of the national protein consumption, making it second only to rice as a staple. A recent Food and Agriculture Organization (FAO) report indicates that the consumption of fish has dropped from 31 kilos per capita in 1987 to 28.5 kilos in 1994. Unless urgent coastal resource management efforts are instituted, FAO predicts that the country's fish supply will drop to 940,000 metric tons from the present level of 1.95 M metric tons, and the per capita consumption of fish will plunge to 10.45 kilos by the year 2010 when the population is expected to reach 94 M.

Overexploitation of the coastal areas is aggravated by rapid population increase. In 1990 the Philippines had a population of 60.7 M, the ninth highest in Asia and the thirteenth highest in the world. It is generally believed that a disproportionate population growth is happening in coastal areas. Many of them are landless agricultural workers who migrate to the coast because access to coastal resources is open and at least guarantees survival.

Moreover, legal and institutional weaknesses handicap the implementation of coastal resources management projects. For instance, it is noted that the Philippines has the most comprehensive set of environmental laws in Asia, but few of these laws are adequately implemented. Most of the environmental and resource utilization issues in the coastal zone are partly caused by non-enforcement of laws. Also, weak coordination and lack of complementation among related national government agencies mandated to implement CRM projects persist. In some cases, government agencies actually pursue conflicting policies. An example is the management of the country's remaining mangroves, where the conservation thrusts of the Department of Environment and Natural Resources (DENR) is in conflict with the Department of Agriculture's (DA) aquaculture production orientation.

This continuing pattern of decline, degradation and mismanagement of the coastal zone calls for urgent and effective intervention.

Review of CRM Activities in the Philippines

Within the last 25 years, non-government organizations, people's organizations, academic and research institutions, government agencies and international lending institutions have conceptualized and implemented a wide array of coastal resources management programs in the Philippines. Artificial reefs were laid, marine reserves were established, mangrove rehabilitation was initiated, fisheries management CBCRM projects were undertaken.

A review of CRM activities in the Philippines since the early '70s shows that they followed a similar pattern as synthesized by Sorensen in his review of coastal resources management efforts in the world. They went through an eight-stage process:

- Stage 1 Incipient Awareness: the need for an integrated coastal management program usually requires either evident signs of coastal resource degradation or extensive destruction from coastal hazards;
- Stage 2 Growing Awareness: the need for integrated coastal management program is heightened by the holding of national conferences, workshops or hearings convened by government officials, academic institutions, environmental groups and sometimes by industry interest groups;
- Stage 3 National Study: heightened awareness as a result of conferences, workshops or visits by international assistance missions often lead to the preparation of a national study or conference proceedings analyzing coastal resources, institutional arrangements and management options;
- Stage 4 New Program Creation: studies on the coastal zone lead to pioneering new programs in coastal resources management;
- Stage 5 - 8 Program Development, Implementation and Evaluation: after pioneering efforts have been undertaken national programs are developed, implemented and evaluated.

In the 1970s, problems in the coastal zone reached a level where they could no longer be ignored — fisheries declined, coral reefs were battered, mangrove swamps were devastated and coastal communities became impoverished. This initial awareness was heightened through national conferences and workshops on coastal zone management and was given impetus in 1978 with the holding of the "Planning Workshop for Coastal Zone Management".

As early as 1974, Silliman University in cooperation with the town of Oslob in Cebu (Central Visayas), pioneered coastal management in the Philippines by declaring and managing a municipal marine reserve in the waters of Sumilon Island. After ten years of effective management and maintenance of the coral reef of Sumilon, there were very evident benefits for the coral reef ecosystem and the island fishery and in turn for the fishers dependent on the area.

After this initial success Silliman University initiated the Marine Conservation and Development Program (MCDP) in 1984 to organize community-based marine resource management in three small islands in the Visayas. The two-year program proved that it is possible to engage local fishers in the sustainable management of their resources if they are given responsibility in the process.

The idea of coastal zone management was eventually picked up by international agencies. In November 1981 US AID sponsored a coastal zone management workshop in Manila where it was suggested that fisheries could be better managed if we moved away from common property and centralized management to local management and property ownership.

The pioneering efforts on coastal management by academic and research institutions were followed by government initiatives. In 1984, the Central Visayas Regional Project-1 (CVRP-1) was initiated. The CVRP-1 was a pilot project in regional rural development founded on the principles of devolution and community-based resource management. In 1986, the six member - states of the Association of Southeast Asian Nations (ASEAN) - Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand — began a collaborative effort to develop integrated Coastal Resource Management plans in their respective countries. A direct result of this program was heightened interest at the government policy level and among non-government organizations to address coastal resources management issues. In 1990, the Department of Agriculture launched the five-year Fisheries Sector Program (FSP), which implemented coastal resources management projects in twelve (12) priority bays nationwide.

During the middle 1980s several NGOs piloted CBCRM projects. These NGOs were relatively successful in setting-up marine reserves and sanctuaries (e.g. artificial reef) and in addressing livelihood needs of the local people.

Since 1987, the Department of Environment and Natural Resources (DENR) has committed itself to the immediate rehabilitation and development of mangroves at defined priority sites. In 1992, DENR established the Coastal Environment Program (CEP).

In 1994 DENR began implementing Republic Act No. 7584, otherwise known as the "National Integrated Protected Areas System Act of 1992" in cooperation with NGOs and international institutions. The program is supported through the Global Environment Facility of the World Bank and is being implemented in 10 protected sites.

The Need for Documentation and Synthesizing Lessons Learned

After more than two decades, a wealth of knowledge, experiences and lessons have been gained and learned. However, no systematic documentation, synthesis, evaluation and drawing of lessons have been undertaken. These valuable knowledge and experiences need to be recorded and disseminated in order to help create a critical mass of individuals who share a common perspective, methods and skills for effective coastal resource management.

With this concern in mind, the CBCRM Resource Center (UP CSWCD) developed a proposal for a Festival-Workshop on CBCRM in the Philippines. The project's main aim was

to synthesize and document the concepts, methods and experiences in CBCRM and disseminate these among selected NGOs, POs, academic and research institutions and government agencies and international lending institutions to serve as a framework and guideline for advocating and replicating the resource management strategy in other parts of the country. Recognizing the same need, the NGO Technical Working Group on Fisheries Reform and Advocacy later decided to jointly undertake the case writing project with the CBCRM Resource Center.

Learning from Development Workers

While a few case studies on fisheries management have been written, most of these were authored by project consultants and experts. The main challenge for this project was to get the frontline development workers - the community organizers, the environmental educators, the livelihood and resource management extension workers - to synthesize and record their experiences. The goal was to encourage practitioners to draw lessons from the many years of experimentation and innovation in search of effective coastal resource management schemes. The dream was to inspire them to tell their own stories.

The sponsoring organizations realized that in order to meet the challenge capability-building training exercises must be undertaken. Thus, two preparatory workshops were conducted in May 1995. The first was devoted to developing a case study framework and guidelines together with the writers. The second was a training-exercise on case study writing to enhance the writing skills of NGO representatives. At the end of the workshops, the case writers already had a case study guide, a case study outline and a workplan. Participants represented eight NGOs and POs from Mindanao, Visayas and Luzon who have implemented CBCRM projects for at least three years. Subsequently, two regional consultation meetings were organized in Cebu City (for case writers from Visayas and Mindanao) and Quezon City (for writers from Luzon) to follow-up and monitor the progress of the case studies. Writing the case studies was a painstaking but rewarding experience. Initial drafts were edited and revised by the authors and the editors. A third draft was reviewed by the editorial board.

The third and final workshop was conducted at the Bolinao Marine Laboratory of the U.P. Marine Science Institute in Bolinao, Pangasinan on November 16-18, 1995. Its highlight was the presentation of the following case studies:

MINDANAO

<u>Title/Organization</u>	<u>Case Writer</u>
1. <i>Marine Sanctuary Establishment: The Case of Baliangao Wetland Park in Danao Bay</i> (PIPULI Foundation, Inc., Katipunan, Misamis Occidental)	Arjan Heinen Aida Laranjo

- | | | |
|----|--|--------------|
| 2. | <i>Fisheries Sector Program - Coastal Resource Management in Panguil Bay, Western Mindanao</i> (The Network Foundation, Inc., Cebu City) | Dante Gauran |
|----|--|--------------|

VISAYAS

- | | <u>Title/Organization</u> | <u>Case Writer</u> |
|----|--|--|
| 3. | <i>Addressing Mangrove Management Issues Through Community Participation</i> (The Network Foundation, Inc., Cebu City) | Eutiquio S. Janiola, Jr. |
| 4. | <i>The Fishers of Talangban: Women's Roles and Gender Issues in Community-Based Coastal Resources Management</i> (University of the Philippines in the Visayas, Iloilo City) | Luz Lopez-Rodriguez |
| 5. | <i>Sustainable Coastal Area Development (SCAD) Program in Barili, Cebu</i> (Tambuyog Development Center, Inc.) | Joel S. Gutierrez
Rebecca A. Rivera
Quirino L. dela Cruz |
| 6. | <i>Building People's Movement for Coastal Resource Management</i> (LABRADOR, Inc. Tacloban, Leyte) | Junie Ballesteros |

LUZON

- | | <u>Title/Organization</u> | <u>Case Writer</u> |
|----|---|--------------------------------------|
| 7. | <i>The Formation of Coastal Resource Management Council for the Community-Based Coastal Resource Management Program of Pagapas Bay, Western Batangas</i> (Community Extension and Research for Development, Inc.) | Mariquit Melgar
Marita Rodriguez |
| 8. | <i>The Coastal Resource Management Experience in San Salvador Island, Zambales</i> (Haribon Foundation, Inc.) | Albert M. Dizon
Gloria C. Miranda |

9. *Bolinao Community-Based Coastal Resource Management Project : An Interdisciplinary Approach*
(University of the Philippines Marine Science Institute/University of the Philippines College of Social Work and Community Development/Haribon Foundation for the Conservation of Natural Resources, Inc.)

Elmer M. Ferrer
Liana T. Mcmanus
Lenore P. Dela Cruz
Allan G. Cadavos

The final workshop was punctuated by a festival which featured an ecumenical mass and a concert. Hon. Oscar Orbos, Governor of Pangasinan gave the keynote address during the ecumenical service. The concert showcased the rich maritime heritage of our coastal communities through songs, dances, community theater and visual arts.

The two-day presentation of case studies was capped with group discussions to deepen sharing and analysis of the participants' experiences. Highlights of the small group discussions were presented in a plenary session. The reports were synthesized by Dr. Gary Newkirk and Ms. Rebecca Rivera.

More than 70 participants representing the NGOs, POs, academe, and government agencies attended the Festival-Workshop. Of these, 12 were foreign volunteer and foreign participants from Vietnam, Canada, U.S.A., Japan and Netherlands. An additional 16 people from the cast of the cultural groups and band were in attendance.

Of the nine case studies presented in the Bolinao workshop, one had not been finalized and did not meet the deadline for publication. In its place, the editors managed to get the Guiuan Development Foundation, Inc. to prepare a case study on their CRM experiences which is included in this volume.

This volume has three parts corresponding to the three Philippine island groups - Mindanao, Visayas and Luzon - where the nine CBCRM projects are located.

Part I contains two cases studies from Mindanao followed by two reaction papers. Heinen and Laranjo discuss how the positive results of establishing a 70-hectare marine sanctuary in Balingao wetland park in Danao Bay under the four-pronged leadership of a fisher and lay leader, a local priest, a former municipal mayor, and the ecology-oriented PIPULI Foundation came about. They point out that while fast track, "enlightened leadership" approach can bring about positive results in the short-term, only a community-based and process-oriented approach can sustain the program. Gauran's study details the community organizing efforts of The Network Foundation, Inc. in implementing the government initiated fisheries sector program in Western Panguil Bay in Mindanao. He draws some lessons on the NGO-GO partnership in implementing CBCRM.

Ricafort's reaction to the case studies captures the essential points of variation and convergence between the two experiences while raising the principle of "obsolescence", among other issues related to CBCRM. Formilleza, commenting on the Danao Bay project, underscores the importance of empowering the people and developing an attitude of partnership with them in attaining a successful CBCRM program.

Four case studies with varied emphases comprise Part II: Visayas Case Studies. Janiola's study of the Cogtong Bay project illustrates how conflicting government resource use policies (e.g. mangrove management) jeopardizes its resource management programs. The study shows how community organizing overcomes this initial problem and transform the community from mere resource users to resource managers. Lopez-Rodriguez analyzes women's role in the coastal community of Talangban and examines the gender issues as it pertains to a community-based coastal resource management. Her study points to the multiple and strategic roles women play in community livelihood and resource management.

Director Isidro of the Fisheries Sector Program makes a general comment on the practice and prospects of CBCRM in the Philippines.

The collaborative paper of Gutierrez, Rivera and dela Cruz describes the effective partnership between the Tambuyog Development Center and the San Rafael - Cabacungan Fishermen's Association in the implementation of the former's core program, the Sustainable Coastal Area Development. The study emphasizes the importance of capacity-building in setting-up a CBCRM project. Bersales narrates how initial failures in project implementation did not stop the Guiuan Development Foundation from learning its lessons and proceeded to experiment with other methods that eventually gave life to the project. These methods revolve around the establishment and enhancement of community organizations, setting up of marine reserves and conducting of income generating activities and research.

Three case studies make up Part III: Luzon Case Studies. Dizon and Miranda narrate the experience of Haribon Foundation in establishing the San Salvador Island Municipal Marine Reserve and sanctuary in collaboration with the Department of Agriculture. This paper details the process and elements of what it takes to set up one of the first successful marine reserves in the Philippines. Melgar and Rodriguez traces the development in the formation of Coastal Resource Management Council (CRMC) in the towns of Nasugbu, Lian and Calatagan in Batangas province. It narrates the initial enthusiasm of the trisectoral partners as they laid down the structures for managing the coastal resources of Pagapas Bay and the early demise of the CRMC as the NGO and the POs battled over differences in perspective.

The last case study in this volume by Ferrer, McManus, Polotan-dela Cruz and Cadavos traces the evolution of a tripartite partnership between two academic institutions, an NGO and the coastal communities to pursue a CBCRM program in Bolinao, Pangasinan.

This study illustrates the difficult yet enriching process of building and nurturing an interdisciplinary team that learns not only from each other but with the communities as well in order to address the complex social, bio-physical and legal-institutional problems in coastal areas.

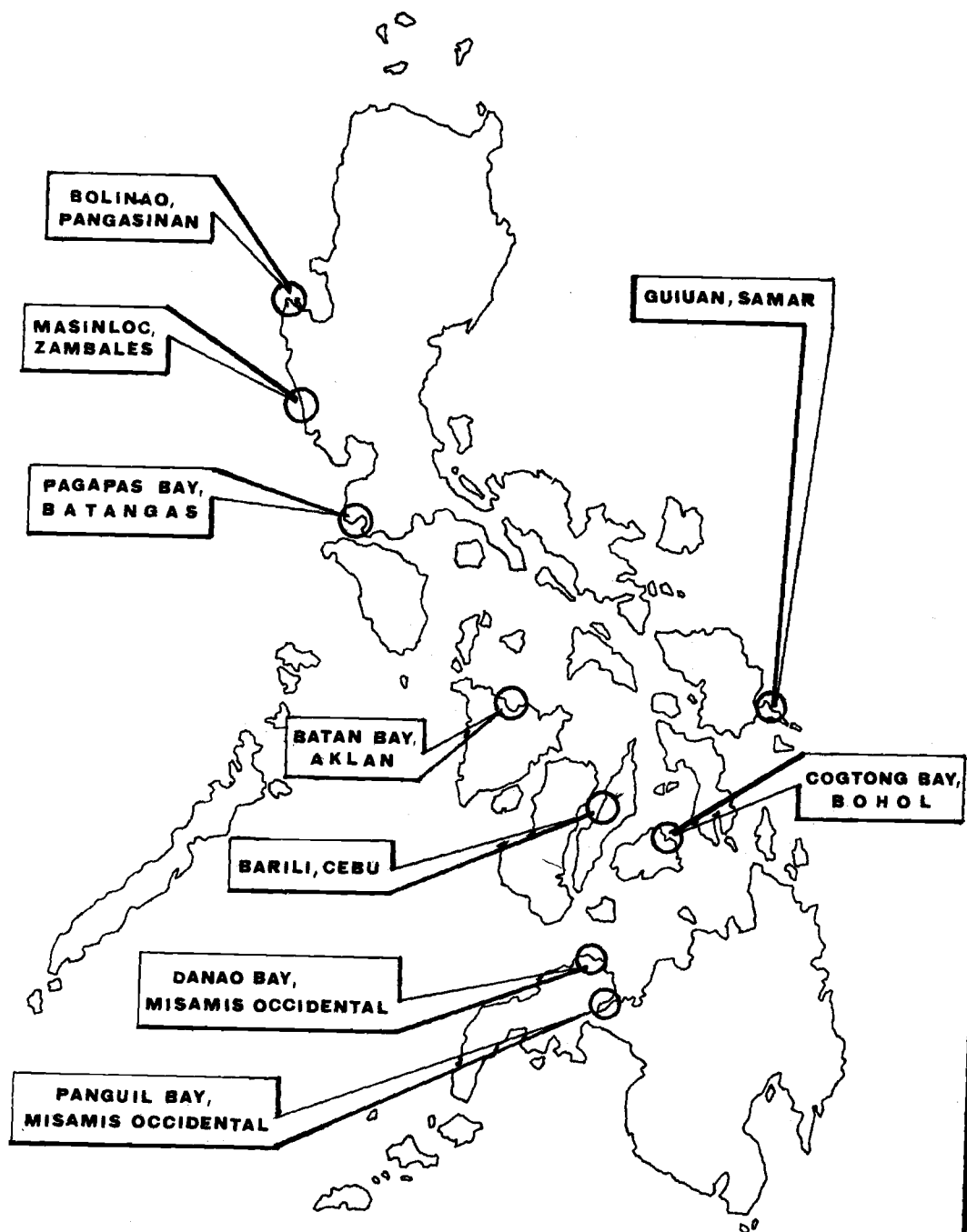
Together with these case studies are comments and questions made by Ms. Marivic Abello of the Philippine Business for Social Progress, Dr. Efren Flores, of the Southeast Asian Fisheries Development Center (SEAFDEC) and Mr. Willie Quizon of the Lingayen Gulf Coastal Area Management Commission.

This book is the product of an arduous participatory process of case writing. It involved identifying the CBCRM projects to be featured; identifying the case writers; developing a case study framework and guidelines; enhancing the writing skills of case writers; conducting regional consultation for follow-up and monitoring; and writing, editing and rewriting. But, if we are to empower our local communities to manage their marine environment and other resources, we must have patience to similarly empower our frontline development workers to produce knowledge to assist our local communities implement their coastal resources management activities.

With the publication of these case studies, who can now say that frontline development workers, especially COs 'cannot write'? It is our hope that with this pioneering effort at getting the frontline development workers to tell their own stories that more would be inspired to take time to 'conserve' the lessons of the past so that we could have more 'seeds' to plant for the future generation.

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PROJECT SITES OF CBCRM IN THE PHILIPPINES



Part One

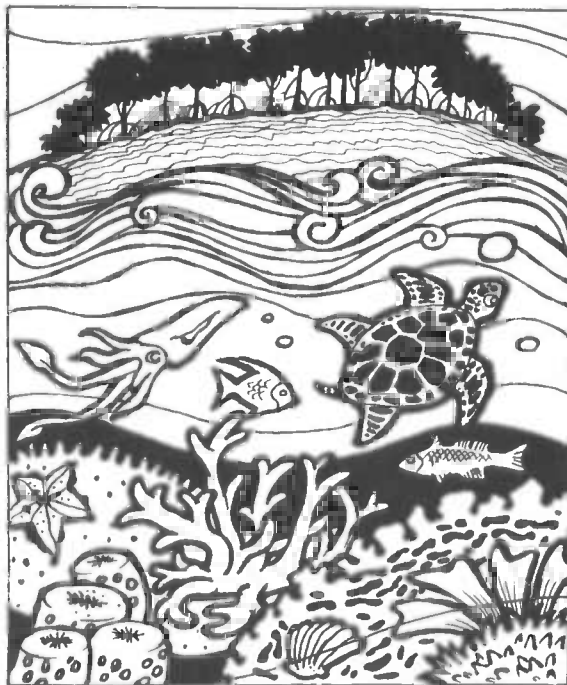


Mindanao Case Studies



Marine Sanctuary Establishment: The Case of Baliangao Wetland Park in Danao Bay

ARJAN HEINEN, SNV Marine Biologist
AIDA LARANJO, BWP Staff Member
PIPULI Foundation
Katipunan, Misamis Occidental, Philippines



Using the fast-track "enlightened leadership" approach (the enlightened leaders being Iglorioso Agodolo, a fisher and lay leader, Father Quarisma, local parish priest, Agapito Yap Jr., former Baliangao mayor, and PIPULI), the PIPULI Foundation, with funding aid from the Foundation for the Philippine Environment (FPE), physically established a 70-hectare sanctuary in Baliangao within a one-year period. After three years of defending and maintaining the sanctuary, positive results are evident, forming the bases for a sustainable "community-maintained" sanctuary which serves as a symbol of a strictly enforced marine management measure. Building on this symbol, the PIPULI Foundation is now engaged in establishing community-based coastal resource management (CBCRM) for the whole of Danao Bay.

Site Profile

Danao Bay is located on the Northern shore of Mindanao in the province of Misamis Occidental (see Figure 1). Ninety percent of the bay is located in the municipality of Baliangao while the remaining 10% belongs to the municipality of Plaridel. It encompasses an area of 2000 hectares. The fisheries resources of the bay are heavily exploited by some 400 resident fishers. Like in other coastal areas in the Philippines, fish catch in Danao Bay has been decreasing.

Danao Bay is shallow with a large intertidal zone. About 54% of the bay area is composed of mangroves, mud flats, reefs and seagrass beds - considered to be among the most productive ecosystems in the world (see Table 1 and Figure 2).

FIGURE 1

MAP OF DANA O BAY
IN NORTHERN SHORE
OF MISAMIS

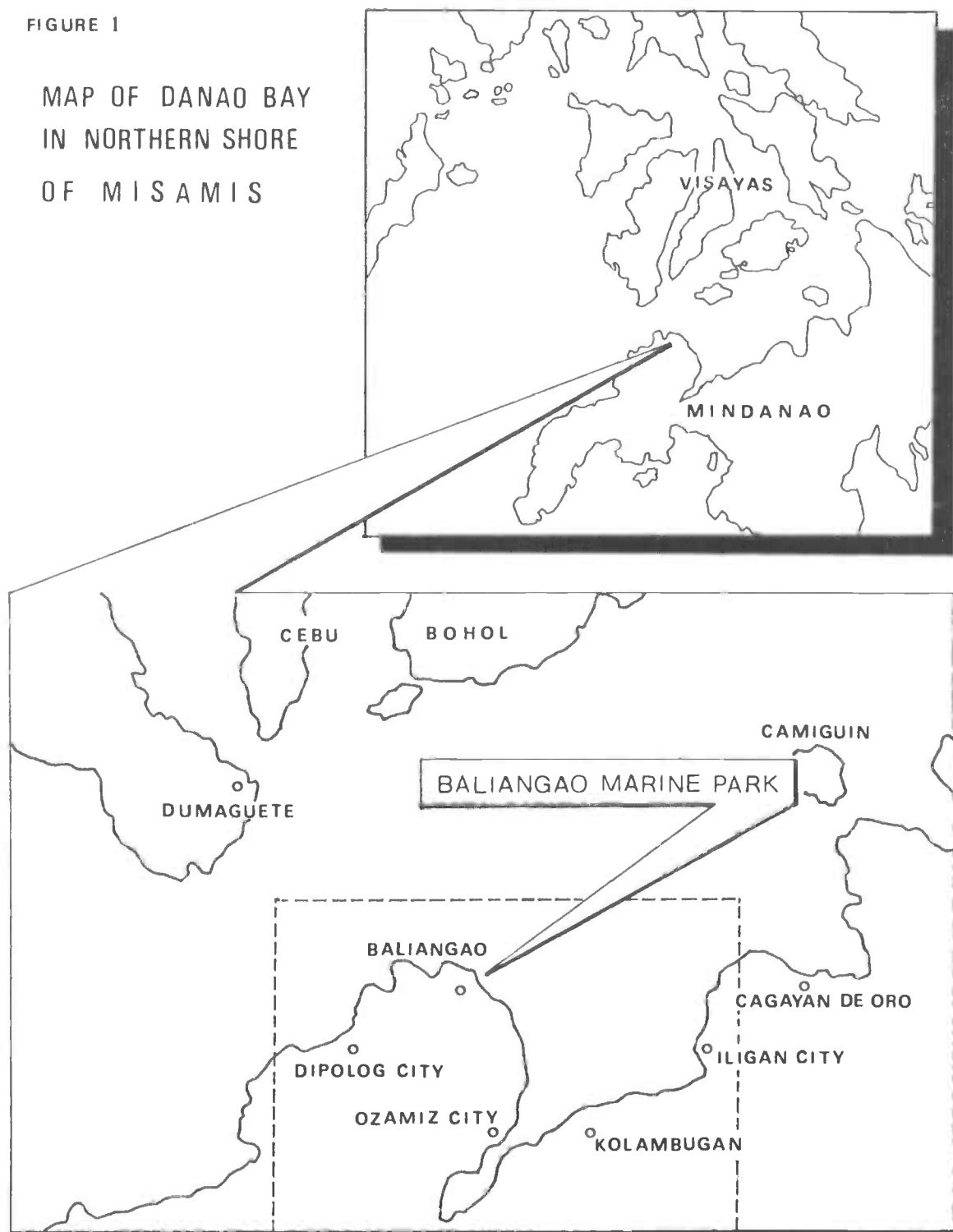


FIGURE 2

BALIANGAO PROTECTED LANDSCAPE & SEASCAPE AND DIFFERENT ECOSYSTEMS

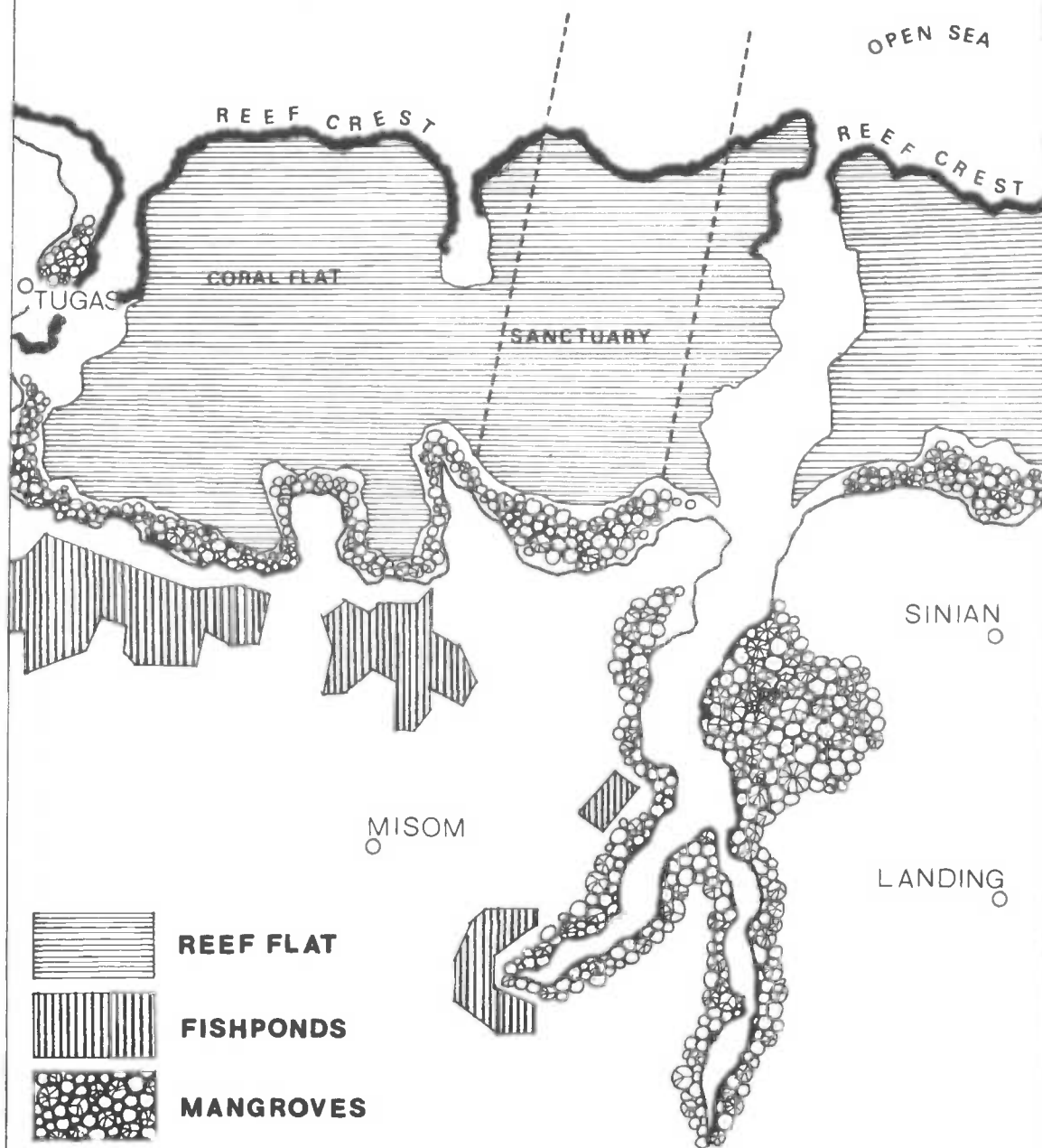


Table 1: The ecosystems in Danao Bay and their relative size

Ecosystem	Area in Hectares	Percentage
rivers (3, with a total of 8 km length)	1	0
mangroves	218	10
fishponds (including abandoned)	587	25
reef flat (sand with little seagrass)	603	28
reef flat (mud with seagrass)	320	14
corals (estimated 100 m wide x 5 km)	50	2
open sea (1 km seaward from the reef slope)	500	21
Total	2279	100

Source: Landsat data June 29, 1992. (Courtesy of NAMRIA)

Danao Bay is surrounded by five coastal barangays namely Tugas, Misom, Landing and Sinian, all in the municipality of Baliangao; and Danao in Plaridel town. These villages have a total of around 1,300 households, or a population of 6,000 persons. Aside from fishing, other sources of income are agriculture (coconut, rice, cattle, mango) salt making, dried fish trading, and some local tourism.

Migration

The population of Baliangao consists of a large majority of Visayan settlers who arrived in the early part of this century. More than half of the immigrants came from Siquijor, an island within sight of Baliangao. The other immigrants came from Bohol (22%), Cebu (5%), and other parts of the Visayas (5%). The descendants of these people form the majority of the farmers and fishers in Baliangao. To complete

the picture of Baliangao as a society of immigrants, it can be stated that Filipinos from Spanish and Chinese origin are the main political and economic actors in Baliangao. Descendants of the original Subanen population can no longer be found in the area.

Economic and Social Conditions

Fisheries play a major role in the municipality of Baliangao. The municipality is surrounded by the sea on three sides: the Visayan Sea in the north, Danao Bay in the East and Mercialagos Bay in the west.

Baliangao has no large industries and is not a major trading center since the highway connecting the cities of Oroquieta and Dipolog runs 12 kilometers south of this municipality. The rural character of Baliangao is also reflected in the rather feudal relationships that govern its agrarian sector. The sharing system in coconut farms

is still 1/3 - 2/3, one part for the tenant and two parts for the landowner, with the tenant paying for the costs of production. Also in politics, a lot of people follow their leaders instead of taking initiatives by themselves.

Majority of the people in Baliangao are Roman Catholic, although there are other religious groups like the United Church of Christ in the Philippines, Iglesia ni Kristo and Seventh Day Adventists.

There are several small non-political organizations in the area. Recently, the Department of Agriculture (DA) and the National Irrigation Administration (NIA) organized some cooperatives connected to the new irrigation network in the municipality.

World Vision provides a savings and scholarship program which ensures the future schooling of the members' children. As of now, these organizations are still very weak. In recent years, the church has been active in organizing ecological ministries, something very helpful to the resource management program.

Though the *barangays* exercise certain powers as a local government unit, most political decisions are made at the municipal level.

Fisheries in Danao Bay

In 1994, PIPULI conducted a survey to determine the number of fishers who use parts of Danao Bay as their fishing ground. Table 2 shows the results of the survey. A total of 763 fishers were counted. There is a possibility that some fishers were counted twice since a fisher may utilize several fishing gears on a part-time basis. A better estimate is probably 400 full-time and part-time fishers.

The intertidal zone and the nearshore areas (from the lowest low tide mark to seven kilometers offshore) are exploited by most fishers. Majority of them (67%) are engaged in part-time fishing. A smaller group of fishers (called strikers) comes from the neighboring municipality of Lopez Jaena to fish in Danao Bay.

Fishing on the seaside of the reef crest (nearshore and offshore fishing) is seasonal. During the months of *Amihan* (or the northern moonsoon, from December to April), fishing in the open sea is too dangerous for small, non-motorized boats. Only a few fishers in Danao Bay own motorized boats (wooden boats with 4-16 HP built-in engines), and even these boats have to stay on shore for most of the time during *Amihan*. The intertidal zone and the mangrove areas are exploited year-round.

The destruction of the mangroves, the heavy damage wrought on the reef and the increase in fishing pressure brought about by more fishers and the use of more efficient technologies have contributed to the decrease in catches, as observed by the fishers. Ninety-four out of 100 fishers interviewed from Danao Bay experienced a decrease in catch.

The fishers catch various fish species, but one species is especially important. This is the rabbit fish or *danggit* (*Siganid sp.*). To protect this species from overfishing, the municipal government introduced a **ban period** on harvesting in 1988 (see "Resource Management Measures" for further explanation).

Table 2: Composition of the Fishers Sector in Danao Bay

Ecosystem	No. of Fishing Techniques Used	No. of Full-time Fishers	No. of Part-time Fishers	Strikers	Total
Mangroves	3	32	42	55	129
Intertidal Zone	9	57	191	55	303
Nearshore	12	101	152	44	297
Offshore	4	5	17	13	35
Total	28	194	402	167	763

Most of the fish caught in Danao Bay are sold to fish buyers in Barangay Landing. They, in turn, bring the fish to Calamba town. Only big mangrove crabs, and occasional live lobsters, groupers and *maming* (*Cheilinus undulatus*) are transported to Manila. Dried sea cucumbers reach the international market through traders based in Zamboanga City. However, extensive harvesting of the high-priced sea cucumbers resulted in the collapse of the stocks.

Declining Fish Catch

Fisheries were abundant in the early part of this century. The name Baliangao was derived from the Cebuano phrase *balay sa langaw* meaning "house of flies". According to folk tales, the place was called as such because of the multitude of flies living off the decomposing fish which just lay on the beach. Old residents claim that Baliangao used to have mangrove forests so thick that "even dogs found it difficult to get in and out of the forests".

During the Second World War, Japanese soldiers introduced blast fishing in the area. In 1960, people from Bohol came to Baliangao to harvest the *tungog*, the bark of a mangrove tree (*Ceriops tagal*), which they used for coloring and preserving *tuba* (local coconut wine). The bark was harvested in such a way that the trees died. This was also the time when Union Carbide acquired a mangrove concession. All big trees were cut and processed into charcoal. After the logging and bark-gathering activities by outsiders, the local population was left with a denuded forest. A big part has now been converted to fishponds and only 218 hectares of the original 800-hectare mangrove forest is left. Most of this is secondary growth of only three tree species which are widely spaced. An exception is a seven-hectare area in Barangay Misom, where only small-scale harvesting was practiced by the "owner". This area still harbors 17 species of mangrove trees and is now included in the Baliangao Wetland Park.

The PIPULI Foundation

The PIPULI Foundation grew out of an agro-socio-forestry program with the Subanen tribal people of Mount Malindang, the watershed of three provinces. The term PIPULI is a Subanen word meaning "put it back". This program started in 1988.

PIPULI Foundation was officially formed in 1989 for funding requirements, and in an effort to broaden support for its ecological thrust. At present, PIPULI is active in the creation and operation of the Mount Malindang National Park, protecting the watershed and the wildlife of one of the last remaining primary forests in the Philippines. Besides this biodiversity conservation program, PIPULI continues to assist the Subanen in transforming their lifestyle from a slash-and-burn farming system to one that will enable them to live within the capacity of the ecological system which God created. At the same time, PIPULI encourages them to keep the positive aspects of their culture and be proud of it. This work involves the development of organic farming systems, basic education, and organization building. Its goal of working for the protection of nature and sustainable use of the earth's resources in the mountains of Misamis Occidental led PIPULI to also get involved in the protection and management of Baliangao's coastal resources.

In 1991 the PIPULI Foundation chose Danao Bay as the site for a marine ecosystem protection program. Through the joint efforts of the foundation, some local fishers, the church and the local government, a 74-hectare sanctuary was established in 1991. The set-up of the sanctuary has improved the fisheries in Danao Bay. Mangroves

have been replanted, blast fishing has diminished and the catch of the fishers has increased.

PIPULI chose for its approach the early establishment of a sanctuary, with secondary focus on organizing the fishers. The success of the project merits a closer look at the approach used.

The Project

The Misom Sea Sanctuary is one of the many sanctuaries established in the 1990s to address the problem of environmental degradation. The project offers a unique approach in terms of conceptualization and implementation.

One of PIPULI's regular activities was a two-week seminar on ecological awareness with participants coming from all over the Philippines. In 1990, a lay-leader from Baliangao attended this seminar. A part of the seminar was a visit to a mangrove area near Ozamis City. The lay leader observed that the mangrove areas near Ozamis are in very poor condition compared to a real mangrove forest, still intact, near his residence in Misom, Baliangao.

The PIPULI staff later paid a visit to Baliangao and were impressed, with the beauty not only of the mangrove area but also of the beaches, seagrass beds and coral reef. In the succeeding training, PIPULI made Baliangao an exposure site for participants where they helped replant mangroves in some of the deforested areas. In 1990, a workshop on mangrove ecosystems, jointly sponsored by the Netherlands Development Organization (SNV) and the British Volunteer Services Overseas

(VSO) was held in Misom. Observations from the experiences in other coastal areas as well as sharing sessions with some of the fishers and the SNV/VSO fisheries development workers helped concretize the idea of designing a sanctuary area in Misom. Meetings were held with fishers from the four barangays closest to the sanctuary area. Half of them thought that the sanctuary is a good idea but the other half was against it. Although community support was not very high, the PIPULI Board decided to go on with the implementation phase and garner community support in the process. It helped that the Mayor of Baliangao was very much in favor of the project. On 31 July 1991 a municipal resolution was passed declaring a 150-hectare sanctuary in Barangay Misom. Thus began the Misom Sea Sanctuary project.

Project Objectives

Together with lay leader Dodong Agodolo and Baliangao parish priest Father Quarisma, PIPULI formulated the objectives for its program in the municipality.

The overall objectives of the program are:

1. To protect the unique mangrove forest in Barangay Misom from small-scale logging. The area could become a major source of seedlings for deforested mangrove areas in the region.
2. To restore the reef flat and coral reef as sources of life. Intensive fishing with explosives, poison, and compressors left the fisheries in Danao Bay with no place to spawn and grow.

A sanctuary keeping the different ecosystems intact could help improve the fish stocks in the whole bay.

3. To remind the people within and outside the project area to live in harmony with nature. PIPULI believes that only if humans live in harmony with nature and see themselves as part of it can they survive and enjoy the beauty of the earth.

The specific objectives are:

1. To establish a marine sanctuary in coordination with government agencies, local officials and the community;
2. To effectively implement sanctuary rules through rigorous guarding; and
3. To organize the local communities around the issues of coastal resource protection and management.

Project Implementation

Initial Steps

Before its entry to the area, PIPULI had limited contact with the community and the local government. The parish priest helped introduce the non-government organization (NGO) to concerned groups and individuals. Through the church lay leaders, PIPULI started working in the barangays and established its own contacts. The local government welcomed PIPULI's presence, facilitated the public hearings in the barangays and later approved a resolution declaring the Misom Sea Sanctuary.

Sanctuary Establishment

There were 11 fishers who operated a *bungsod* (fish corral), within the area targeted for the sanctuary. These *bungsods* had to be moved outside the area. PIPULI negotiated with the fishers for this purpose. Nine of them agreed with the conditions that they would be hired to put up bamboo markers demarcating the boundary of the sanctuary, they would be hired as guards and they would get P150.00 for the work involved in transferring the *bungsods* outside the boundary of the sanctuary. The other two *bungsod* owners were not willing to cooperate. They received P3,000.00 as compensation and eventually also moved outside the area.

In 1991 the boundaries of the sanctuary, officially called the Misom Sea Sanctuary, were demarcated by bamboo stakes. Some fishers and barangay officials from Barangay Landing, after being confronted with this new reality, approached the mayor, claiming that the area occupied by the sanctuary was much too big. The Mayor himself conducted an ocular visit after which a new agreement was made resulting in a 70-hectare sanctuary and a 25 hectare buffer zone. No fishing is allowed inside the sanctuary while only reef gleaning during daytime is permitted inside the buffer zone.

Two core areas were created within the sanctuary, one in the mangrove swamp and the other at a natural depression inside the intertidal zone. This place was called by the locals as *lumlumay*, which literally means hatchery. This place served as a place for fish to hide during low tide. The core areas are off-limits to all human beings, including the project staff.

To demarcate the sanctuary, the bamboo stakes are anchored in the ground and placed 1.25 meters apart. A few centimeters above the high tide mark, a horizontally placed bamboo pole ties these stakes together. This pole serves as an effective fence against outrigger boats since they cannot pass in between two stakes.

Also in 1991, five local project staff and several guards were hired. These people underwent seminars on ecological awareness (two weeks), marine ecosystems (two weeks), and training facilitation.

Guarding the area became a difficult job at the start of the implementation of the sanctuary law. Anyone who entered the area had to be confronted, informed about the ordinance, persuaded to respect the vital role of the sanctuary. This demanded a lot of patience from the guards. Still, after several attempts at explaining the sanctuary's function and ordering people to leave the area, there were a few stubborn fishers who continued violating the municipal ordinance. These violations were reported to the police and the town mayor. They handled these cases in such a way that the violators no longer repeated their actions.



Towards Organizational Sustainability

With the sanctuary legally established and protected by hired guards, PIPULI next concentrated more on organizational sustainability. For this purpose four strategies were followed:

1. Gaining more community support to facilitate guarding and recruiting volunteer guards.
2. Formation of a sanctuary management board consisting of concerned citizens.
3. Formal recognition of the Baliangao Wetland Park by the national government as an Integrated Protected Area System (IPAS).
4. Establishment of income-generating projects from which the people who looked after the sanctuary maintenance could gain a living.

Gaining More Community Support

With the help of PIPULI, the church of Baliangao organized groups of lay leaders and church members actively involved in environmental rehabilitation in the four barangays around the bay. PIPULI conducted three-day seminars on ecology in these barangays, discussing the different ecosystems in the bay, the interrelationship between all creatures, the role and place of humans in these ecosystems, problems related to the over exploitation of the marine animals and possible solutions to these problems. The leaders of these groups also attended a two-week seminar on Ecological Awareness at the Bukagan Ecological Association (BEA) in Ozamis City.

During this seminar ecological issues were explained further and related with one's own personal lifestyle and ambitions.

Funds were made available for local groups who were interested to put their knowledge into practice. These were used for the establishment of a mini-sanctuary in Barangay Tugas, a pottery project in Misom and a seaweed and oyster culture project in Sinian. One group engaged in mangrove reforestation without any financial assistance from outside. The seaweed and oyster culture area also served as a mini-sanctuary since fishing is prohibited inside.

Towards the latter part of 1993 the Misom, Tugas, Sinian and Landing Multi-Purpose Cooperative (MITUSILA) was formed with assistance from PIPULI. MITUSILA is still in the process of registration but a lot of its members are now engaged in voluntary guarding of the sanctuary.

Formation of a Sanctuary Board

In the initial stage, the PIPULI Foundation played a major role in managing the sanctuary. But from the start it already had a vision that in the long run the management of the sanctuary would have to be placed in the hands of the community. Hence, a sanctuary management board was eventually formed in March 1994 to operationalize this vision. The board consisted of 15 people, namely the Municipal Mayor, one Department of Environment and Natural Resources (DENR) representative, one community representative, four guards, four barangay captains, one staff of PIPULI Foundation, one church parish representative and one

representative of the Baliangao School of Fisheries. During a five-day workshop in April 1994 this board developed their own vision, mission and goals. (In 1995 the number of board members was reduced to nine, with the number of guards reduced to one, and the number of barangay captains to two).

The sanctuary-board members meet once a month and guide the four persons in charge of the daily operations of the sanctuary. The board members are also active in bringing sanctuary-related issues to the attention of the municipal government. Recently, the board members began soliciting support for the sanctuary from private individuals.

Recognition of the Sanctuary by the National Government

Realizing that the Misom Sea Sanctuary will gain further protection and generate needed funding from national government, PIPULI applied for the recognition of the project as an Integrated Protected Area Systems (IPAS). The Department of Environment and Natural Resources (DENR) facilitated this request. Upon DENR's suggestion a mangrove-lined river close to the sanctuary was included in the proposed IPAS. A new name, the Baliangao Wetland Park, was also given to the project. Upon approval by Congress, the IPAS area will again change its name into Baliangao Seascape and Landscape but presently the name Baliangao Wetland Park (BWP) is used.

Income-Generating Projects

A fourth strategy to ensure organizational sustainability is developing income-generating projects related to the sanctuary. This is particularly important after external funding ended in March 1995.

Four former PIPULI staff formed a working collective which manages various income-generating projects that include:

- Collecting fees from BWP visitors (Since June 1991, more than 5,200 people have visited the BWP.)
- Crab fattening project
- Fish marketing project (still to start)
- Ecotourism

The ecotourism project is envisioned to become the main income-generating activity. Tourists will be guided through the mangrove. They can ride a boat and snorkel inside the sanctuary, accompany fishers on their fishing trip, stay overnight in a nice cottage inside the mangrove and experience the tranquillity of nature around them.

Resource Management Measures

Even prior to the introduction of the sanctuary two resource management measures were already being implemented in the municipality. One management measure prohibited the cutting of mangrove trees without permission from the mayor. As a result, harvesting of mangrove trees was only allowed for construction of local houses, no longer for selling outside the

municipality. The ordinance prohibiting the cutting of mangroves was instigated by new DENR administrative orders covering mangroves.

A second management measure was specifically intended to protect the rabbit fish (*Siganid sp.*) or *danggit*. This fish constitutes half of the catch of the fishers from Danao Bay. In the week following new moon this fish is caught in great numbers. In 1988, the catch of rabbit fish was almost nil for two consecutive months. The fishers and the government believed that this was due to the overfishing of *danggit*, notably during its spawning time (recruitment overfishing). Hence they thought that imposing a fishing ban (locally known as ban period) would help solve this problem.

To protect the rabbit fish, a fishing-ban period was introduced in 1988. The **ban period** starts at 8 a.m. of the third day after new moon and ends 48 hours later. It protects the *danggit* during its spawning period when this fish is most vulnerable since it migrates over big distances to and from spawning areas. Absolutely no fishing (even of other fish species) is allowed within this period. This management measure is enforced in the municipalities of Baliangao and Plaridel. No harvesting is permitted even inside the fish corrals during the ban period. Rabbit fish that gets inside the *bungsod* will still spawn before being harvested.

Unfortunately, these management measures are all in the hands of the mayor who sometimes revokes the measures without prior notice. Although this seldom happens, a fiesta (village celebration), tax payments or elections can be a reason for a

suspension of the management measures. Blast fishers can also be pardoned by the mayor, out of "compassion for their families".

With the arrival of the PIPULI program in Baliangao, new management measures were introduced in the form of a marine sanctuary and mangrove reforestation. These measures were enforced by the PIPULI staff with the help of the sanctuary guards and cooperating community members. PIPULI believed that a community-based approach might achieve better results than a government approach. Through community organizing and exposures, the fishers are able to gain confidence so they can start working on a truly community-based coastal resource management (CBCRM). PIPULI recruited a fisher-organizer who worked with the staff in the communities. Through their efforts, a coastal resource management (CRM) seminar and a general management planning seminar were conducted in the barangays in which the participants formulated a Danao Bay management plan. A cooperative and a Citizens Crime Watch group were also formed. An exposure trip to Apo Island near Dumaguete City was arranged for the graduates of the CRM seminar. Here they learned more management measures to regulate the fisheries, like mesh size regulations and agreements on the kind of nets to be used and fishing intensity.



Table 3: The Number of Species, Number of Individuals and Length Size of Fishes Encountered During Diving Surveys In 1993, 1994 and 1995 (Silliman University Marine Laboratory)

Criteria	1993	1994	1995
Number of Fish Species	48	75	85
Number of Individuals per 400 m ²	364	617	692
Length Size of the Fishes (cm)	3-15	2-36	n.a.
Macrofauna (shells, seacucumbers, sea-urchins, etc.), number of species	28	48	74

Present Situation

As of March 1995, guarding the sanctuary is done on a voluntary basis. Until now, six fish corral owners are engaged in guarding for two nights a week. They are assisted by a group of 40 volunteers who have committed to guard the sanctuary once or twice a month. During nights when the tide is lowest and a lot of fishers are outfishing these guards are assisted by the four BWP staff (formerly PIPULI staff).

Impact of the Sanctuary

The Marine Laboratory of Silliman University undertook a resource assessment of the BWP in March 1993, May 1994 and March 1995. The results of the surveys show an increase in the number of species encountered during a diving survey, an increase in number of individuals and a threefold increase in macrofauna species found inside the BWP (see Table 3). All these indicate that the sanctuary has been effective in restoring the coastal environment.

Based on observations of the fish corral users in 1995, their catches have doubled and species they have not caught within the last 10 years have reappeared.

Besides improved catches, the effect of the sanctuary on the self-esteem of the fishers involved is very positive. The guards have become active community members and the sanctuary has given them new hope. Before the establishment of the sanctuary some fishers saw their catches dwindling and the environment degrading. With the sanctuary they see a restored environment and an increase in catch. Also, visitors to the project site see it as a sign of hope and the idea of a sanctuary has been duplicated in several other municipalities in the province.

Fishing with explosives has decreased in Danao Bay. Before the establishment of the sanctuary, several explosions could be heard on a calm day. Now, blasts are heard only once in a while. Several blast fishers have been arrested by the BWP-guards and their cases forwarded to the mayor.

Limitations of the Sanctuary

Equity of Benefits

As the fisheries increased in the sanctuary it also increased the catch of the *bungsod* owners who have their traps close to the sanctuary. However, the effects and benefits towards the fishers in the whole of Danao Bay are minimal. Dynamite fishing has decreased but beginning 1992, trammel net fishing, locally known as *triply*, which uses very small mesh-sized inner nets dramatically increased. These fishers often fish close to the sanctuary boundaries, catching a lot of juvenile fish. These activities might very well negate the positive effects of the sanctuary on the fish catch further out in the bay.

Fishers who do not use trammel nets are now asking for regulations on the use of these nets. It is the fishers themselves who clearly express the need for improved management (see Table 5). They, however, look up to government to manage the coastal resources.

Law Enforcement

At the start, the project experienced difficulties in keeping fishers out of the sanctuary area. Community consultations had not been very extensive and some organizing only took place in Barangay Misom, the barangay in which the sanctuary is located. Due to the efforts of the guards and especially the BWP-manager, individual violators were warned and as a result they left the area. Several times during the first year, groups of violators entered the sanctuary. They could not be handled by the BWP-manager and guards. These

violators had to be handled by the municipal government and after a talk with the Mayor, they no longer repeated their actions.

Since the municipal ordinance creating the BWP did not have provisions on penalties for violation, the guards did not have any power. Still the sanctuary could be maintained through "talking" people out of the area. The fact that the mayor was supportive of the project was essential in this case. In August 1995 a Municipal Ordinance specifying penalties for violation of rules regulating the sanctuary has been promulgated and approved by the Municipal Council. This will hopefully facilitate the guarding of the sanctuary.

Long-term Sustainability

At the moment, the BWP is not yet self-sustaining. The income from the projects is still too small to pay for a staff of four. Congress has not yet approved the IPAS status of the BWP and the board of the BWP is not yet very assertive in protecting the sanctuary although monthly meetings are regularly attended.

Income may increase with the establishment of ecotourism facilities. The number of staff may still have to be decreased. The crab fattening project will generate more income once the supply of mangrove crabs increases.

Voluntary guarding will continue. In a sense guarding has become easier in the last few years, since more and more fishers (90%) accept and appreciate the sanctuary. Guarding, however, will always be needed. The value of fish and shellfish in the area is so high that the temptation to harvest the

fisheries will always be there. With the integration of the BWP into a management plan for the whole of Danao Bay, the guarding of the sanctuary and enforcement of resource management agreements in the bay could be done simultaneously, reducing the costs for guarding the sanctuary.

A small budget will be allotted in the 1996 Baliangao municipal budget of the Department of Agriculture (DA).

Critical Factors for the Success of the Program

Local government support in law enforcement, and moral support for rallying popular community support is very important. The guards of the sanctuary have as their only weapon their ability to explain the role of the sanctuary to fishers fishing inside the sanctuary. When, however, faced by armed fishers or groups of violators refusing to leave the area, there is nothing left to do but to report the violators to the municipal authorities. And of course these should support the guards and punish the violators. Because of the rather feudal relations in the community, projects initiated with the consent of the mayor are easily accepted by the community.

Committed leadership of the people in-charge. Without the efforts exerted by the manager of the sanctuary, Iglorioso Agodolo, the sanctuary would already have collapsed under the pressure of the fishers looking for a bountiful catch. Work for the sanctuary is oftentimes a 24-hour a day job, requiring real commitment from those in charge. In case of violations, the actions of the main person in-charge

would set the example for the other guards. Being rather strict and straightforward, the main person-in-charge set the right example in dealing with violators.

Outside funding for 3-5 years. The fishers are not in the position to spend money on organizing themselves, even if the need is felt. Given the approach used, guarding of the sanctuary has to be done by paid guards. Voluntary guarding as experienced by other programs is probably easier in the case of island communities and small sanctuaries and even then it takes a lot of time before the sanctuary actually functions. In the case of easily accessible, mainland coastal areas with no experience in sanctuary maintenance (specially big sanctuaries), guarding by paid guards could be a solution. Like in the case of the BWP, voluntary guarding can be done after an initial two or three years of outside assistance. The results of the sanctuary in terms of increased catch could be the bases for future voluntary guarding.

Remaining Question

The fishers themselves now see the need for fisheries management as shown in the answers given to the question: "If you experienced a decrease in catch, what would be the reason for this decrease?" (see Table 4). Although only six fishers mentioned specifically "**no management system**" as a reason for the dwindling catches, the other reasons given like: "too many fishers", "use of destructive gears", and "intrusion of large-scale fishing boats", can also very well be grouped under 'no management system'.

Table 4: Reasons Mentioned by the Fishers for the Decrease in Catch

Reasons for Diminished Catches	Number of Respondents
Too many fishers	32
Use of explosives and poison	18
Gear with small mesh sizes	16
Large-scale fishermen	14
No management system	6
Other reasons	10
Total	94

Source: *Fishers' responses to a questionnaire handed out during a management seminar in December 1994.*

Table 5. Suggestions Made by the Fishers to Improve the Fisheries Situation

Suggestions for Improvement of the Situation	Number of Respondents
Stopping of fishing with dynamite and poison	51
Mangrove reforestation and protection	24
Banning the use of small-meshed nets	18
Organizing and uniting fishers	13
Banning fishing by outsiders	13
Artificial reef and coral reef protection	6
Making other sanctuaries	6
Stopping of harvesting of shells in mangrove areas	1
Fishing farther into the ocean	1
Continuing ban period	1
New fisheries laws	1
Others	5
Total	140

Source: *Fishers' responses to a questionnaire handed out during a management seminar in December 1994.*

Also the suggestions made on how to improve the fisheries situation show a clear quest for improved management of the resources (see Table 5).

This request for improved management seems to be in contradiction with an existing notion that fishers are concerned only with what they are going to eat today, and do not worry about tomorrow's catch.

One explanation for this contradiction might be that the fishers' quest for management is directed at the other fishers, not at themselves. Another explanation is that a section of the fishers see the need for improved management but, since the government is not capable of strictly implementing management measures, they see no authority which can provide this management. Without this authority, there is not much more they can do than to struggle for their daily catch.

If the second explanation is correct then it would be enough for the intermediary organization (PIPULI) to provide an authority (community-based) that is capable of implementing management measures. This task is difficult enough. In case the first explanation is correct, a cultural change would be needed. We believe that a good portion of the fishers, working close to nature, see the long-term effects of short-term decisions on the future fish catch. In Baliangao, a shift from an outside authority to a community-based authority would require a major and even difficult change, but one that is not impossible to make.

Reference:

Silliman University. "Report on the Conduct of the First, Second and Third Resource Assessment of Baliangao Wetland Park, Baliangao, Misamis Occidental. Silliman University Marine Laboratory, Silliman University, Dumaguete City.



Testimony

Iglorioso Agodolo **Coastal Manager, Baliangao Wetland Park (BWP)** **Katipunan, Misamis Occidental**

Not so long ago, Baliangao was called *Balay sa Langaw*, which means "house of flies". Baliangao was called this way because of the multitude of flies living off the decomposing dead fish on its beaches. In 1956 fish was still very abundant and the mangrove was still intact. In 1958 people from Bohol came in sail ships or boats to buy the bark of the *baknaw*, a major mangrove species, for the coloring of the coconut wine called *tuba*. In 1960 Union Carbide started to buy charcoal made of mangrove trees. In 1964, the whole mangrove area in Baliangao was already barren of trees except for a small area which is now part of the sanctuary. Emiliana Pagasi-an did not want this part of the mangroves destroyed since she reasoned that this was not hers but her children's heritage.

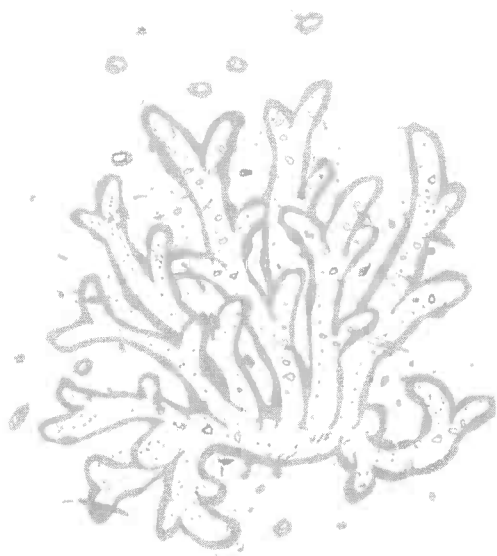
Because of the degraded mangroves, fish and shells became scarce. In 1990, the Baliangao Parish sent two of its lay leaders to the "Ecological Awareness Seminar" of the PIPULI Foundation. These were Bibi Mijos and I. During this seminar we were exposed to the uplands, mangroves, and the sea. During the sharing at the end of the seminar, we suggested that an exposure should be done in Baliangao in the future because of its intact sea and mangroves. This suggestion was picked up and since that time a lot of people have been visiting the sea and mangrove area in Barangay Misom, Balingao.

In their visits, the visitors always expressed hopes that this part of the natural environment be protected. In 1991, the Board of PIPULI, headed by Bishop Dosado, suggested that since PIPULI is protecting the forest, then it should also be involved in the protection of the sea. Neil Fraser, the director of PIPULI, started a dialogue with Mayor Yap of Baliangao Municipality, who suggested that PIPULI should draft a resolution which would be discussed in the *Sangguniang Bayan*. On July 22, 1991 the resolution declaring a marine sanctuary in Barangay Misom passed the *Sanggunian*.

Initially, three people started to work on the sanctuary. Yak-Yak, a community organizer from PIPULI, and I were in charge of the community work to explain the project to the people of the four barangays around the project area. One other staff started with the mangrove reforestation. A meeting took place with the group of fish corral owners who had their fish traps inside the proposed sanctuary area. They agreed to move their traps in exchange for the assurance that they would be employed as workers and would function as guards. Thus, PIPULI started in Baliangao with five staff and seven guards.

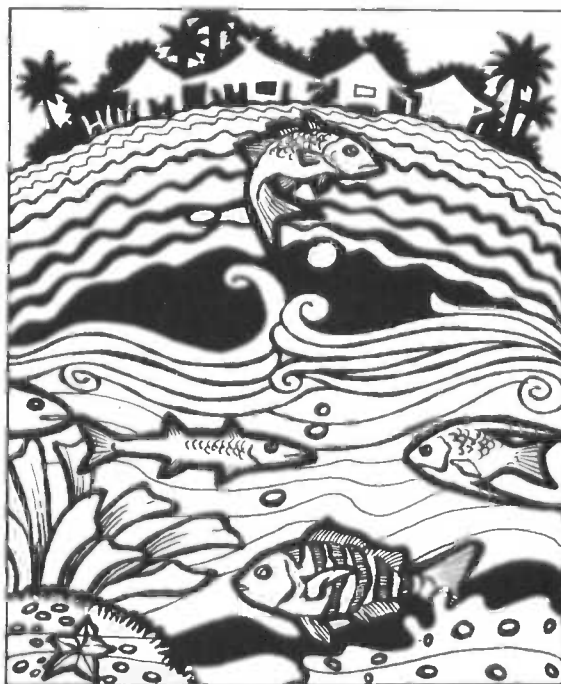
During the first year of the project, we encountered a lot of problems and difficulties. We even had to jump for our lives when we were shot at by a group of fishers who robbed the sanctuary. However, we never lost hope since the municipality, the different churches and PIPULI supported the project. The Mount Carmel Parish Church conducted a lot of seminars as part of its ecological ministry and the PIPULI staff gave seminars on marine life and coastal resource management.

By 1992 the number of fishers who had to be talked out of the sanctuary became less. In 1993 PIPULI conducted a seminar for the newly established Board of the Baliangao Wetland Park. The Board was composed of the mayor; four barangay captains; a representative each from the DENR, the Baliangao School of Fisheries, the church, and the community; and two sanctuary staff. They have monthly meetings. In March 1995, the funding from FPE ended and guarding of the sanctuary became voluntary. This was done by the old guards and the members of the staff, together with members of the newly-formed MITUSILA Fisherfolk Cooperative. We believe that this will be sustainable since we see the positive effects of the sanctuary.



The Fishery Sector Program- Community-Based Coastal Resource Management in Panguil Bay, Mindanao

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This study discusses the community organizing experience of The Network Foundation, Inc. (TNFI) implementing the coastal resources management component of the Fishery Sector Program (FSP) in Panguil Bay, northwestern Mindanao.

Community organizing efforts focused on capability-building of fishers/stakeholders as partners in coastal resources management. Knowledge and skills in planning, organization building, mobilization, value formation, and cooperativism were enhanced through a series of training, education-information campaigns, cross-site visitations, seminars and workshops with fishers and local officials.

Community organizing resulted in the formation of 57 fishers' associations in 57 coastal barangays which were later transformed into cooperatives undertaking small-scale economic

activities such as micro-lending and cooperative stores. Land-based economic activities were also started which in some ways reduced the fishing pressure in the bay.

The case study also highlights the challenges in forging a working relationship between government organizations (GOs), non-government organizations (NGOs) and participating coastal communities as they organized themselves towards coastal habitat rehabilitation and management in Panguil Bay.

The experience demonstrates that organized coastal communities can initiate development of a community-based marine resource management system. It is clear that these fishers who once were blamed for much of the coastal resource degradation could be transformed to become effective resource managers.

Site Profile

Panguil Bay in northwestern Mindanao is shared by the three provinces of Zamboanga del Sur, Lanao del Norte and Misamis Occidental. Because of its size, the bay falls under three administrative regions covering two chartered cities, 10 municipalities and 76 coastal barangays. The bay has an area of approximately 18,405 hectares with a toothlike shape and a coastline extending 116 kilometers from end to end. The narrowest point in the bay is 1.7 kilometers located in the channel between Silanga, Tangub City and the municipality of Tubod in Lanao del Norte (see Figure 1). It gradually slopes longitudinally from 5 meters at the mouth of Lintugop river to a depth of 20 meters just before the Clarin-Maigo boundary. Panguil Bay falls under climatic condition type 4, characterized by an even distribution of rainfall throughout the year.

The bay - the richest shallow-water fishing ground in Mindanao - has been a natural spawning ground and nursery of penaid shrimps and other crustaceans, molluscs, other invertebrates species and marine finfish. Its hydrological characteristics and confined waters make it ideal for aquaculture.

In 1950, mangrove cover was estimated at 12,590 hectares. Rapid development of fishponds within the bay has now left only about 3,623 hectares of mangrove cover, which is not solidly compact. It includes secondary growth of *nipa*. A total of 93 hectares of coral reef areas are located at Hulaw-hulaw between the stretch of Clarin and Ozamis City area. Its estuarine waters are heavily silted and expansion of fishpond

development has penetrated this area. This is happening particularly in the municipalities of Aurora and Tambulig in Zamboanga del Sur province.

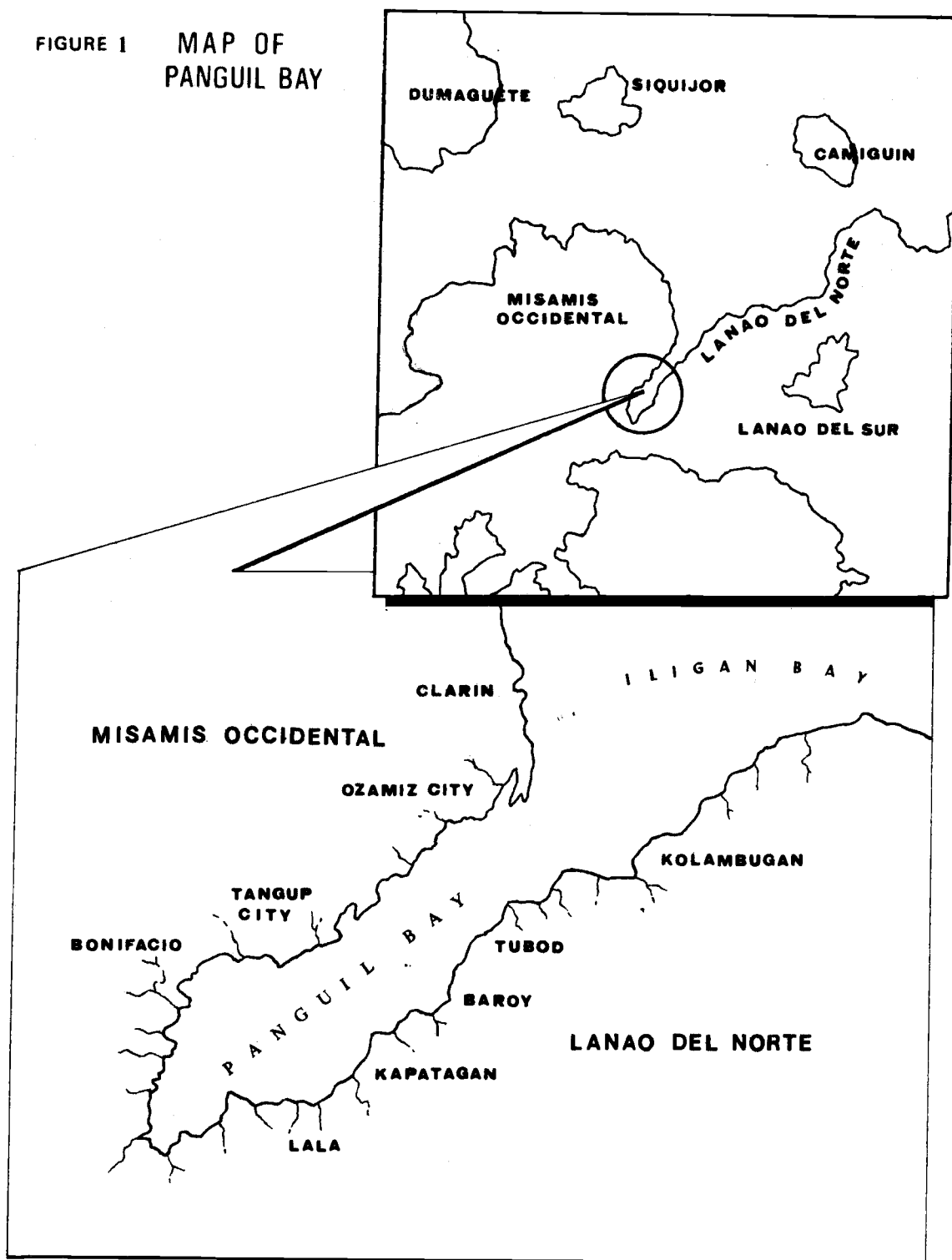
There are over 6,000 fishers who exploit the bay as their fishing ground. The continuing use of non-selective gears and destructive fishing methods like *sanggab* (filter mesh nets), mechanized *sudsud* (push nets), blast fishing, cyanide fishing and illegal construction of fish corrals are the main causes of overfishing in the bay. Siltation due to soil erosion from the uplands is also very apparent near the mouth of the 32 major rivers and 22 minor tributaries and creeks of Panguil Bay, thus significantly contributing to the destruction of marine habitat in the coastal areas.

The Fishery Sector Program (FSP)

The Fishery Sector Program (FSP) is a government program funded by the Asian Development Bank (ADB) and the Overseas Economic Cooperation Fund (OECF) of Japan. Its main goals and objectives are to: 1) rehabilitate the country's coastal resources; 2) undertake fishery policy reforms which limit further exploitation of the fishery so as not to affect the environmental status of coastal resources; 3) strengthen the capabilities of the fishery agencies concerned; 4) alleviate the extensive prevalence of poverty among fishing communities; and 5) increase aquaculture production within ecological limits.

The five-year program began in 1990. It has six components namely: resource and ecological assessment, coastal resource management, law enforcement, credit, research and extension, infrastructure, and community organizing.

FIGURE 1
MAP OF
PANGUIL BAY



Fishery Resources and Ecological Assessment. This component involved the conduct of scientific studies on the status of Philippine fisheries that could provide national government sound bases for fisheries management and development. The studies form part of the National Fisheries Information System which continually monitors fish stocks, habitats, ecological parameters and socio-economic indicators. Aquaculture areas were surveyed so that the Fishpond Lease Agreements of unproductive ponds could be cancelled and those that would not be suitable for further development could be reconverted into mangrove areas.

Research and Extension. This component included the following: 1) preparation of a comprehensive National Fisheries Research Program; 2) networking and upgrading of existing research facilities; 3) provision of scholarships and training programs to meet long-term research and extension staffing needs; 4) expansion of fishery extension services; and 5) conduct of specific priority studies such as sea ranching and fish farming; impact evaluation of artificial reefs; red tide investigation and monitoring; and *tuna* and cephalopod exploratory fishing.

Law Enforcement. Successful law enforcement and effective protection of marine resources in the Philippines require decentralized efforts, organized and based on individual fishing communities. Thus, assistance in terms of training and logistic support were given to community-based task forces composed not only of the local police and government personnel, but also of the fishers themselves.

Credit. This is to support the income diversification projects for small-scale fishers and the intensification of aquaculture production. A seed fund was provided to supplement the government's Integrated Rural Financing Program (IRFP). Alternative financing schemes have been studied to incorporate NGOs and fishers' cooperatives as financial intermediaries. Moreover, private banks were identified and accredited to extend more credit to the sector through a guarantee fund scheme.

Infrastructure. Through this component, post-harvest facilities such as fish landing, cold storage and processing centers were made available for the sector. Research was undertaken to develop and promote technologies which would reduce spoilage and upgrade the quality of fishery products.

Coastal Resource Management (CRM), the centerpiece of the program, has the following objectives: 1) rehabilitate, regenerate, and manage on a sustainable basis the fishery resources of the coastal zone (which include fish stocks as well as their habitats); 2) reduce and eliminate destructive and polluting factors which degenerate coastal resources; and 3) lessen overfishing by assisting municipal fishers in going into diversified income-generating activities.

Panguil Bay is one of the 12 priority bays under the FSP where coastal resources management is to be implemented. Community Organizing (CO) was identified as the main strategy for achieving CRM objectives. Implementation of the CO component was coursed through non-government organizations (NGOs) with expertise and

track record in this field. Thus, in April 1991, The Network Foundation, Inc. (TNFI) entered into a two-year contract with the Department of Agriculture to undertake CO-CRM activities in Panguil Bay.

The CO process began in 1991 but did not continuously push through due to delays in the renewal of contracts between the Department of Agriculture (DA) and TNFI.

Under the two-year contract, the Network Foundation was tasked to assist 57 fishing communities/barangays around Panguil Bay and their local government units to develop their capability to plan and implement CBCRM that will: 1) rehabilitate the coastal fisheries, 2) ensure equitable access to resource; 3) control illegal and destructive fishing; 4) reduce fishing effort to sustainable harvest level and, 5) alleviate poverty through income diversification.

In facilitating the community organizing process for CBCRM in Panguil Bay, the Network Foundation had the following objectives:

1. Involve the fishing communities and local government in identifying and analyzing resource management problems as well as planning, implementing, monitoring and evaluating strategies and actions to deal with the problems;
2. Conduct public education among all sectors of the community to raise level of awareness, concern, knowledge, support and participation in the implementation of program actions and strategies;

3. Assist in organizing, training and facilitating the formation of CBCRM committees at the barangay and municipal levels that would plan, implement, coordinate, monitor and evaluate CBCRM strategies (like marine reserves, mangrove rehabilitation, etc.) and resolve conflicts arising from the implementation of these strategies;
4. Organize and train fishers' organizations/cooperatives to: a) improve fishing operations through the use of appropriate and ecologically sound harvest technologies, monitor and regulate their fishing practices, carry out resource enhancement projects, reduce post-harvest loss, introduce/improve product quality, operate and manage post-harvest facilities and improve/strengthen marketing strategies; b) develop, operate and manage income diversification projects in order to reduce fishing pressure and supplement income; c) make decisions regarding fisheries management, collectively consult their sector, exercise democratically preferential use rights, settle disputes, present their interest, and influence policies; and d) advocate resource management regulations and related policies to LGUs and other mandated agencies.

To achieve these objectives, the community organizer of TNFI acted as a catalyst in the learning and organizing process, and served as a unifying agent who facilitated consolidation of the community as managers of their coastal resources. It was envisioned that the process would help

the community (particularly the fishers) realize that they have the capability to be resource managers if they think and act as a single community.

CBCRM Philosophy and Principles

The philosophy of CBCRM under this program is founded on the principle that well-organized sustenance fishers/stakeholders are in the best position to manage the coastal and marine resources. To this end, the FSP-CBCRM underscores the importance of fishers' participation in the decision-making process and their attitudinal transformation from mere users to resource managers. This, however, must emanate from a clear understanding of the economic sustainability of the resources and a universally accepted management plan.

A basic principle of CBCRM is the interconnectedness of the environment, the ecosystems, and the human resource users. Besides fisheries and resource use, it includes various aspects of community life such as human settlements, recreation, water quality, local politics, among others. The coastal zone and its resources make up a dynamic system with many interactions and requires other management considerations besides fisheries and resource use. Moreover, interest groups often play an important role in decision-making about how to manage coastal resources.

Another major principle of FSP's CRM is the involvement of communities and municipal and provincial governments. FSP intends to design CBCRM plans which are site-specific and generated from the participation of people residing and working in the sites.

The implementation was thus done through the regional government offices, non-government organizations, and the community groups.

Hence, the underlying theme of CRM was always the interconnection of the various resource systems and the activities of people in relation with the environment. First, this interconnection was considered in designing the technical aspect of the plan. Second, there was an integration of the various actors in the management of sites. The actors were both the resource users and their respective interest groups, and the managing agencies such as the municipal governments, regional offices, law enforcement officers, NGOs, and the community groups. It considered the interactions between the physical environment and the human organizations involved in managing the coastal areas. This was the people's guide in sustaining the benefits of the environment they depend on.

Implementing Mechanisms

Overall coordination and monitoring of the FSP was done through a Program Management Office (PMO) based in Manila, established by the lead executing agency, the Department of Agriculture (DA). Effective technical assistance was provided to facilitate initial implementation. This ensured that the DA and other concerned agencies were adequately assisted in their conduct of the various activities.

The program also designated Special Assistants for Fisheries Development (SAFDs) to provide managerial/technical guidance and administrative/logistics support to Provincial Fishery Management Units (PFMUs). The three

SAFDs for Panguil Bay were mostly Assistant Regional Directors and Division Chiefs of the Regional DA, duly designated in concurrent capacities.

The Program established PFMUs in all six provinces covering the 12 priority bays and the regions. The PFMUs were under the administrative jurisdiction of the Provincial Agricultural Officers of DA (now devolved to local government units (LGUs)).

The program, which commenced in 1990, operated for five years with full anticipation that the program's functions would be fully integrated into the participating agencies.

The agencies and/or institutions involved in the implementation of one or more aspects of the program were:

1. Department of Agriculture (DA)
Bureau of Fisheries and Aquatic Resources (BFAR)
Philippine Fisheries Development Authority (PFDA)
Agriculture Credit Policy Council (ACPC)
2. Department of Environment and Natural Resources (DENR) Environment Management Bureau (EMB)
3. Philippine Crop Insurance Corporation (PCIC)
4. Land Bank of the Philippines (LBP)
5. Guarantee Fund for Small and Medium Enterprise (GFSME)
6. Non-Government Organizations (NGOs)
7. Local Government Units (LGUs)

Program Activities

The activities of the program were carried out through the improvement of marine resources administration by LGUs and concerned agencies. Likewise, more effective coordination of research activities and proper enforcement of existing laws were done. Decreasing fishing efforts in heavily exploited areas as well as rehabilitating the coastal environment were seen as necessary while establishing alternative livelihood activities for fishers.

The general approach employed for field management was to involve the coastal communities in the decision-making and implementation process. Regulatory functions were encouraged at the municipal level to complement national laws affecting coastal resources. Decisions made involved the participation of the communities, municipal/city governments, Department of Agriculture (DA), DENR regional offices and non-government agencies working in the areas.

To ensure the viability and sustainability of the community organizations, continuous organizational strengthening, institutional support, networking and fostering of a bay-wide fisherfolk movement were undertaken towards the federation of these cooperatives at the provincial level.

One of the accomplishments of the community organizations for them to manage their own resources was to acquire juridical personality. This led to the transformation of the organized fishers' associations into full-fledged primary cooperatives. Adequate training in cooperativism, conflict resolution, law enforcement and regulation, and CBCRM was conducted in each barangay. Towards the end

of the Year 2 Phase II project implementation, the formulation of a CRM plan by the fishers' cooperatives and the community members had evolved. The Network Foundation, for its part, formulated the coordination and linkage framework for the institutional linkages that were forged between and among local government units, national government agencies, non-government organizations, and other participating sectors. The Network Foundation, being the contracted NGO, was tasked to initiate community entry, facilitate the organizing and training process, and provide support by encouraging the community, LGUs and concerned agencies to continuously coordinate and establish linkages. This mainly emphasized that The Network Foundation's community organizers would eventually get out of the area after three to four years. It also made sure that the sectors concerned could relate effectively with each other even during post-project implementation.

This initial effort generated commitment for technical and financial support by virtue of a Memorandum of Agreement (MOA) executed by the concerned sectors. Further revisions and validations of the plan at the municipal level were likewise conducted to consider results of studies conducted by research institutions on CBCRM and livelihood diversification programs.

The partner NGO therefore assisted targeted groups in the actualization of CBCRM plans through community organizing and did not impose its perspective in achieving the expected outputs. Initially, during this process, the NGO staff acted as a facilitator or go-between continuously bridging communication lines between the community leaders and government agencies.

TNFI's Experience in Implementing CO-CRM

It was in April 1991 when The Network Foundation, Inc. (TNFI) began its preparatory activities in organizing after it entered into a contract with the Department of Agriculture (DA) to undertake the Phase I Year 1 (April 1991-May 1992) of the program. Phase I focused on the formation of community organizations. A total of 28 coastal barangays along Panguil Bay (covering three provinces and three administrative regions) were pre-identified by the respective provincial offices of the Department of Agriculture in the three provinces. Of the 28 of this total, 11 coastal barangays are in Lanao del Norte, 12 in Misamis Occidental and three in Zamboanga del Sur.

In November 1992, after almost a seven-month gap in project implementation, another contract for TNFI to undertake the Phase II Year 2 (November 1992-October 1993) of the program took effect. Community organizing was done in a total of 28 existing barangays covered during Year 1 Phase 1 and another 29 coastal communities were added as expansion barangays. From the total, 24 are in the province of Misamis Occidental and five in Zamboanga del Sur. The expansion to barangays in Lanao del Norte province was implemented by another NGO. After two years of project implementation, a total of 57 coastal barangays in Panguil Bay were covered by TNFI. In the middle part of Year 2 implementation, these organizations were transformed into cooperatives and registered with the Cooperative Development Authority (CDA). Each cooperative should also have its own coastal resource management plan by this time.

The Community Organizing Process

In preparation for program implementation, TNFI hired qualified local people to perform community work in addition to its existing staff. Of the total personnel that were finally hired, 67% were community development organizers and the rest were technical and administrative support staff. Prior to the deployment of field personnel, a week-long orientation was conducted to enhance knowledge and skills of project staff about the program. The training was conducted by staff from the Project Management Office (PMO) in Manila and a composite training team from the TNFI Head Office with the assistance of representatives from the Regional Offices of the Department of Agriculture (DA). Annual provincial work programs were jointly formulated and finalized by the project staff and DA personnel involved in the FSP implementation. Presentation and validation process of work programs with LGUs at the barangay and municipal levels helped raise the local officials' awareness of the FSP-CBCRM programs and strengthened their support during implementation.

A data-gathering instrument to prepare barangay profiles was used. Also, an organizational assessment instrument was developed to determine the strengths and weaknesses of the existing fishers' associations. These two important activities served as one of the bases for validating and planning with the communities.

Community Entry both during Year 1 and Year 2 started with the presentation, validation and in some instances the

revision of the annual work program of every target barangay. To signify their commitment to support the program activities, municipal mayors and barangay chairpersons of the project sites became co-signatories in the annual work program document.

Results of organizational assessment conducted among the existing fishers' associations became the field personnel guide in deciding whether to strengthen existing organizations or form a new one.

Formal orientation meetings on the FSP-CBCRM program were conducted among officials and members of the LGUs from the barangay to the municipal level. Support and acceptance of the project were indicated through Barangay Council Resolutions and issuance of Letters of Acceptance from the Municipal Mayors.

Barangay-level general assemblies explaining the program were facilitated by the respective barangay councils with the assistance of TNFI staff. Fishers and other interest groups were encouraged to participate. Formal training on FSP-CBCRM, as well as Organizational Development, was conducted for key leaders/core groups and all leaders who eventually became serious in forming themselves into fishers' associations.

At the end of the two-year contract, TNFI field staff successfully facilitated the formation of 56 new fishers' cooperatives in the project sites. The 57th was an existing cooperative formed under the *Samahang Nayan* project which TNFI helped strengthen through a series of organizational development activities.

CO-CRM Components

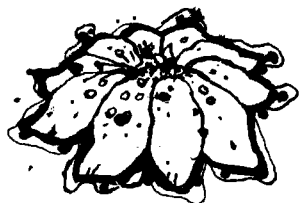
TNFI identified major elements necessary to ensure sustainability of CO-CRM. These include:

Institutional Capability Building.

Members of the Training and Education Committee and selected members of the cooperatives were further trained to enhance their skills and knowledge on CBCRM and in preparing training proposals and modules. This would prepare them to function as the training management unit of the cooperative.

Orientation and awareness-building on coastal resource management among school children were also conducted in all elementary schools within the project sites. A student from one of the barangays even emerged as a national winner in a DA-sponsored short story and painting contest during the annual celebration of Fish Conservation Week.

The conduct of monthly regular board of directors (BOD) meetings and Fishers' Cooperative (FC) meetings was encouraged. Minutes of the meetings were well-recorded and prepared by the Secretary. Issues and conflicts arising from project implementation were tackled during monthly FC meetings, which led to their immediate resolution.



Cooperative Development. Since majority of the fishers' association members are poor, and using the DA policy mandate as premise, the TNFI staff proposed an option to the fishers' associations to save the budget for meals and snacks. Thus, savings accumulated from every training conducted by TNFI was used for organizational operations instead. This seed money helped a lot to defray expenses in the registration of their associations into cooperatives. Audited financial statements revealed that the funds generated from these training were placed under general funds.

Cooperative members also continued paying their paid-up capital over time. The TNFI staff conducted Pre-Membership Education Seminar (PMES) for the new members of the cooperatives. This happened after the contract was terminated in October 1993.

Identification of Livelihood Projects. Consistent to program objectives, the TNFI staff helped prepare project proposals for the livelihood projects identified by the cooperatives. Most of them had already availed of financial assistance through short-term loans from the Department of Social Welfare and Development (DSWD). The credit component of FSP was activated only in October 1993 after the termination of the contract for Year 2 Phase II. Only a few cooperatives with economic activity and which had really prospered were qualified for financial assistance. Majority of the thriving cooperatives did not qualify even for accreditation because of the stiff requirements of the

Land Bank of the Philippines (LBP), the official depository of the seed money for FSP. Meanwhile, it was realized that livelihood projects should be labor-intensive to generate employment for members of the cooperatives.

CBCRM Interventions. Until the end of the contract, full implementation of the approved technical interventions identified by the fishers' cooperatives was not yet realized. The Department of Agriculture is expected to provide the technical and material inputs to these interventions. Construction and installation of concrete artificial reefs by members of the Fishers' Cooperatives (FCs) with the assistance and supervision of DA had just started. This was done by two fishers' cooperatives in Clarin, Misamis Occidental and two fishers' cooperatives in Maigo, Lanao del Norte.

Law Enforcement. In the province of Misamis Occidental, members of the cooperative, regardless of gender, were deputized as fish wardens. They conducted patrols within their respective municipal waters and apprehended fishers engaged in destructive forms of fishing. Filing of charges against the violators deterred other fishers from using illegal fishing practices. Others volunteered to demolish their submarine filter fish nets (locally called *sanggab*), particularly the organized fishers' cooperatives, upon the insistent demand by the barangay residents, the local government units, and the DA. It is envisaged that CBCRM committees would persistently initiate the CBCRM movements in their respective areas and eventually the whole cooperative would carefully watch and effectively manage the coastal areas.

Monitoring and Evaluation. Three monitoring instruments were introduced and used by the cooperatives. One instrument was used to monitor CBCRM activities. This helped the TNFI staff identify and strategize activities to support the programs of the cooperatives. Another form showed the issues and problems encountered by the FC and the recommendations identified. The last instrument was used to monitor the daily fish catch. This was regularly accomplished by one full-time fisher representative per cooperative. The results of this activity helped the TNFI monitor the increase in catch and fish stocks once management interventions were implemented by the project participants. The aforementioned activities were done by the cooperatives themselves and lasted until August 1994, ten (10) months after the project termination in October 1993.

Changes Brought About by the Program

Attitudinal Transformation

The various training and organizing activities conducted for and with the beneficiaries not only helped them acquire knowledge and skills in CBCRM but also resulted in attitudinal transformation of the stakeholders. They no longer saw themselves as mere resource users or exploiters but as resource managers as well. The collaborative efforts in project implementation between TNFI, the coastal communities, and concerned agencies helped assure sustainability of FSP CRM. This is evidenced by the fact that members of the cooperative, by themselves, discourage the practice of destructive fishing methods.

Membership in the associations, and later the cooperatives, brought the people closer together and allowed them to gain confidence in their own capabilities.

Members of the cooperatives benefited from the availability of basic commodities sold in their consumer store, while providential loans were made available to cooperatives engaged in micro-lending. For two years now, interests on capital and patronage refund have been declared at the end of the year. Different mechanisms for sharing the gains were established by each cooperative. For the first year, however, patronage refunds and interest on capital were returned to the cooperatives to increase their investment capital. After the closing of 1994 transactions, most of the fishers' cooperatives declared gains and distributed these to members according to the principle of cooperativism. Cooperatives have gained top priority to receive government assistance, particularly livelihood and other forms of income-generating activities.

Use of the *sudsud* (mechanized pushed nets) has been regulated, and this has contributed to the regeneration of some bivalves (mostly brown mussels) along the coastline, particularly those found near the bottom of the bay area. Individual fishers collect and sell them to fishpond operators as supplemental feeds to prawns, thus providing them with additional income.

The removal of most units of *sanggab* (submarine filter nets) also contributed to the increase in volume and sizes of marine products caught by fishers. This is according to observations of fisher-beneficiaries.

Problems, Issues and Lessons Learned

The Network Foundation's implementation of the CO-CRM component of FSP was beset by several problems and issues, among which are the following:

On Community Organizing

In implementing CO activities of the FSP-CRM, TNFI had to follow an agreed work program which translated the conditions under the Terms of Reference with the Department of Agriculture. Though the DA allowed TNFI to innovate in CO approaches and strategies, the NGO had to strictly follow the timetable contained in the contract.

Outputs, be they quarterly or annual, had to be delivered as programmed. Hence, there was a strong pressure to cut short important organizing processes, just so that the NGO could comply with the contracting agreements.

One example was the insistence of some DA officials and LGUs to federate the newly-formed cooperatives. Although an attempt to do so was actually made, guidelines from the CDA prevented primary cooperatives from federating unless they complied with the criteria set by CDA.

Moreover, the CRM plans and livelihood activities prepared by the cooperatives could not be implemented accordingly due to lack of capital funds. FSP-accredited banks had very high interest rates beyond the capacity of the newly-

formed cooperatives. The non-implementation of CBCRM plans in some areas was due partly to inadequate provision of technical assistance from the concerned agencies.

The gap of seven months between the termination of TNFI's Year 1 Phase 1 contract and the official start of Year 2 Phase II activities created mistrust and negative perception among some fishers from some barangays covered during Year 1. Hence, upon their return to the sites, the field staff had to regain the people's trust and re-establish rapport. It is therefore advisable for the community organizer not to leave the community for a long period especially when fishers are just newly organized, to avoid repetition of earlier phases in the organizing process.

A lesson learned by the NGO in community organizing is that the FCs effectively/cohesively respond to programmed activities when the community development organizers (CDOs) totally immerse themselves in their assigned barangays. In so doing, they could truly determine the real development needs of the community, thus becoming more effective in addressing its needs.

On Cooperative Development and Official Registration of Fishers' Cooperatives (FCs)

Not all of those who participated in the series of training and community organizing activities decided to become members of the cooperatives. Those who initially did not join the cooperatives gave varied reasons such as not having funds for the membership fee and individual contributions for capital build-up. It is apparent that

organizing and strengthening cooperatives, whose members are mainly poor fishers, take time because they always give priority to their means of livelihood to ensure their families' daily survival.

The slow generation of the required capital build-up also delayed the cooperatives' registration with the CDA. Preparation of voluminous documents required by the CDA for registration also added to the delay. These documents needed detailed review before submission. Once the papers reached the CDA, background investigation is done in the field as basis for appropriate action.

Because of the intensified training and capital build-up formation coupled with the unpleasant experience with previous government projects, especially those with credit components, some fishers declined to become members of the cooperatives. Only those who were really interested despite the previous experience finally decided to become members.

Another reason for some who decided not to become members of the cooperatives was their expectation on the availability of speedy loans. This is due largely to misinformation from other people (mostly field-level government officials) using loans as "come-on" to form cooperatives without thoroughly knowing the adverse effects on the community organizing process.

As Regards Linkaging and Coordination

In the early part of project implementation, coordination with local government units and national government agencies at barangay, municipal, and provincial levels was established. Coordination with the Regional DA through the FSP's Special Assistant for Fisheries Development (SAFD) was likewise established. In target barangays, extensive coordination with local officials, the community and the target fisher-participants was always maintained. Coordination efforts resulted in widespread awareness of FSP-CRM's ongoing activities in the area. Required services and assistance from concerned NGAs and LGUs were delivered although the reported degree of effects varies. Coordination and linkages with Provincial Development Councils (PDCs), Barangay Development Councils (BDCs), tri-DA, financing institutions, other NGOs, and the private sector were practiced regularly.

On Education and Training

Required training and education inputs were based on assessments conducted with the prospective fisher-participants during community entry. Each fisher-group (FA/FC) underwent an average of 12 formal training sessions with several rounds of informal training. It was observed that the participants who always considered their personal interest first ahead of group cooperation did not join the cooperative. This indicates that most of the present cooperative members are the interested ones and those who have fully understood the cooperative movement. In addition,

cross-site visits to successful CBCRM projects and established cooperatives were considered as one effective training and institution-strengthening strategy. Members of the FCs who joined these cross-site visits became very aggressive in replicating applicable activities in their respective areas.

Users' Right to Access to Resources in the Coastal Area

Part of the programmed activities in FSP-CRM is to provide Territorial Use Rights in Fisheries (TURF) to marginal fishers so that the management of coastal resources will be effective and sustainable. Such would only be realized if the zoning plan of the municipal waters in each municipality is well-established. Unfortunately, such plans were not given priority. It is therefore anticipated that in the event the FC-initiated CBCRM plans will be fully implemented, some problems may be encountered as to specific coastal areas that should be designated according to appropriate usage. The lesson here is that although the concept and plans of TURFs are good operationally, they are not progressing. If this continues, incentives to fishers to be the real community-based resource managers are more remote than forthcoming because local people have no precise security of tenure on specific territorial rights to manage the open-access status in the coastal areas covering municipal waters.

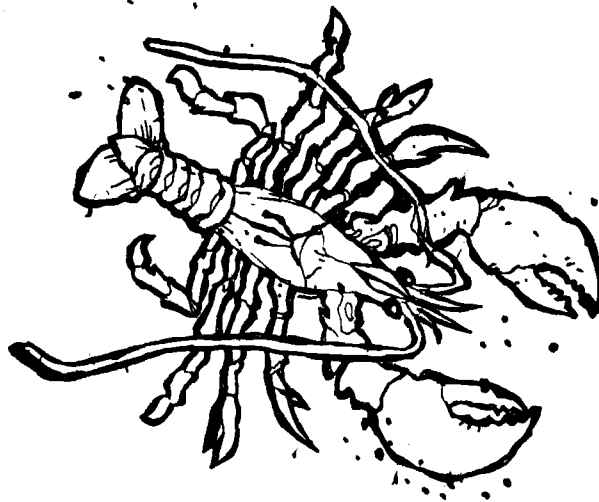
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Testimony

Ricardo Cabrera
Malanoy Fisherfolks Multipurpose Cooperative (MAFIMCO)
Don Consuelo, Ozamis City

The Malanoy Fisherfolks Multipurpose Cooperative (MAFIMCO) in Dona Consuelo, Ozamis City was organized and registered with the Cooperative Development Authority (CDA) with community-based coastal resource management (CBCRM) as its main concern.

Based on our actual experience, several government programs such as the *Biyayang-Dagat, Kilusang Kabuhayan at Kaunlaran*, and DA-Lead Projects, among others, proved unsuccessful and unsustainable. This failure was due to the following reasons: a) lack of knowledge and understanding about the program; b) dole-out mentality by project beneficiaries; and c) inadequate technical assistance.

However, at the onset of CBCRM implementation in our barangay in November 1992, through the facilities of The Network Foundation, Inc. (TNFI) and the Department of Agriculture (DA), the fisher-members of MAFIMCO realized the benefits of the program. They were very happy and encouraged to see the following initial indicators of the effects of the program through people's participation: 1) there was a decline in the occurrence of rampant illegal fishing practices like trawl, filter nets (*sanggab*) and dynamite fishing in the bay area; 2) there was continued planting of mangroves through people's initiatives; and 3) continuous conduct of meetings and planning sessions by MAFIMCO.

Our knowledge and interest were renewed through a series of meetings, seminars and other training made possible by TNFI, DA and law enforcers. Some of the training courses attended by MAFIMCO members were Human Resource Development, Coastal Resource Management, Leadership, Pre-Membership Seminar on Cooperatives, CRM Fishery Laws, Financial Management, Project Development and Management, Mangrove Management, Monitoring and Evaluation, Deputization of Fish Wardens, among others.

On the other hand, we tried to develop our knowledge, talents, and skills in an effort to help the members of the cooperative and the fishers to protect and preserve our coastal area. The immersion of TNFI organizers enabled them to teach us a lot of lessons on why we should organize. We maximized our capability-building efforts by helping other fisher-members enhance their knowledge and skills in coastal resource management. The CO from TNFI helped us a lot: facilitating our organizing efforts as well as solving some organizational problems. But most of all, cooperation and support afforded by our fisher-members contributed much to the success of the organization. The big challenge that lies ahead of us as a cooperative is to sustain the organization so that the management of Panguil Bay can be improved through the years.

Reactions to Case Presentation

ROGER RICAFORT

***Philippine Programme Officer, Helvetas
Makati, Metro Manila***

Introduction

I have been asked to react to two experiences in community-based coastal resource management. These projects are the **marine sanctuary establishment** in Danao Bay and the **Fishery Sector Program-Coastal Resource Management** in Panguil Bay. I would like to state at the outset that the following thoughts are based on the draft documentation on the two projects; these reactions will therefore have some limitations as I will, probably, miss the other interesting details - and the passion - of the oral presentations of the two experiences.

Allow me to summarize the two experiences:

- * The ***marine sanctuary establishment*** in Baliangao Wetland Park in Danao Bay in Misamis Occidental was an offshoot of a small project among the Subanens which started in 1988. The NGO involved in the project, the PIPULI Foundation, was established in 1989 mandated with the important task of ensuring the continuity of funding for the project. The project essentially involved the establishment of a 74-hectare marine sanctuary; other project components being community organization and environmental awareness, mangrove protection and reforestation, reef flat restoration and coral reef protection, alternative livelihoods and cooperatives formation, and local legislation and enforcement. The project also features the interface between the local fisherfolk, local government units, the church sector, and the NGO sector.

The second project, the ***Fishery Sector Program-Coastal Resource Management*** in Panguil Bay, Mindanao is actually about the role of NGOs in the implementation of the community organizing component of the government's FSP. The project was implemented in a bay—approximately 12,405 hectares—which is shared by 76 barangays in ten municipalities, two chartered cities, three provinces, within three regional jurisdictions. As everybody knows, the FSP addressed issues of production and conservation, as well as poverty alleviation issues, within the subsectors of coastal fisheries, aquaculture, offshore and deep-sea fishing. Specific interventions included fishery resources and ecological assessments, research and extension, local legislation and enforcement, and alternative livelihoods. NGOs were engaged to undertake the soft technology, i.e., community organizing and value formation.

The main institutional mechanism for implementation of the project was the Panguil Bay Development Council composed of governors, mayors, regional line agencies, NGOs, and the PAFC. Community organizations were encouraged to acquire legal personalities. After the termination of the project, former project personnel have constituted themselves into NGOs with the intention of continuing processes and preserving gains of the FSP.

Contrasts

What immediately strikes us is the contrast between the two experiences. The Danao Bay project started small—it actually grew out of small initiatives of a local NGO and concerned individual fisherfolk. It started with a very narrow focus, the preservation of mangroves and coral resources, and evolved into a much broader sanctuary establishment, and much later, into the wetland park management, with community organizing and livelihood components. The Panguil Bay project, on the other hand, started with a rather ambitious, national ***blueprint*** for fisheries sector development. It started, so to speak, as a prescription from the top. The first project was a simple undertaking; the second project a more complex enterprise with more complicated stakeholder relationships.

The two projects also started differently in terms of the ***resources*** the proponents had to work with at the start of the project. The Danao Bay project started practically from scratch—the PIPULI Foundation having been formed precisely to seek funds for the project. On the other hand, the Panguil Bay project had a substantial funding support to begin with.

There is also a contrast in terms of the role of the NGOs involved in the respective projects. In the case of Danao Bay, PIPULI Foundation had more control over major aspects/components of the project. In the second case, the government was the main implementor of the project. The NGOs came at a later stage and were "contracted" for a specific component of the project, i.e., social preparation, and therefore had no significant control over the components of the program.

It is interesting to note, though, that the government people involved in the FSP implementation deemed it necessary to constitute themselves into an NGO in recognition of the need to address continuing concerns after the programme has been officially terminated.

The main thing that the contrasts tell us is that the phenomenon we call **community-based coastal resources management** has come of age. Assuming various forms and mixtures, it has become **mainstreamed** - to use a current term—and has permeated different levels of development interventions among the fisherfolk and coastal communities. The amount of money pouring into projects labelled as CBCRM, especially from bilateral and multilateral aid sources, has grown significantly in the last few years.

Convergence

The two experiences, however, converge on a basic message about development work: **genuine development** is a long, arduous process. It is evolutionary, iterative, and requires **adaptive strategies**. We cannot cut development into neat little chunks of three-year, or five-year development programmes. Ultimately, this is at the core of the recognition of the centrality of the community - of the primary users - in the management of coastal resources.

The two presentations come from different starting points: one started simply and the other started on a more complex, more ambitious platform (fisheries sector development). But they converge at a basic concept/understanding of the complexity of the coastal zone and arrive at the understanding of the "**integratedness**" of a basic coastal zone

development program. What is now called community-based coastal resources management includes the **spatial** (i.e., resource unit and/or scope), technical sectoral (i.e., fisheries, aquaculture, agriculture, alternative livelihoods), and institutional (community organizations, government units/agencies, NGOs, other stakeholders) dimensions of integration.

The basic issue of territorial use rights (otherwise referred to as property rights or access rights) is, of course, unquestionably recognized as a very important element.

The two experiences converge on the basic components ingredients of a **community-based coastal resources management**, or what a big project in India calls biosocioeconomic approach to coastal resources management. A successful CBCRM program appears to require interventions in the following areas:

- * community organizing and value formation (also institutional development);
- * biophysical or technical;
- * human resource development and alternative livelihoods, linkage with other technical sectors, particularly agriculture and enterprise development; and
- * advocacy, legislation, and enforcement.

We can throw in various regulatory and non-regulatory management interventions. The mix of these ingredients vary according to the specificity of the particular locus of development.

At least at the level of formal objectives, both projects look at **empowerment** as a key concern. Empowerment is expressed in two ways - **political** (participation and decision-making) and **economic** (resource control and equity).

Celebration and Other Issues

However, these components are not new. This **technology package**, so to speak, is similar to and validated by numerous other experiences in many parts of the country. This festival, this fiesta, however, is not so much the reiteration of these elements, principles and objectives; it is not the confirmation or validation of these elements. Our celebration rather is to demonstrate that this technology package, this approach to coastal resources development, **actually works** - that this approach actually results in concrete, palpable, all-sided gains for the coastal communities or the fisherfolk.

At this point, I would want to blame bashfulness and/or basic modesty for a rather short celebration on actual gains of the two projects. The documentations, I would tend to believe and hope, probably do not give justice to the extent of successes of the projects. Both projects, while recognizing the many-sided objectives of coastal resources management programs, point to the social gains (i.e., **self-esteem**, **self-confidence**) and modest biophysical resource rehabilitation as the key accomplishments. The project reports appear to be ambivalent or not confident

about gains in other aspects (e.g., economic gains, legislative and law enforcement gains, etc.). However, as one of the project documents states, "it is difficult to organize people around abstract ideas of coastal resource management".

It is therefore important to establish a set of development **indicators** - at various programme levels -- which are negotiated among the various stakeholders.

For me, the main and most eloquent indicator of a successful project is the spontaneous replication that the project spawns, specially in the adjacent communities. This is only possible if we are able to show concrete gains.

Finally, I would like to enumerate other specific issues or concerns which I think should be continuously addressed.

- * One, in the light of the centrality of the role of the community in coastal resource management, the issue of enhancing **participation** in its various modes and dimensions is very important—how do we encourage genuine participation? How do we enable/empower the fisherfolk to strengthen their position to benefit from resource gains?
- * Two, there are various kinds of conflicts, **class conflicts** included, and power relations in communities and these should not be glossed over - how do we address this while ensuring significant participation of stakeholders? How do we contribute bringing about appropriate attitudinal changes, the enhancement of the competence and accountability of government?

- * Three, **gender issues**: as they say, women fishers comprise half (or is it a majority) of the fisherfolk population;
- * Four, the importance of a conducive **policy environment** and thus the need to link micro and macro initiatives - the need for advocacy at various levels; and
- * Five, defining the **role of the NGO** vis-a-vis community organizations -- I prefer to call this the principle of obsolescence -- NGOs should be prepared to render themselves obsolete at an appropriate time within the development process.

In the end, this festival is really a celebration of the creativity, imagination, energy, knowledge, expertise, passion and commitment that lie within the people of our coastal communities and those who work with them.

Thank you very much.

SAMUEL FORMILLEZA

**Faculty Member, U.P. College of Social Work and Community Development
Diliman, Quezon City**

Let me begin my presentation by offering a word of recognition to the people and organization behind the Baliangao Wetland Park for taking a significant collective action toward the regeneration and preservation of our natural resources. With the vast coastal resources of our country constantly under threat of extinction, their coastal resource management (CRM) initiative in Danao Bay represents a ray of hope for other groups and communities struggling to create an ecological awareness towards sustainable development.

Honestly, I feel a bit uncomfortable in making a reaction to a community experience that had been dynamic and meaningful. I recognize that this could not be captured fully and comprehensively in a written document. Once these experiences are put into words, particularly through a foreign language, they somehow lose the dynamism and meaningfulness peculiar to the community's struggle for total human development.

As a community development practitioner, my comments on the case study may dwell more on the community organizing/development aspect of the program, particularly on how it provides opportunities for the people to be empowered and be self-reliant in their development efforts. I firmly believe that, in adapting a community-based approach to CRM, we are and should be committed to the goal of people empowerment and an attitude of partnership with them in the improvement of their quality of life. This is because the problems that we

face in relation to environment, particularly to coastal resources, are not only problems of management or technological inadequacies but, more importantly, the problem of poverty that besets people who are heavily dependent on marine resources for their survival. The condition of poverty forces many of the poor fishers to overexploit or overuse the coastal resource base of our community in order to feed their families. On the other hand, they are most receptive and cooperative when it comes to efforts to protect and preserve the remaining resources once they are made aware of the effects of environmental destruction.

Let me proceed with my comments about the establishment of the Misom Sea Sanctuary, initiated by the PIPULI Foundation.

On the Establishment of the Sanctuary

The Foundation acknowledged the fact that the sanctuary was established before community organizing was undertaken. Two reasons were cited why this approach was done:

- * The feudal character of relationship which puts more reliance on traditional authority to have things done; and
- * The necessity of having something concrete for people to see in terms of what PIPULI would like to mean by CRM.

The mayor's approval and support to the project paved the way for the Foundation to carry out the establishment of the sanctuary. This kind of action from local officials is somehow initially advantageous to groups or organizations wanting to introduce new resource management measures, particularly in communities where local authorities are

expected by the people to lead in the management of coastal resources. Considering the crucial role of the local government units (LGUs) under the Local Government Code in determining what orientation or perspective to take in relation to CRM, the support of local leaders can greatly facilitate the establishment of management measures toward sustainable development.

However, I would like to point out that, as the Foundation has also recognized, local leaders' support does not ensure success unless people, especially those who will be affected by the program, are made aware of the situation and the problems brought about by the overuse of coastal resources and the necessity/urgency of changing values and methods of drawing in life's sustenance from nature. As seen by the project implementors, there was not much difficulty in putting up the sanctuary. It was in the implementation of the measures set to protect and maintain it that it encountered many problems. In other words, action from the top does not change one's values and perspective towards effective use of coastal resources, especially for those who have so much to lose when policies and guidelines are instituted to prevent overutilization of existing resources.

I agree with the Foundation that in instances like this, education and organizing should be vigorously pursued to gain support for and commitment to the CRM program, in this case, the sanctuary project.

On the Role of the Church

In terms of building people's awareness and support for the project, it is important to note how the Foundation linked with the church institution in the area. It could not be denied that the church exercises substantial influence on people's lives. Therefore, its support for issues like this and its active involvement in development programs contribute a lot in helping people realize the effects of environmental degradation. This becomes more apparent when education/awareness building activities are closely linked with the demand of their Christian faith. Based on my past experience in community organizing, the church's active support for development programs, while initially meeting opposition from the community, helps a lot in convincing people to be open to new ways of making use of our natural resources.

As affirmed by the Foundation's experience in helping carry out the Misom Sea Sanctuary, "wider community support and involvement has to be generated for the sanctuary to become sustainable."

On the Role of the People's Organization

Given the reality that law enforcement encounters so many obstacles particularly in a country where power/interest groups prevail, the implementation of a program that aims to change the destructive ways/methods of extracting the fruits of nature, in this case the sanctuary, will surely meet stiff opposition. This situation demands a strong organization and a leadership that is fully committed to the protection and preservation of ecosystems that will sustain the lives of the present and future generations. In this context, CBCRM projects should

recognize the importance and urgency of developing a strong linking/networking program. Opposition to CBCRM programs in many areas is formidable, and it is therefore necessary for people to join hands and create a critical mass that would effect change in traditional centers of power, whether national or local, relative to the sustainable and effective management of coastal resources. In many instances, CBCRM practitioners encounter many problems/difficulties when it comes to policy reforms and/or effective implementation of laws related to the protection of our environment. It becomes doubly difficult when people's organizations and NGOs carrying out CBCRM programs have to contend with limited power and resources in doing their jobs. Under this condition the development of a strong people's organization that would be actively involved in CBCRM programs is an absolute necessity.

On the Multidisciplinary Approach to CBCRM

The Foundation realized that the sanctuary project had some limitations in providing a comprehensive solution to the problem of access to and control over coastal resources, particularly to those who have given time and labor to the regeneration efforts. To me, this is an affirmation of the fact that no single program can provide a complete solution to the prevailing environment issue. Rather, this helps us recognize the importance of constant evaluation of existing programs and improving them in order to help create an integrated/comprehensive approach. Even if we may be successful in providing sanctuary to the fishes and other living things to regenerate and be productive, the issue of how people can have equitable access to and control over these resources is an equally important one.

On Alternative Source of Livelihood

The establishment of alternative resource management programs designed to provide enough time for coastal resources to regenerate and recover its productive capacity necessitates the provision of alternative means of livelihood. In this instance, the Foundation helped in the development of livelihood programs to complement the sanctuary project. It was successful in providing immediate employment to those affected by the establishment of the project considering that its effect may be seen only in the long run. It is important, however, to explore other alternative ways, particularly land-based livelihood projects to complement the primary source of living which is marine-based. The possibility of developing appropriate technologies in processing marine products to increase their value may also be feasible. Considering the seasonality of products from the sea, it could be helpful to look into food preservation technologies that enable one to meet the market demands even during lean seasons.

In conclusion, CBCRM programs like the Misom Sea Sanctuary represent a radical concept in resource management that demands a change in perspective and in approaches that greatly contribute to the destruction of the environment and the unequal distribution of the fruits of nature. In this context, it is important to recognize that such community initiatives should encompass all aspects of people's lives at all levels. CBCRM represents an alternative vision, mission and goal that seeks to provide new concepts and methods of preserving, caring for, and using the coastal resources for the sustenance of life now and in the future. Any and all actions for the protection of the environment and preservation of its productive capacity demand simultaneous action in the politico-legal and socio-cultural arena.



Part Two

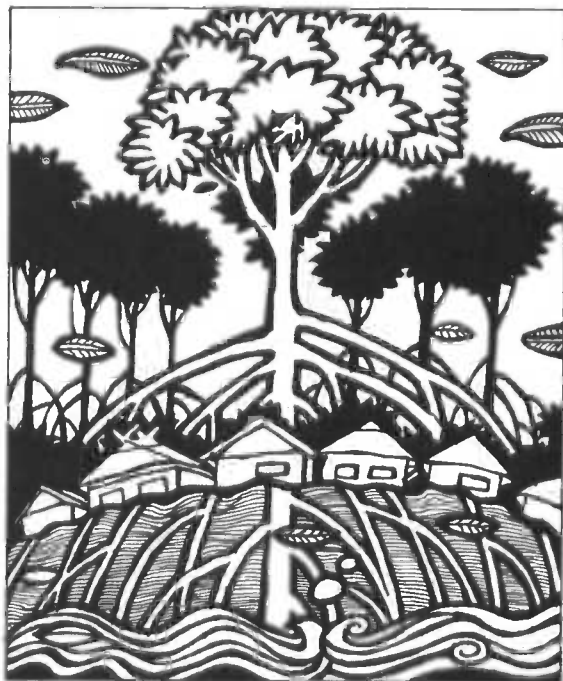


Visayas Case Studies



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

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The implementation of the Cogtong Bay Project required an effective management approach such as CBCRM to overcome the problems brought about by the open-access nature of resource use prevailing in the bay. Mangrove management in the area began in 1985 when the Department of Environment and Natural Resources (DENR) implemented the Integrated Social Forestry (ISF) project in Barangay Cogtong. The project, however, covered only a limited area of mangroves, leaving behind a vast portion in a free-for-all use.

This nature of resource use has led to the conversion of mangrove areas into fishponds, the uncontrolled cutting of mangroves for firewood on a commercial scale, and the transformation of the bay into a haven for illegal fishers.

The role of Rainfed Resource Development Project (RRDP) was to facilitate the transformation of the community from mere resource users to resource managers and beneficiaries of coastal resources. The process involved equipping people with the capacity to undertake environmental rehabilitation and protection and the introduction of coastal resource management (CRM) interventions, as well as addressing the issue of property rights.

The people were the key players in the program, redefining their roles in the utilization of the bay's resources. Thirteen people's organizations and two fishers' federations were established in 11 barangays. They became the backbone of CBCRM in Cogtong Bay.

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 were initiated by academic and research institutions. As early as 1974, Silliman 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, Silliman University initiated the Marine Conservation Program (MCP) in 1984 to organize community-based resource management (Ferrer, 1994).

The pioneering efforts by the academic and research institutions were 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 the Cycle II phase of its plan for Calendar Years 1987-1991, 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 community-based coastal resource management (CBCRM) experience confirm that resource management issues are best addressed with community participation. This is the focus of this case study.

Site Profile

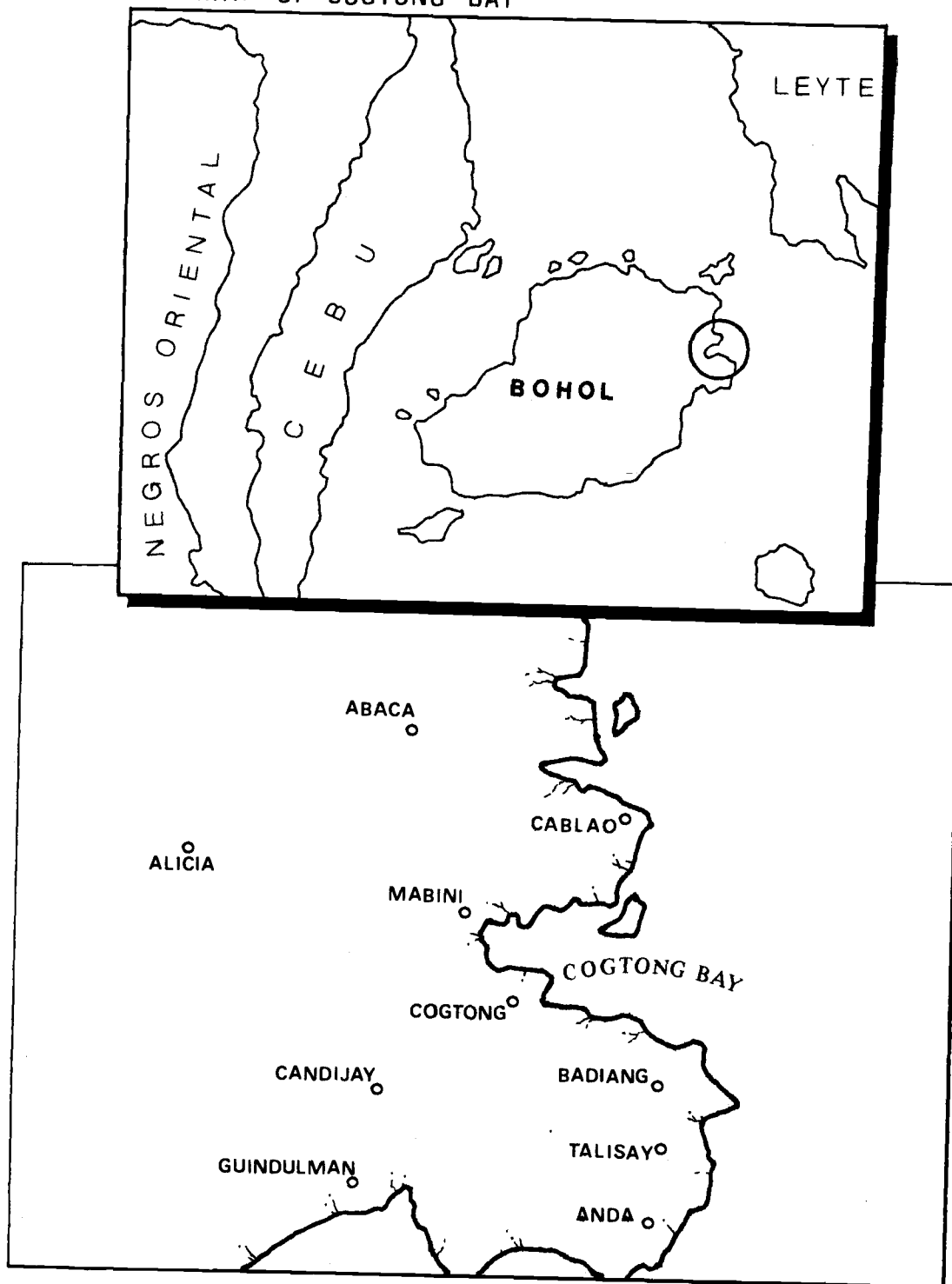
Cogtong Bay is located in Southeastern Bohol in the Central Visayas Region (see Figure 1). Two municipalities, Mabini on the north and Candijay on the south, share the bay's 10,000 hectares of municipal waters which include 2,000 hectares of mangrove forest. Of these, 1,400 hectares are still intact and the rest have been converted to fishpond.

Fourteen coastal barangays border Cogtong Bay, four in Candijay and 10 in Mabini. The national highway bypasses the bay proper but passable secondary roads extend along the edge of the mangrove areas nearly to the two points which mark the south and north points of the bay.

The bay is bounded on the north by Cabulao point and on the south by Lumanok point. The outer portions are bordered by limestone hills and a thin fringe of mangroves. The inner portion of the bay has extensive mangrove stands bordered by irrigated rice fields and coconut lands. Three rivers empty into the inner portion of the bay which is very shallow and contains 3,000 hectares of seagrass beds. Four mangrove islands (Lumislis, Cati-il, Tabundio and Calanggaman) totalling an area of 275 hectares are found at the outer edge of the seagrass beds. The islands have been declared mangrove wilderness by the national government. Sparse coral formations fringe the outer edges of the seagrass 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 two to three kilometers east of the seagrass beds.

Fishers and other dependents on mangrove resources constitute about 15 % of the workforce in these two towns, with a total population of 52,500 persons in 9,300 households. Fishing is almost entirely small-scale, with hand lines, gill nets, spears, cast nets, fish corals and fish traps being the dominant gear. One commercial fishing gear called bag net (*basnigan*) is based in Candijay and five Danish seine (*hulbot-hulbot*) are based in Northern Mabini, just outside the project site.

FIGURE 1 MAP OF COGTONG BAY



Mud crabs (*alimango*) and mangrove clams (*imbao*) are important mangrove fisheries while shrimps and prawns are caught commonly in the rivers. Rabbit fish (*danggit*), mullet, blue crabs, sea cucumber and seaweed (*gracilaria*) are taken from the seagrass 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 source of income for few families in large (200 or more hectares) mangrove areas. Agriculture dominates the economy in both municipalities. In 1985, average family income was reported to be P5,000.00 annually.

Key Issues

Conflicting Government Policies

A conflict in resource use arose in Candijay in April 1989 when workmen from outside the community began clearing the 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 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 well-stocked with mangrove trees. The developers have fishpond lease agreements (FLAs) 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 related to CBCRM project credibility. Area residents started asking why they were 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 needed to be consistent in its resource use policies if projects like Rainfed Resources Development Project (RRDP) were to succeed. As the RRDP staff were 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 was the government's policy on fishpond development. The Department of Agriculture (DA) provincial staff had been strongly encouraging 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 been refusing 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 has remained intact. "Should development be allowed to proceed considering the new DA policy which calls for 'no new fishpond in mangrove areas'? The government needs to speak with a single, rational voice (Vande Vusse, personal communication)."

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. Several persons began fishpond development and one is currently attempting to expand his area by clear cutting mangrove trees. Site staff have been drawn into the struggle because they represented the DENR (for this project) in mangrove management, and to tolerate clear-cutting in mangrove forests 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 that any illegal fishpond development be dealt with promptly and firmly.

Fishpond Dike Blocking a Natural Waterway

An existing (and probably illegal) fishpond in Barangay Panas included construction of a special dike to tap a freshwater stream and divert the water into the pond area. This action flooded springs used as a source of drinking water for 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. No. 704. Barangay residents appealed

to the government in 1986 when this dike was constructed and were promised action. The DA and the Department of Public Works and Highways had done no more than point fingers at each other while the illegal activity persisted and 100 families were deprived of their water supply.

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

Issues on Illegal Fishing

The adverse effects of illegal fishing, especially dynamite fishing, have contributed to the degradation of the fishery resources of Cogtong Bay. Blast fishers reportedly came from Tintinan, an island off the coast of Ubay, an adjacent town to the 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 Danish seine known locally as the *liba-liba* or *hulbot-hulbot*. The gear is efficient in catching fish and usually uses illegal fine-mesh nets. The method is destructive to seagrass and soft bottom habitats.

Addressing Property Rights

Cogtong Bay has a large mangrove area. Nearly 2,000 hectares were classified as timberlands. About 700 hectares have been released for fishpond development or illegally cleared for that purpose. The remaining 1,300 hectares remained intact but needed a management program to sustain them.

In 1984, portions of the bay's 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 Calanggaman, totalling 275 hectares. About 330 hectares of mangrove swamp forest preserve extended six to seven kilometers from Barangay Panas to Lamanok Point in Anda.

Mangrove management in the project site began in 1985 when the DENR through the Bureau of Forest Development (BFD) implemented the Integrated Social Forestry (ISF) program in Barangay Cogtong in Candijay. The rest of the mangrove areas remained under an open-access or a free-for-all arrangement of resource use.

In open access, which is actually no management regime at all, property rights are absent and access is free and open to all. Theoretically and legally, coastal resources are state property. Yet, although the state claims ownership, it has inadequate control over these resources. This inadequacy has in fact led to the de facto open access nature of property rights over coastal resources (Rivera, 1995). The open-access character has led to the uncontrolled destruction of mangrove resources through extensive cutting for firewood or for fishpond development.

The RRDP program wanted to shift the community's traditional role as mere resource users to managers as well. To achieve the desired transformation, the RRDP program addressed the resource use issue of property rights over the coastal resources. In close coordination with the Integrated

Social Forestry (ISF) program of the DENR, the project reforested 110 hectares, and delineated 108 hectares as enrichment areas and 25 hectares for Assisted Natural Regeneration. Parcellary survey covered 349 hectares. Two hundred sixty-five (265) beneficiaries were awarded the Certificate of Stewardship Contracts through the smallholder mangrove management system.

Assigning property rights to a defined community of users is the backbone of CBCRM under RRDP. It means that certain communities effectively become the primary managers and beneficiaries of coastal resources (Rivera, 1995).

The Candijay-Mabini Mangrove Rehabilitation and Coastal Resource Management Program

The Rainfed Resources Development Project (RRDP) is a resource management program of the 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 technology, 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 calendar years (CY) 1987-1991. It emphasized implementation of broad-based field projects applying lessons learned in Cycle I. It also continued project field testing and exploring with 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 a duration of two years (January 1989 to September 1991). Upon the expiration of the contract, 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 22 March 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 its partners with the 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 is to rehabilitate 360 hectares of mangrove area under a community-planned approach which will provide 480 families with Certificate of Stewardship Contracts (CSCs). It also aims to install approximately 240 artificial reef clusters in coastal waters adjacent to mangrove rehabilitation areas in order to increase fish population.

The program's strategy is people's mobilization as the "means" and the "end" to project success. It is also an effective strategy for nationwide projects in the upland and mangrove areas.

The RRDP's resource management principles are:

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 the choice to accept 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.** The residents are assisted in seeing and understanding their real situation, planning how to deal with it, and defining 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 the existing resource towards its 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 whom the community residents can see themselves 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 instruments such as the Certificate of Stewardship Contract (CSC) would 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.

The project has five major components. These are:

1. Community Organizing;
2. Mangrove Management;
3. Artificial Reef;
4. Mariculture; and
5. Infrastructure Building.

Community Organizing

The project's community organizing (CO) component took the lead role in the overall program implementation. This component, through the project catalysts (community organizers), established the community organizing processes including the establishment of people's organizations, awareness drive, and capacity building 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 CO component had two phases: social preparation and organization building.

Mangrove Management

This component is one of the main coastal resource management interventions. Three major activities were incorporated in this component. These are 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.

One of the key elements in the smallholder system is the security of tenure. The project addressed the question of property rights of the project beneficiaries through the issuance of the Certificate of Stewardship Contract (CSC). However, CSC as applied to mangrove areas had many flaws. A more appropriate tenurial instrument, the Mangrove Stewardship Agreement (MSA) was formulated by the DENR later on.

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 species for reforestation is the *bakawan* (*Rhizophora spp.*) Other species were also considered such as *tabigi* (*Xylocarpus Granatum*) and *api-api* (*Avicennia spp.*). Areas technically suitable to mangrove reforestation and management were delineated for project clients. Specific areas for planting were earlier agreed upon through public meetings with barangay

officials and the clients themselves. Areas used for boat lanes or passageways and beaches were not planted.

Before proceeding with planting activities, each applicant for stewardship contract was required to develop a farm plan. The plan should state in detail areas for new and enrichment planting, planting species to be used, and maintenance procedures.

Sea farming beneath the mangrove canopy was conducted in Barangay Sagumay Daku. Participants in this activity experimented with "brush holes" - small 3m x 10m x 1m deep holes filled with brush. Local fishers 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 use it as their base during low tide. During high tide, they forage in the food-rich mangrove shallows. They grow to marketable size in nine to 10 months.

Cogtong Bay also boasts of large areas of mangrove forest dedicated to specific purposes. 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-il, Tabundio and Calanggaman. In the wilderness areas, management system such as the Assisted Natural Regeneration (ANR) was used.

Artificial Reef

Concrete artificial reef "X" modules developed by the project consultants were deployed in the site. These were constructed

by the fisher-participants with materials provided by the project. The concrete artificial reef modules were less expensive per cubic meter of reef volume than the commonly used bamboo. They were also considered to be more practical because they were relatively longer lasting.

An extensive area along the 10 fathom depth contour across the mouth of the bay has been designated as artificial reef zone of the project. The concrete "X" modules were dropped individually to form a cluster of 265 modules. The installation of the artificial reef was done by the fishers themselves.

Mariculture

The shallow water of Cogtong Bay presents the fishers with opportunity for small scale sea farming and ranching. To complement the mangrove rehabilitation and management activity, mariculture was incorporated in the program.

Selected fishers' associations cultured green mussel or *tahong* in shallow areas of the bay, and oyster culture or *talaba* was undertaken at the mouth of Sagumay River in Barangay Cogtong.

Infrastructure Building

The project's infrastructure component involved the construction of pumpboat and flatboat. These were essential equipment in carrying out the activities in the resource management interventions particularly the artificial reef. The transport of the artificial reef from the construction site to the placement site was best done with the use of the flatboat. The pumpboat was used to

tow the flatboat carrying the artificial reefs. It was also used when program participants gathered 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 galvanized iron (G.I.) sheets and some lumber from its demolished old municipal hall. Barangay residents provided labor while RRDP provided counterpart fund. 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 empowering communities to undertake their own development and manage their renewable resources.

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

Community-based approach is a people-centered approach. If the coastal residents are the real day-by-day resource managers, they must also be the implementors of any

program which seeks to manage those resources. The community-based approach involved a number of specific activities which include:

1. **Community organizing** to catalyze people to begin to work together on problems of mutual concern. This involved formation of groups with common interests and working with the local government planning unit, i.e., the *barangay development council*.
2. **Education** which heightened the people's awareness of the forces, both natural and social, which affect their lives.
3. **Situational analysis**, a process facilitated 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 a project cycle, the process was repeated and the new situation was analyzed.
4. **Identification and training of local leaders** within the community who can assist in the community organizing process as well as the transfer of technology.

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 manner of personnel assignment hastened the community study, integration and identification of potential leaders.

The scheme also recognized the difficulties of working in coastal 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

Resource use in Cogtong Bay was unabated over the years because of free access. 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 interest and participation among the barangay residents and catalyzed potential for further development of the resources in 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 rapid destruction of mangrove, others even encouraged fishpond development to increase fish production. The situation demanded a collective response 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 get their act together to prevent further destruction of the mangroves and other fishery resources. Part of this awakening phase included convincing coastal communities of the importance of the bay's resources to their daily needs.

During the initial stage of community organizing, the project staff identified prospective participants to address management concerns of the program. Following project criteria, participants must be coastal residents dependent (totally or partly) 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 11 barangays and sitios. The first that was organized was the *Panaghiusa sa mga Gamaying Managat sa Cogtong (PAGAMACO)* which consisted of 41 members.

The formation of people's organizations was institutionalized with the formulation of constitution and by-laws by each organized people's organization (PO). 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 (BRW) of the Department of Labor and Employment (DOLE).

Legitimizing people's organizations 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 participation by women than by men. Of the total 405 participants, only 60 or 15% were women, compared with 345, or 85% 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 activities that degrade the coastal resources highlighted the community's participation in the program.

The two key issues of conflicting government policies and illegal fishing 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 were mostly 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 were 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. People power loomed.

The struggle continued, finding its way to a legal battle. Fishpond developers insisted on developing the fishpond on the solid ground that they have the legal document, an 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

complement weak responses from concerned government agencies. The project requested the formal deputization of legitimate FA officers and members as forest rangers to bolster the program's protective role. However, until the project was terminated, DENR had not taken any action regarding the request.

The federation of fishers' associations in the two municipalities addressed the issue of illegal fishing as well. During their regular monthly meetings, issues on illegal fishing were discussed, and in some instances, they agreed to conduct routine seaborne patrols. The activity resulted in the confiscation of illegal fishing gears from illegal fishers, and the driving away of 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, namely social preparation and institutionalization.

Existing fishers' or mixed fishers and farmers' groups were utilized wherever they existed. There was no need to form new groups. These groups were strengthened through training and hands-on experience. Networking activities were also undertaken to link them with local government units (LGUs) 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 of information drive among prospective participants informing them about the project, its goals and objectives, technology interventions and the environmental situation in the locality;
2. Holding of consultation meetings among local government units, attending barangay and municipal council sessions to generate their support;
3. Formation of fishers' associations, including their registrations with appropriate government agencies; and
4. Conduct of training 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 be detrimental to their future.

Some problems and issues in project implementation were addressed at this phase. The conversion of mangrove areas into fishponds and the illegal fishing grounds were among the resource management problem. Coastal residents were drawn into struggle to stop these and any further abuse of the resources.

The institutionalization phase on the other hand, was designed to sustain the efforts after the project ended. 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 into the *Pederasyon sa mga Gagmayang 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 fishers' 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 (DTI). The MEDP's credit program entitled each FA to avail of credit amounting to P50,000.00 with an interest of 7% per annum, payable in three years. The Department of Social Work and Development (DSWD) also extended livelihood assistance to an FA in Barangay Minol, also in Mabini, amounting to P50,000.00. FAs in Candijay opted not to borrow since they were the project's beneficiary 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 held in Cebu City from 11-13 September 1991, was a forum for leaders of rural workers organizations to establish networks in Region 7, Central Visayas.

5. **Conducting training on basic financial management, strategic planning and cooperative orientation.** Part of the institutionalization process was to provide FAs with training on financial management and development planning. These training courses were conducted in cooperation with the Department of Trade and Industry (DTI) 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 the phasing out of the RRDP.
6. **Cooperative formation.** The project had encouraged the FAs to convert themselves into cooperatives by providing cooperative orientation and training, considering that some FAs have already engaged in economic activities using their loans. Cooperative formations, however, were options left to FAs. Only two FAs converted themselves into 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 smallholder mangrove management.** The Certificate of Stewardship Contract (CSC) and Mangrove Stewardship Agreement (MSA) were tenurial 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 (DENR) after compliance with the requirements stated in the contract.

Throughout the institutionalization process, the people became the project implementors, 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.

1. **On fishpond development within mangrove rehabilitation areas.** Fishpond development, both legal and illegal, within the mangroves discouraged people's participation in undertaking reforestation and other activities.
2. **On government's resource management policies.** Conflicting government policies on resource use came to surface when an empowered community prevented fishpond development in a thickly forested mangrove area. Two government agencies, the DA and the DENR, were at odds as to whether the fishpond should be developed or not. It is recommended that government policies on resource management should have a common perspective and conflicting policies should be reconciled.

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 into 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 has been attributed mainly to the open-access character of the coastal resources. This situation has attracted resource users even from outside the province. A coastal management scheme must be initiated by the local government units, in the absence of a well-funded resource management program from the government or other development agencies.
5. **On expanding the coverage of the project.** There are barangays outside of project area with thick mangrove areas that need management. Those areas have become haven for mangrove cutters and refuge for illegal fishers; efforts must be undertaken to reach these areas before they are destroyed.
6. **On redefining the coastal zone.** 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, flood waters from the mountains cause siltations in the shallow portions of the bay. Where possible, the watershed must be included in the coastal resources management.

Postscript

The Candijay-Mabini Mangrove Rehabilitation and Coastal Resource Management Project started implementation with USAID funding in January 1989 and ended in September 1991. The project was extended 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 22 March 1995 by The Network Foundation, Inc.

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

Fishers' associations were still intact but were not as vibrant as when the project staff were 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 which obtained loans from the DTI and DSWD have completed payments, and some have extended payment schedules up to 1995.

The community protection efforts were still effective on the mangroves, especially among CSC beneficiaries who are maintaining their areas. The efforts to eliminate illegal fishing, which went into high gear during the project implementation, have 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 have intensified their tax collection efforts,

including collecting fines only on confiscated illegal fishing gear from illegal fishers. Such penalties allow illegal fishers to retrieve their fishing gear and go back to their trade. The scheme has demoralized active FA members involved in the protection efforts and the whole community as well.

The mariculture project initiated by RRDP was not sustained. Mariculture beneficiaries from Barangay Cogtong complained of the high cost of maintaining the project particularly the cost of materials for replacing materials like bamboos.

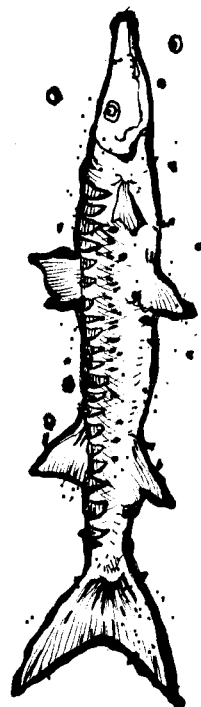
The project had a great impact on the community especially that the community was successful in preventing fishpond development in mangrove areas. Moreover, reforestation activities and other management activities were still sustained by the beneficiaries. The municipal government of Candijay and Mabini had an ordinance banning the sale of mangrove firewood outside their respective municipalities.

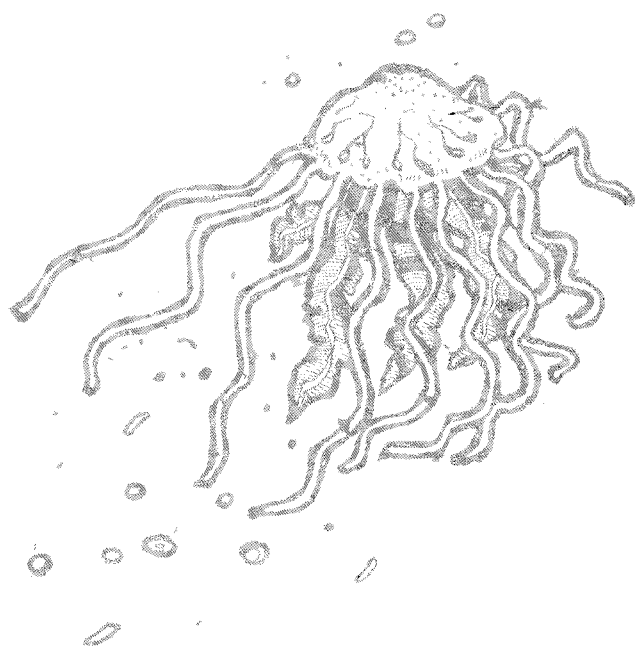
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The Fishers of Talangban: Women's Roles and Gender Issues in Community-Based Coastal Resources Management

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This paper analyzes the Filipino women's situation in coastal communities, particularly those engaged in fisheries. It employs social and gender analysis as an important framework for a holistic understanding of the issues in community-based resource management particularly in the coastal zone. The author draws her ideas from her direct experience in assisting the establishment of a community-based coastal resource management program in Batan, Aklan; from a review of literature on the subject; and from exchanges with colleagues who have been working with women in fisheries and coastal communities.

Social and Gender Analysis in Fishing Communities

Gender is often left out as a variable in development programs, including those on environmental resource management. Most literature focus on the bio-physical components of ecosystems and the technical aspects of production efficiency, ecological conservation and rehabilitation. Recently, there is growing attention to the unequal access to fishery resources in fishing communities and an advocacy for the empowerment of poor fishers. However, most researches and development programs still generally regard fishers as men and remain oblivious to women's direct participation in fishing and their contribution to the fishing industry.

Social and gender analysis recognizes that the processes of resource and surplus extraction in fisheries create marginalized and oppressed sectors, fishers both men and women, among them. Fishery technology and development programs promoting such technology have varying effects on men and women in a coastal community.

Mabunay (1995) noted the bias of research procedures in some studies of fishing villages in Asia which undervalue the role of women in the economic process. Research projects employed male field workers who depended on male informants who also tend to designate men as immediate beneficiaries of rural and/or fishery development projects.

Recent studies (Davis & Nadel-Klein, 1988; Illo & Pollo, 1990; Tungpalan, et. al. 1987; Sobritchea, 1993) however indicate that oftentimes the "fisherman" is also a woman. Women appear as commercial fishers, fish plant laborers, proletarian processors, subsistence or artisanal fishers, processors and marketers, political agents, financial managers, dependent housewives, and complementary partners in a wide variety of ecological, cultural, political and economic arena (Davis & Nadel-Klein, 1988).

Fishing as a way of life depends on women's unpaid as well as waged work. The patriarchal view of work created a reproduction and production hierarchy in the sexual division of labor. In Philippine society, women are primarily expected to do reproduction work. This is often unpaid, confined to the home, routinary and just as physically and emotionally taxing as paid work outside the home. On the other hand,

men's domain is public production or paid work outside the home which is highly valued more than women's reproductive work. Therefore, women directly involved in fishing are more likely to be referred to as helpers or auxiliary fishers assisting their husband-fishers in handling simple fishing equipment or are relegated to shallow-water fishing and gleaning, fish processing, trading, and mending of nets. Illo and Polo (1990) emphasize how the women are socialized into, and interact along, work roles more associated with the home than fishery. They are socialized into being female, with roles and responsibilities revolving around the home and housework; on the other hand, they were taught to be more than female, to work alongside men.

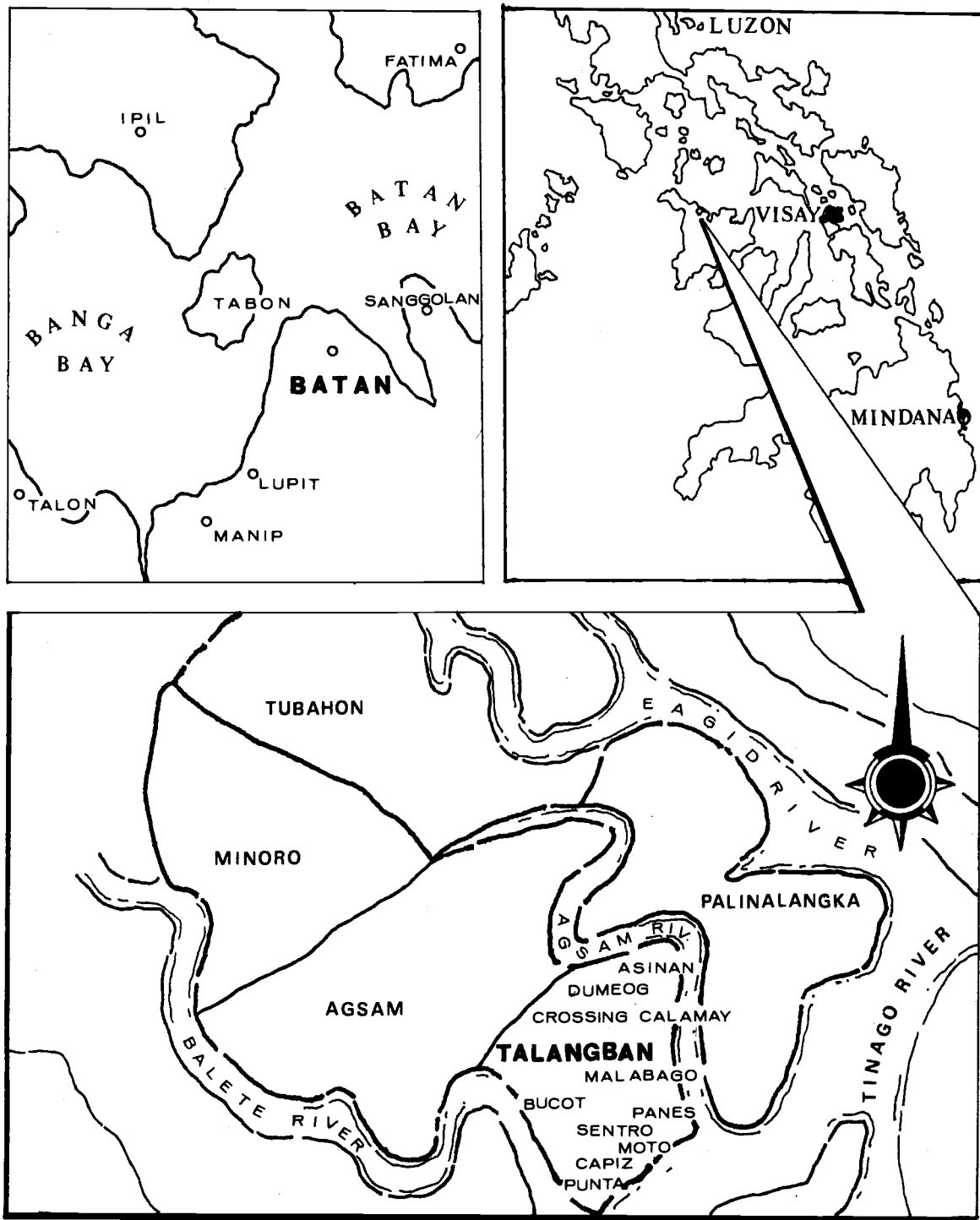
The nuances of women's role in coastal zone management is better illustrated through a case study of the Batan Bay coastal communities focusing on the Talangban Fisherfolk Organization or the *Katibyugan it Mangingisda sa Talangban* of Barangay Camaligan, Batan, Aklan. Talangban is located in an inner river tributary of Batan Bay, southeast of Aklan province.

The Batan Bay Environment

Batan Bay is located in the central Philippine island of Panay in the province of Aklan. It lies on the eastern side facing the Visayan Sea near the boundary with the province of Capiz (see Figure 1).

Batan Bay and the adjacent Banga Bay, more popularly called *Tinagong Dagat* by the locals, comprise a semi-enclosed estuarine with a 2.4 kilometer-wide opening

FIGURE 1 MAP OF BATAN BAY, AKLAN



between Batan and Dumaguít points. Batan Bay has a total area of 765 hectares, 40% of which is utilized by fishers with passive gears. Banga Bay has a total area of 668 hectares, 60% of which is also used by fishers with passive gears.

Batan Bay and its tributaries are shared by five municipalities with the municipality of Batan having jurisdiction over 60% of the water area. Both bays support a wide range of species of fish and invertebrates and host a range of fishing, aquaculture, and water navigation activities. Total fishery production (excluding mussels and oysters) is estimated at 654 tons per year, 46% of which comes from Batan Bay, 30% from Tinagong Dagat and 24% from the tributaries. The estimated area of fishponds is about 2,400 hectares which is equivalent to the total area of mangrove swamps.

A sharp decline of catch has been observed in recent years. Among the major problems in the area is heavy siltation of about 17.5 centimeters per year. This is caused by denuded mountains around the bays, the loss of mangroves, and the congestion of stationary gears which impede water circulation. Pollution from housing settlements, fishponds, and farms, and oil and garbage spill from ships and navigational vessels also compound the problem.

Sitio Talangban, Camaligan, Batan

Talangban is one of the five sitios of Barangay Camaligan in the town of Batan, Aklan. It has a population of 607 distributed in 116 households, or about 31% of Barangay Camaligan's total population.

The sitio, being almost entirely by a winding river system, resembles an islet (see Figure 2). The highest elevation is only about 80 meters above sea level. The sitio's feeder road is flanked by mudflats, much of which have been developed into fishponds or fishfarms.

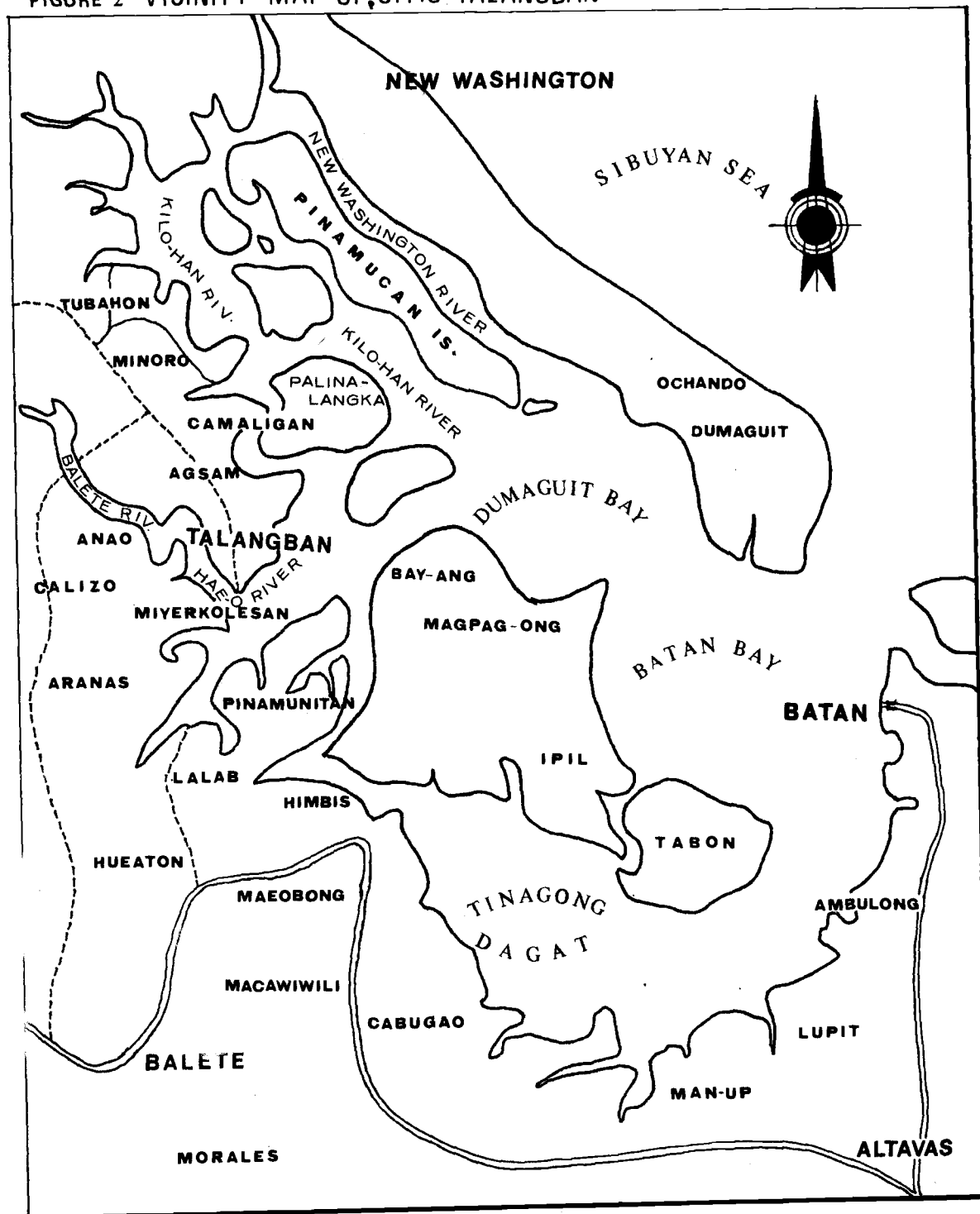
Around 80% of the area is agricultural land. Besides homelots and gardens, there are small fields planted with rice, coconut, *nipa* as well as patches of banana and bamboo groves. The physical and social environment is intimately tied up with the riverine setting that surrounds most of the village.

Most proximate is the Hae-o (Jal-o) River, essentially a brackish water body, the salinity of which increases towards the mouth of the Batan Bay. The others are Balete River, Kil-ohan and Agsam. There are only muddy bottoms throughout this river system; there is no grassy vegetation nor any coral reefs, although some banks still abound with the oysters at Talangban.

Most households engage in fishing by operating stationery gears such as fish corals, lift nets, filter nets, barrier nets and using simple implements such as handlines and crab pots. They also glean oyster and other edible shells around the mangrove areas. Others work as seasonal laborers in fishponds. Average annual income is estimated at P17,000 or just a little more than P1,000 monthly.

A gender-disaggregated activity profile of Talangban reveals the following division of labor in various activities:

FIGURE 2 VICINITY MAP OF SITIO TALANGBAN



Activity Profile: Camaligan, Lalab, Magpag-ong, 1993 (based on the fieldwork records, Alabado, Dionisio and Patriarca)

Activity	Adult Male	Young Male	Adult Female	Young Female
A. Household				
Cooking			***	***
Washing Clothes			***	***
Washing Dishes			***	***
House Cleaning			***	***
Fuel Gathering		***	***	***
Water Gathering	***	***	***	***
B. Farming				
<i>1. Land Preparation</i>				
Plowing	***	***		
Harrowing	***	***		
Dike repair	***	***		
<i>2. Planting</i>				
Seedling preparation	***	***	***	***
Transplanting	***	***	***	***
<i>3. Maintenance</i>				
Fertilizing	***			
Pesticide application	***			
Herbicide application	***			
Weeding	***	***	***	***
<i>4. Harvesting</i>				
Cutting	***	***		
Threshing	***	***	***	***
Drying	***		***	
<i>5. Poultry/Livestock Raising</i>				

<i>6. Home Gardening</i>				

C. Aqua Culture Production				
<i>1. Pond Preparation</i>				
Cleaning of pond	***			
Drainage/drying	***			
Fertilizing	***			
Filling of pond	***			
<i>2. Releasing of Fingerlings</i>				

<i>3. Harvesting</i>				
	***	***	***	***

Activity	Adult Male	Young Male	Adult Female	Young Female
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D. Marine Fisheries Production

Letting Down the Nets	***	***		
Raising of Nets	***	***		
Mending of Nets	***		***	
Processing of Catch	***		***	
Selling of Catch			***	
Shell Gathering		***	***	***

E. Copra Gathering

Gathering of Coconuts	***	***		
Halving of Nuts	***	***		
Preliminary Drying	***	***		***
Extraction of Meat	***	***		***
Drying of Meat	***	***		***

F. Nipa Thatching

Cutting of Nipa Stalks	***			
Slicing Leaves from Stalks	***	***		
Bundling	***	***	***	
Transporting	***			
"Pipis" (Sewing)			***	
Selling	***		***	

G. Daet Weaving

Acquisition of Buntal			***	
Fiber Extraction	***	***	***	***
"Pagkiskis"			***	***
Combing			***	***
Washing			***	***
Boiling			***	***
Solar Drying			***	***
Connecting Fibers			***	***
"Sabungon"			***	***
"Sugponon"			***	***
"Eikison"			***	***
Weaving				

H. Community Activities

Local Government	***			
Church Activities	***	***	***	***
Social Dances	***	***		***
Market Days	***		***	
Cockfights	***			
Athletics	***	***		***

Women's Contribution in Environmental Resource Management

The women of Talangban play multiple and strategic roles in community livelihood and environmental resource management. Recognizing these important roles is necessary in designing sustainable community-based coastal resources management (CBCRM) programs.

1. **Women are primary food producers in farming and in fishing.** Most coastal communities are farming-fishing households due to the seasonality of activities and income from both types of livelihood and due to the need to diversify income sources.

Women are farmers accomplishing important stages in rice production, specifically planting, weeding, harvesting, post-harvest and marketing. Women tend home gardens and raise livestock and poultry which are sources both of food at the family table as well as of cash income.

Women are fishers especially in shallow waters along rivers or beaches. Together with children, they catch fish and collect edible shellfish for home consumption or for the market. They row *bancas*, install fishing gear, and haul nets with their husbands and other male members of the family. They mend nets and maintain the fishing gears. They salt and dry fish and process food to store it for lean days or to generate more income.

2. **Women are traders** of fish, other locally produced petty commodities and consumer goods retailed in *sari-sari* stores. As soon as the catch is landed, women bring these to their *suki* (regular customer or wholesaler) or peddle the fish around the village. They also peddle vegetables and home-cooked food. This activity is particularly significant in keeping the local economy going.

3. **Women are consumers and resource users.** Women gather plants and collect marine products for food consumption and for the market. They collect *talaba* (oysters), *tahong* (mussels) and other edible shellfish along river banks. They cut *nipa* and coconut palms and weave them into thatches for their own use or for sale. They weave baskets from *buri* (*Raphia pedunculata*) for storing grains or strip *buri* stalks and weave them into raffia cloth. Less practised nowadays is weaving fine *piña* cloth from pineapple leaves.

Women gather fodder for animal feeds and wood for fuel. Women do the laundry using well water and fetch water for the family's use at home.

4. **Women are resource managers.** They plan and allocate their meager income and the resources at their disposal for the multiple needs of the family. They transact credit when resources are inadequate and advise the family members on their

consumption patterns when resources are scarce. They train the young by example on conserving and recycling resources such as water, fuel and food.

5. **Women are housewives and caregivers.** They are mostly occupied with childbearing, child rearing, housekeeping and other so-called reproductive tasks which nurture the health and general well-being of their husbands and other economic producers in the family or household.
6. **Women are community volunteers and development workers.** As an extension of their caregiving role in the family, women take on unpaid community management work such as being day care workers, barangay health workers, barangay nutrition scholars, Parents and Teachers Association (PTA) members and officers, and church volunteers.

Women's View of Work and Livelihood

Women's interrelated functions in reproductive work at home and in productive work outside the home is succinctly captured in the themes "*pangabuhì*" and "*pangita*" which is documented in Ma. Luisa Mabunay's study of Talangban women (1995).

Pangabuhì refers to reproduction involving life/sexuality. It stems from the root word '*buhì*' (literally "life", "to live" or "being alive"). Figuratively, it also means to survive, and is often used in general and ambiguous ways.

Pangita comes from the root "*kita*" (literally, "to see" or "a find"). In the contexts in which it is used, it insinuates a form of gain, as reward or profit. *Pangita* signifies diverse aspects of production specifically in terms of work and livelihood. '*Kita*' is closely associated with a source or '*ginnabuoean*' (literally, "where one gets something"). The reference is often for a specific expense item and indicates a monetization of the *kita*.

Juxtaposed with *pangabuhì*, *pangita* reflects the narrower and conventional conception of production for a "livelihood", as a means of sustaining life, maintenance of living and synonymous with sustenance or subsistence. In combination, as "*gapangita' it pangabuhian*", the terms denote active pursuit of ways and means by which to live or succinctly "working for life". It implies the connectedness of various aspects of women's work as one aspect of their living.

Mabunay (1995) proposes the following schema in delineating *pangabuhì* and *pangita* as viewed by the women of Talangban:

PANGABUHI	PANGITA
Reproduction	Production
Life	Livelihood
Sexuality	Work
Self-Provisioning	Commoditized
Home	Society
Private	Public
Family	Household
Strategic	Practical
Women	Men

Women articulate the delineation of men's and women's *pangita* or *pangabuhi*. Women describe their occupation as 'sa *sueod baeay*' (within the house) or as housekeeper, homemaker or housewife. Men's work is 'sa *liwan*' (outside or beyond the home).

The connectedness of *pangabuhi* and *pangita* are key concepts and principles from which we can learn in setting the vision and strategies of CBCRM.

Gender Issues in CBCRM

Women are most negatively affected by environmental degradation and resource depletion. The changing environmental and social conditions affecting the local fishery resources and activities contribute to the shaping of women's work and lives at Talangban. At the same time, changing circumstances push women into situations which open new avenues and opportunities. Most of their undertakings indicate deliberate efforts to contribute more actively to their households' *pangabuhi* and *pangita*. However, there are several factors which impede women's full participation in a sustainable development process.

Among the key problems and its effects on women are:

1. **A degraded and depleted environmental resource base breeds poverty, results in the further overexploitation of such resources and the marginalization of women.** In the past when the rivers and bay were accessible to all, women, alongside men, actively fished along the shores with simpler

technology, with less effort and less time. Now that mangroves are gone, and fishponds have appropriated most of the fishing ground, women fish less and are confined to edible shell gathering or work more as fish traders on consignment from the produce of fishponds. Younger women, unable to proceed with higher education, leave the villages to work as domestic helpers and factory workers in the cities and town centers. Men undertake most of the fishing activities with increasingly expensive technology that would sometimes require venturing farther out to the sea.

2. **The culturally constructed gender division of labor restricts most women to reproductive work in the home and regard them as secondary or auxiliary economic producers outside the home.** Men are generally regarded as "the fishermen" indeed because they seldom partake of or do only little reproductive work, in terms of child rearing and housekeeping. This gender division of labor implies gender stereotyping which results in the invisibility of women's work as economic producers and the "devaluation" of women's reproductive work. It implies a hierarchy of work and values where "fishing for income" is more valuable than "housework for the nurturance and well-being of family".

3. **The stereotyped gender division of labor translates into development work, in terms of research, technology development and organizing.** Researchers are blind to women's issues. Research methodologies treat men and women as respondents. Technology development focuses on capital-intensive and expert-dependent projects. Organizing on production and environmental projects target mostly the male head of households. Access to training, technology and credit has mostly been channeled through the men.

Women are usually organized around child welfare, health, nutrition and food processing projects. In mixed-gender organizations where the bulk of membership may be women, women officers are assigned to serve as secretary and treasurer.

4. **Poverty and environmental issues aggravate women's multiple burden while there is only very limited support services for reproductive work.** Deforestation causes the drying up of water wells which makes fetching and housework more difficult and time consuming. Mangrove deforestation and fishpond construction result in salt water intrusion into water wells. Pollution of potable water sources poses serious health risks. When family members get sick, women as caregivers must painstakingly revive them back to health while performing other work at home and outside.

Strategies in Gender-Responsive Development

The *Katibyugan it Mangingisda Talangban* (KMT) or the Fisherfolk Association of Talangban was organized in July 1992 by the Food Systems Development Project (FSDP) of the University of the Philippines in the Visayas (UPV). The FSDP is a rural development project assisted by the Canadian International Development Agency (CIDA). The KMT's Constitution and By-Laws was eventually ratified on September 27, 1993 with the following objectives:

1. To protect Batan Bay and its tributaries as a source of aquatic and marine products;
2. To establish a livelihood project that would address the needs of members for additional income as well as food supply to the community;
3. To act as a voice of the marginal fisherfolk in the area; and
4. To cooperate with other line agencies in bringing about change through livelihood projects.

Joint Participation of Men and Women in the Fishers' Association

In recognition of gender equality, the association welcomed participation of both women and men in the association. Membership in the association included 13 households, deliberately involving both husband and wife to represent their respective households. The majority of the households are marginal fishers who operate stationary gears along the river. They also engage in occasional wage work in the fishponds around the area. A few are small owner-cultivators with an average of one hectare cocal and rainfed rice land.

Community Organizing and Education Program

At the start, a community organizer spent considerable time on informal discussions, individually and in small groups, evoking environmental and economic issues affecting them. The women underwent gendersensitivity training. Follow-up discussions were also conducted on group building, leadership, and community organizing.

Technology Validation as Alternative Livelihood

The community organizer and fisherfolk leaders realized that they have to address the economic needs of the people alongside their involvement in advocating environmental issues, hence they turned to *tilapia* cage culture. Cage culture is less capital-intensive than fishpond operation where the small fishers have no access. The technology was made available with voluntary technical assistance from U.P. Visayas.

The U.P. Visayas team introduced them to cage culture of sex-reversed hybrid *tilapia* (*nilotica*). This technology was developed by Dr. Lourdes Dureza of the UPV College of Fisheries from the thesis experiment of her graduate students. She trained the KMT members in *tilapia* cage culture, as part of participatory technology validation and development strategy. The KMT members were enthusiastic about the new knowledge as well as potential source of additional income. An initial capital of P67,000 was borrowed from the FSDP. The cage culture project started operation in December 1993. The members rendered free labor during the construction of the cage.

The KMT organized themselves in the hands-on training on cage culture - the feeding, sampling, monitoring and cage maintenance tasks. They also met at least monthly for organizational meetings, especially on financial and organizational management. Households took turns in management. Men, women and children helped in the feeding, sampling, and cleaning of cages and eventually in the harvest.

Evolving a Marketing System

After three months, the *tilapia* were ready for harvest at three to four pieces a kilo which were sold at a farm gate price of P45 per kilo. Marketing was no problem because there was a good demand for the hybrid *tilapia* whose taste and texture was comparable to highly priced fish. They decided that the selling of produce will be exclusively done by the members themselves so that they can earn P5 to P10 mark-up for every kilo. Except for this financial benefit, they decided that the net income will be plowed back to production, until such time that they have expanded their production and gained enough profit to declare individual dividends. Women were mostly assigned the tasks of financial recording and record keeping.

After one year of four cycles of production, they earned a profit of more than P11,000. This was meager and did not solve the economic and environmental problems of the members and the community but it helped them in small but significant ways.

Outcomes of the Experience

Both women and men found the *tilapia* cage culture technology easy to learn and handle. Even the children assisted as well, hence it became a family-based enterprise. However, commercial feeds take up more than half of the production expenses. Community-based production of feeds was considered but there is not enough volume of fish cage culture ongoing at present to make this cost-effective. Not all the necessary materials for the feeds are readily and regularly available.

The project provided KMT members with a ready source of viand for their family and the community especially during lean times. *Tilapia* of reasonable size can be selectively scooped out any time for their consumption. This is an important source of protein to prevent malnutrition. The KMT members still have to diversify their sources of food especially in terms of vegetable production. However, the limited supply of water for year-round home gardening is still a constraint.

Selling the *tilapia* at P5 to P10 mark-up per kilo has provided additional income to women and their families. Women's entrepreneurship is reinforced by vending the fish and being quickly compensated in cash to buy other necessities for the family.

The experience of collective action in managing a project has fostered camaraderie and unity among the members, trained them in leadership, organizational, and entrepreneurial skills, especially the women. Earlier, many scoffed at their initial venture.

Women have been recognized as partners at work and at home. Men have started to appreciate women's roles and contributions outside of the home and have gradually taken share in household chores.

At the moment, the KMT members are in the process of expanding to hatchery of *tilapia* cage culture project. Other fisher-groups are also interested in adopting the technology which can be managed by a people's organization, for both men and women. It contributes to food security by supplying the food needs of the local community and by serving as a profitable source of income. When further expanded and developed, this can become an alternative socio-economic activity to partially relieve the exploitative fishing activities in the river and bay.

However, this technology could not successfully stand on its own without the support of equally important activities:

1. **Gender-disaggregated baseline data and women-specific studies employing participatory research.** Earlier researches were more statistical than qualitative in nature. Participatory research using focused-group discussions facilitated reflections on environmental and gender issues.
2. **Community organizing and continuing education on environmental, economic and gender issues.** This aspect was relatively unsustained with the pull-out of community organizers in mid-1994. Ensuing monthly visits mostly dealt with technical inputs on fisheries and did not allow much input on organizational development.

3. **Networking and advocacy with LGUs, NGOs and POs.** Though the U.P. Visayas was its major supporter, KMT also linked up with municipal and provincial agencies for follow-up on environmental advocacy issues.
4. **Gender awareness, equal sharing of responsibilities and decision-making in the home, in production, and in organizational activities.**

Limitations and Continuing Challenge for CBCRM

The KMT members are constantly reminded that tilapia cage culture per se is not the solution to their problems. They have to work with other groups in protecting the river and conserving the marine resources in the bigger ecosystem. The group is affiliated with the Intermunicipal Coastal Resource Management Council (ICRMC) which is composed of local government officials, government agencies, non-government organizations, and people's organizations, mainly fishers' organizations.

Once, they petitioned against the construction of a fishpond dike obstructing a natural waterway in their vicinity. Despite their repeated follow-up with various government agencies, their petition has not yet been adequately attended to. The ICRMC, they noted, has not been active recently because of the political factionalism among local government leaders during the elections. Fishers' participation in the ICRMC is still relatively weak, and the fishers still have to consolidate their ranks across the various barangays around the bay. Women are not represented in the ICRMC.

Organizations such as the KMT have to struggle constantly with the individualistic tendencies of some of their members: the occasional lack of enthusiasm among members in undertaking their organizational tasks, and the complacency of other fishers in the community in protecting the environment. Follow-up consciousness-raising and training in organizational and financial management are still needed to improve the system of reporting and check-and-balances. Continuing education sessions on organizational and social issues have to be regularized alongside technology development.

Although there has been a basic gender sensitivity training, other gender issues in the community have to be proved and responded to such as on issues of domestic violence and reproductive health and rights. Women's health is poor due to frequent childbearing, poor nutrition, and multiple burden. Some women cannot easily decide on going out of the house to attend meetings, especially if out-of-the-village, without their husband's consent.

It is admitted that the KMT still has a long way to go in terms of achieving its goals of sustainable development. At least, it has taken the initial steps.

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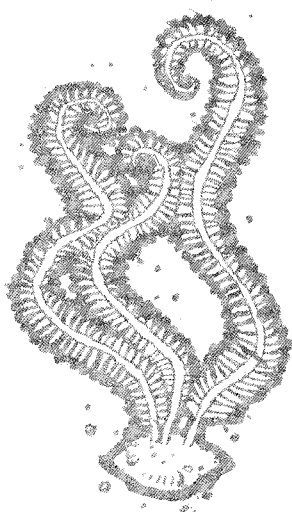
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The Sustainable Coastal Area Development (SCAD) Program in Barili, Cebu

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This paper synthesizes the experience of Tambuyog Development Center in implementing its Sustainable Coastal Area Development (SCAD) Program in four barangays in the municipality of Barili in Cebu. The SCAD is Tambuyog's core program that puts emphasis on community property rights as the key to community-based coastal resource management (CBCRM). It shows how a strong partnership between a non-government organization (NGO) and a people's organization (PO) can facilitate program implementation. The paper also emphasizes how the SCAD program works within the general framework of building the capacities of the community, with reference to specific strategies and approaches in CBCRM. Finally, the paper also shows how several economic and political factors in the community affect the conduct and continuity of development programs.

The Tambuyog Development Center (TDC)

Tambuyog Development Center (TDC) began implementing community-based programs in several coastal communities in the Philippines over a decade ago. Its organizing work was complemented by a three-year research on community-based coastal resource management (CBCRM) which was implemented in 1992. The research, which was conducted nationwide, provided a more in-depth analysis of the conditions of coastal communities. By July 1993, Tambuyog held a sector-wide consolidation conference to summarize its long years of community work and define a unified theoretical framework on CBCRM.

The framework emphasizes how poverty and resource degradation in coastal communities are linked in a vicious cycle. Resource degradation aggravates poverty and poverty in turn leads to more destructive

extraction practices. The twin problems of poverty and resource degradation can be attributed to unclear property rights assignments over coastal resources. The situation leads to poorly controlled and poorly managed utilization of resources.

Resolving these problems requires an integrated approach towards clearly defining property rights arrangements. Tambuyog believes that coastal communities are potentially the best resource managers, having the biggest stake in coastal resources. Thus, efforts towards the sustainable use of resources, ecological balance, biodiversity conservation and poverty alleviation should be grounded on the empowerment of coastal communities to have access and control over resources.

The Sustainable Coastal Area Development Program (SCAD)

Tambuyog envisions organized and self-sustained coastal communities that control and manage coastal resources for sustainable national development. This vision has been translated into a five-year core program called the Sustainable Coastal Area Development (SCAD). The SCAD program is being implemented in Cebu, Bicol, and Palawan (see Figure 1).

The SCAD Program espouses the following basic principles:

Empowerment. This means the actual transfer of economic and political power from a few to the impoverished majority. By so doing, an active and healthy civil society is ensured and the community exercises its power in the so-called "subsidiary" levels.

Equity. This means that a few cannot appropriate for themselves a particular resource. To achieve this, entire coastal communities and instead a few individuals should have access to resources.

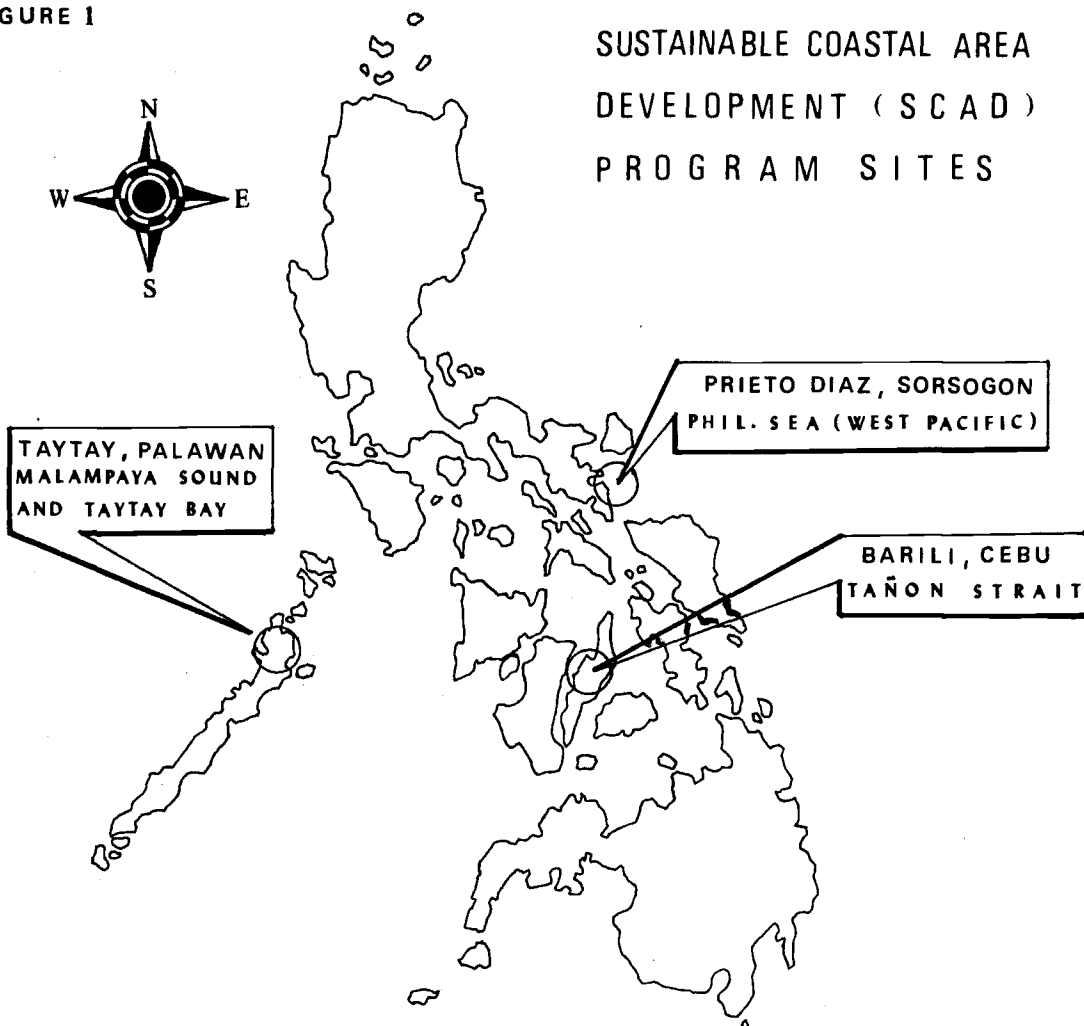
Sustainability. To ensure sustainability, development efforts should consider the limits of the resources - their carrying and assimilative capacity. The sustainable use of resources ensures intergenerational equity or equity between the present and future generations.

Systems Orientation. This principle gives recognition to the dynamics of relations. The community is not set apart from other communities just as their resources are ecologically linked to bigger ecosystems.

Gender-Fairness. Development efforts should recognize the crucial roles women play in the household and in community management. Women have distinct characteristics and needs so development should pay special attention to the practical and strategic roles of women.

The SCAD program aims to facilitate the establishment of community structures and organizations of men and women that pursue area-based integrated sustainable development agenda to address the lack of access and control of the local community people over their resources (both land and water) and the benefits that come from them. It also intends to mitigate poverty through cooperation, self-help and shared responsibility. Finally, the SCAD program aims to lessen the conflicts between and among resource users and facilitate the community's active participation in decision-making processes and development efforts in the community.

FIGURE 1



CRITERIA FOR PROGRAM SITE SELECTION

1. POPULATION SIZE AND DENSITY OF FISHERS
2. PROXIMITY OF PROGRAM SITE TO ECONOMIC AND POLITICAL CENTERS
3. MARGINALIZED COMMUNITIES
4. DIVERSITY OF RESOURCES
5. THE RECEPTIVITY OF THE PEOPLE TO THE PROGRAM
6. PEACE AND ORDER AND MANAGEABILITY.

In late 1993, Tambuyog consulted the *Kahugpugan sa Gagmay nga Mananagat sa Sugbu* (KAMAS), the province-wide federation of small fisherfolk in Cebu, on the possibility of implementing the former's capability-building project in a KAMAS member-site in the province. The municipality of Barili was selected, given 1) the presence of a functional KAMAS member organization, the San Rafael-Cabacungan Fishermen Association (SANRACA); 2) the pressing need to assist the community due to the advanced state of resource degradation; and 3) the relative poverty of the people. This capability-building project later evolved into a full-blown SCAD program for Barili with SANRACA as the partner fishers' organization.

Site Profile

The municipality of Barili is located at the southwestern side of the island of Cebu, about three hours from the provincial capital, Cebu City. Barili is bounded on the east by the municipalities of Carcar and Sibonga, on the north by Alanguinsan and on the south by Dumanjug. It has a generally hilly terrain with steep slopes in the eastern narrow plains along the coasts. On the western side lie Barili Bay and Tañon Strait, serving as the main fishing grounds in the area (see Figure 2 for a map of Barili).

Barili has 42 barangays, 10 of which are located along the coasts. Its total population reached 48,959 in 1990. Coastal population totalled 13,137 or 27% of the total population. Barili has 7,331 households with an average family size of seven.

Farming and livestock raising are the dominant sources of livelihood in the upland barangays of Barili while fishing and farming are the major sources of income in the coastal areas. The major crops include corn, coconut, banana and mangoes. The average annual production per hectare is estimated at 20 cavans for corn, 1.5 metric tons for coconut, 2 metric tons for bananas and 3 metric tons for mangoes.

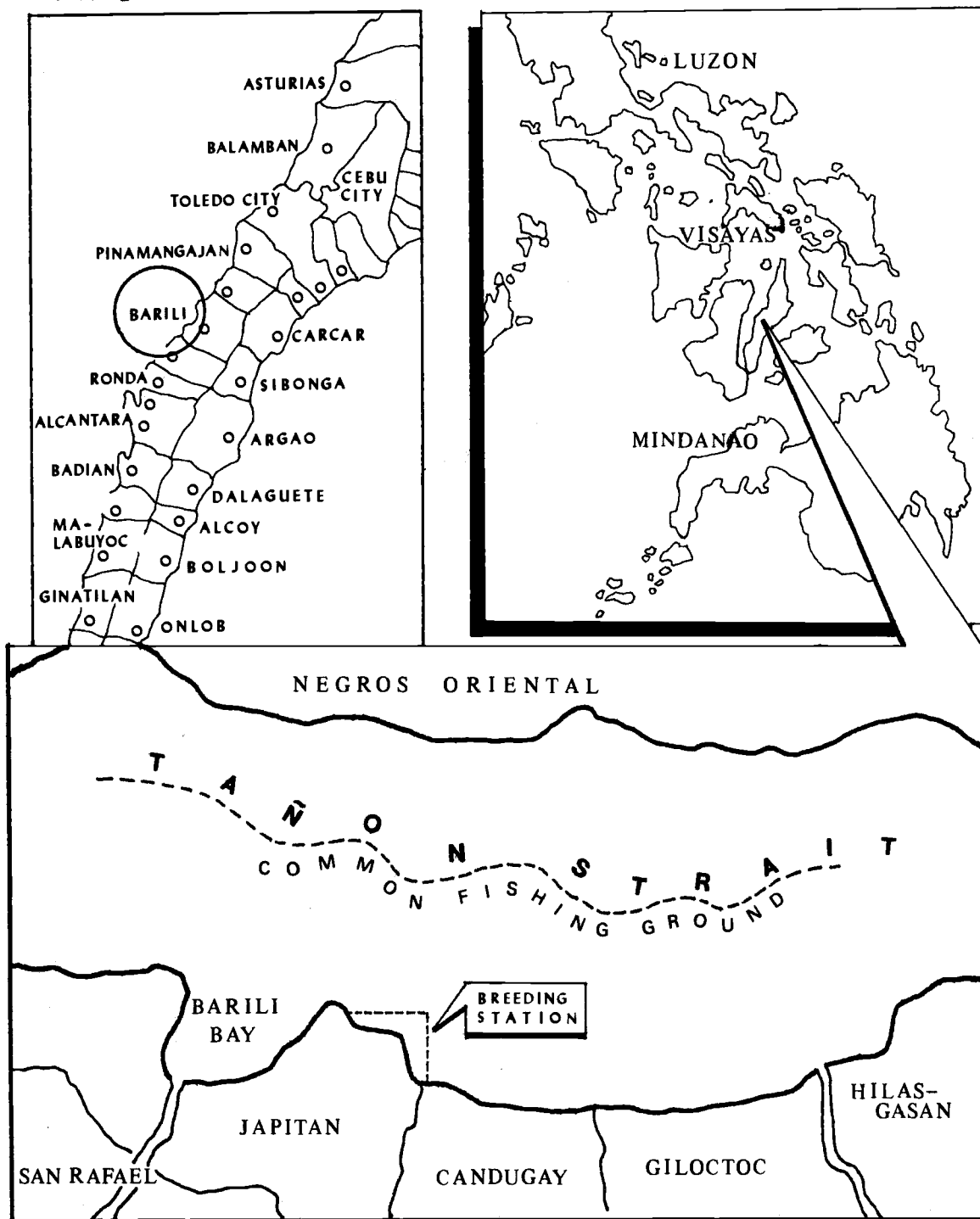
The Fisheries Condition

Barili has a total of 205 full-time and 495 part-time municipal fishers. About 90% of the boats are non-motorized, using only sails and paddles. The major fishing gears include hook-and-line, squid jiggers and gill nets. The major species caught are composed of small pelagic fish locally known as *bodloy*, *anduhaw*, *tamarong*, *baga* and *lumayagan*. Municipal fishery production reached 645.52 metric tons in 1990.

In contrast, there are only 10 commercial fishing boats in Barili and these are all based in Barangay Japitan. They use only one type of gear, the ring net, which is locally called *kubkob*. The *kubkob* employs a total of 164 fishworkers. The average gross tonnage of these vessels is estimated at 16.6 metric tons. In 1990, total commercial fishery production reached 282.24 metric tons. Aside from the *kubkob*, an average of 20 commercial fishing boats from Negros Oriental and the southern municipalities of Cebu also operate in Barili Bay.

Finally, the fishponds in Barili are concentrated in barangays Japitan and San Rafael. These fishponds have been operating

FIGURE 2 MAP OF BARILI, CEBU



since the late 1970s when vast tracks of mangrove swamps were converted to aquaculture ponds for prawns and milkfish. In 1990, the Department of Agriculture (DA) reported a total of 8 hectares of prawn ponds and 2.5 hectares of *bangus* ponds. In the same year, a total of 20 metric tons of prawns and 0.40 metric tons of *bangus* were produced.

The SCAD program is being implemented in four barangays in Barili, namely: Japitan, Candugay, Gilotog and Hilasgasan. Based on a rapid coastal systems appraisal (RCSA) conducted by Tambuyog in 1994, the problems and issues in these communities include:

*** Community's lack of control and access to marine-based resources.** A municipal ordinance clearly stipulates that the first three kilometers from the shoreline of Barili Bay is part of the municipal waters of Barili, thus giving preferential use to the small-scale fisherfolk in the area. However, the *kubkob* continues to operate in these areas, resulting in conflicts with the small-scale users. The continued encroachment of these commercial fishing vessels is a clear violation of the municipal ordinance prohibiting them from operating in waters within 15 kilometers from the shoreline. As a result, the commercial fishers deprive the small-scale users of a big portion of their potential catch.

*** Degradation of the Marine Systems Leads to Low Fish Catch.** The marine ecosystems, particularly the mangroves and the corals, are in poor ecological conditions. This situation is mainly a result of human-induced stresses which include the use of dynamite and cyanide. Mangrove areas have also been converted into fishponds since the 1970s.

*** Low agricultural productivity due to poor soil quality.** Poor soil quality in the area leading to low agricultural produce is brought about by improper land use. The sloping hills in the area, planted with corn, are easily eroded. Land erosion is further aggravated by the absence of trees which could stabilize the soil. Corn rapidly depletes the soil of its nutrients, particularly nitrogen. Since corn is planted three to four times a year, the crop yields tend to decrease each time.

*** Poverty and lack of alternative sources of livelihood.** Fishing is seasonal and the land is not a stable source of income of the people in the area. During the lean fishing months of August to February, the people of Barili usually seek employment outside of their communities. The men are usually employed as construction workers and the women work as household helpers in Cebu City and Manila.

*** Inadequate provision of social services.** Water is too insufficient to meet the needs of the people. The main source of water is a gravity-type well but it dries up during the summer months. Even during the rainy season when the water table is supposed to have steady water supply, the well cannot provide an adequate supply of water to the communities. This situation forces the women and children to walk several kilometers and stay up late at night just to collect enough water for their household needs. Health services are also irregular and insufficient. Rural physicians rarely visit the area except during nationwide campaigns for vaccinations. The local people normally go to the district hospital for health problems, but medicines are so expensive they could hardly afford them.

The San Rafael-Cabacungan Fishermen Association (SANRACA)

Tambuyog's main partner is the San Rafael-Cabacungan Fishermen Association (SANRACA). The organization traces its origin from the formation of a unit of households who became beneficiaries of Plan International, Inc., a welfare NGO known for providing financial support to poor communities in the rural areas. These households are located in Barangay Japitan.

In May 1991, the Philippine Peasant Institute (PPI) organizers conducted a household survey which served as the basis for selecting 600 families who would eventually be beneficiaries of livelihood projects. One standard unit (SU) comprised about 60 families. Each SU has a leader, an assistant leader, a secretary and a treasurer.

Several livelihood projects were implemented including dispersals of fishing boats, net, gas lamps, pigs and goats. PPI also supported the education of a number of school-aged children in Japitan. A school building, a gravity-type well and community latrines were also established. In 1984, PPI financed small-scale enterprises like *sari-sari* stores. Unfortunately, most, if not all, of the livelihood projects failed mainly because the fishers were unable to pay back the loans provided by PPI. A program evaluation conducted by PPI in 1985 showed that only one SU remained relatively stable: SU 10 which is composed of families from Sitio Cabacungan in Japitan and Barangay San Rafael.

In 1986, PPI shifted to conducting extensive training and education work prior

to any project implementation. The training program included livestock raising, sloping agriculture land technology (SALT), and leadership training, among others. PPI also encouraged the people to form their own organizations.

The Birth of SANRACA

From among the core of SU 10, the fishers from Sitio Cabacungan and Barangay San Rafael initiated the formation of a small-scale fishers' organization. A proposal for this organization was submitted to PPI. In April 1991, a group of 22 fishers attended a training on human resource development facilitated by PPI in coordination with the Department of Agriculture. Majority of the participants to this training acted as the founding members of SANRACA.

SANRACA was officially initiated in July 1991 with 18 founding members. As their initial project, SANRACA set up artificial reefs (ARs) and *payaws* or fish aggregating devices (FADs). The actual setting up was delayed for almost a year because of the delay in funding. Nonetheless, the artificial reefs and the fish aggregating devices were eventually set up in March 1992. The German Development Services (GDS) supported the installation of more *payaws* and the maintenance of SANRACA's cooperative store through a grant. The GDS also conducted technical studies in the area.

Additionally, SANRACA went after the commercial fishing vessels that encroach in the municipal waters of Barili. In one instance, a SANRACA member confiscated a light boat of a commercial fishing operator who happened to be the barangay captain of Japitan.

SANRACA sought the aid of the local police and also reported the incident to the provincial government. They even held a rally in front of the municipal government office. Upon the intervention of the governor himself, the barangay captain of Japitan was forced to sign a memorandum of agreement (MOA) declaring a three-kilometer ban from the shoreline to commercial fishing vessels. Subsequently, a municipal ordinance was passed in May 1993 declaring the waters 15 kilometers from the shoreline of all coastal barangays of Barili as "reservation area for marginal or subsistence fishers". Violators of the ordinance will have a penalty of imprisonment of not more than 30 days, a fine of not more than P5,000.00 or both.

By May 1992, SANRACA formally adopted a cooperative-style of formation as a result of training on cooperatives conducted by PPI. Its membership by this period reached 35.

The SCAD Program Strategy in Barili

Tambuyog believes that its role in development work should be facilitative. This means that the work of Tambuyog is focused on building the capabilities of coastal communities so they can become efficient and effective resource managers.

In Barili, SANRACA possesses a wealth of experiences on resource management. It has shown its organizational strength through the implementation of several rehabilitation programs. The passing of a municipal ordinance effectively making the small fishers the "owners" of municipal waters is a political gain for SANRACA.

Thus, in the context of capability building, Tambuyog's efforts are focused on consolidating the gains of SANRACA and expanding the success of community-initiated CBCRM in the area.

In structure, Tambuyog is working towards the formation and strengthening of three key types of organizations:

Formal and Informal Structures of Men and Women

These structures are composed of fishers, farmers, women and other groups in the community. They would also consist of local volunteer organizers (LVOs) from SANRACA and other ad hoc formations in the three barangays. At present, there is an established core of LVOs who are assigned the tasks of consolidating and strengthening the fishers in the other barangays. The LVOs come from SANRACA (see succeeding section on the LVO scheme discussion). The LVOs and members of the ad-hoc formations participate in several training and education activities that include leadership formation and skills, paralegal training, environmental awareness management of socio-economic projects, among many others.

A women's group was also formed in sitio Cabacungan. Its members are mostly affiliated with SANRACA. Some are the wives of SANRACA members. The women's group initiated a clean-up drive they called the *Linis Baybay-Dagat* (coastal clean-up). They also conducted a study on indigenous herbal medicine which can be used in the community. Additionally, the women are actively involved in a proposed water supply project. The group undergoes extensive education work on gender awareness and sensitivity training.

Resource Management Cooperative (RMC)

Primary and secondary cooperative formations are envisioned to undertake the two-pronged tasks of resource management and socio-economic work. They are envisioned to focus on resource rehabilitation projects and income-generating activities. SANRACA is being developed into a full-blown resource management cooperative (RMC) through continuous education work, project implementation, monitoring and evaluation activities.

Stakeholder's Forum

An equally significant component of the SCAD program is the community's active participation through coalition building and advocacy work in the formation of a GO-NGO-PO tripartite body. This formation is called the *stakeholder's forum*. It is a forum wherein the stakeholders can unite on resource use in terms of agenda, interests, roles and functions. The forum is a policy body where resource use conflicts are addressed.

Partnership with Various Groups for Resource Management

Another crucial aspect that the SCAD-Barili focuses on is the establishment and strengthening of partnerships with various groups to generate much wider support for resource management efforts in the area. At the core of these partnerships is the one between Tambuyog and SANRACA. Consequently, this is complemented by a partnership being developed with GO and other NGOs strengthening ties with formal leaders in the community.

Partnership Between Tambuyog and SANRACA

At the onset of project implementation, there was recognition of the wealth of experiences and gains already achieved by SANRACA. What was needed at that point was to consolidate these gains and expand its reach to influence adjacent barangays who were not doing well with their resource management efforts.

These needs were recognized by both Tambuyog and SANRACA and formed the basis of their partnership. A memorandum of agreement (MOA) was drafted and signed by both organizations stipulating the support of the former in further strengthening the organizational capability and project handling expertise of SANRACA through the conduct of training, research and organizing support. The two organizations further agreed to jointly undertake activities to extend the success of SANRACA to the three other adjacent barangays and to jointly implement the SCAD project in the site. Later, the partners refined and agreed on SCAD and the SANRACA Integrated Sustainable Coastal Area Development Program (SISCAD), SANRACA's own development program, was conceived.

A set-up was formed wherein organizers and trainers from Tambuyog will be complemented by local volunteer organizers (LVOs) coming from the leadership and rank-and-file of SANRACA who will initiate expansion activities in other barangays and consolidation activities within SANRACA.

Linkaging with Government and Other Non-Government Organizations

Another level of partnership which is either being established or sustained is that with GOs and other NGOs to generate outside support for the project. Establishing good linkages with local government units and officials is necessary as the cooperation or non-cooperation of these people to lend credibility to the project may determine the ease of project implementation or pose as a threat to its success. The gravity of resource use conflicts may also necessitate the legal backing of coastal resource management initiatives which these institutions and individuals can provide.

The support of other government agencies involved in resource management initiatives, on the other hand, can contribute in providing logistics and technical knowhow. In the case of the Department of Environment and Natural Resources (DENR), for example, its upland and mangrove reforestation projects had been tapped in the efforts to rehabilitate the upland areas in the site.

The non-governmental organizations, whether local or international, can complement project initiatives with their expertise in other fields. The German Development Service (GDS), as an example, continues to assist in funding the projects of SANRACA and their soon-to-be launched upland project which can be tapped to complement the coastal management efforts. Other organizations with expertise in tapping water for domestic use, paralegal questions, and organizing are also being tapped by SANRACA and Tambuyog to attain unity in the coastal management efforts in Barili.

Maintaining Good Relations with Formal Leaders in the Community

Formal leaders simply refer to the barangay captains, council members and the barangay development council members in the four barangays. There is a recognition of their power and influence in the community and sufficient courtesy is extended to these individuals and to the positions they occupy. Maintaining good relations with these people can mean not only support for the project but also the possibility that initiatives can be coursed through them so as to have legal credibility and wider community cooperation.

The SCAD-Barili Program Indicators

The points of intervention in the SCAD program for Barili is translated into key result areas or program indicators. The nine indicators, with an acronym of **COOP-BREED**, were developed to be attained within a five-year time frame. The first four - COOP - are the main concerns while the second group - BREED - are the five development aspects.

Community-Oriented Values and Critical Consciousness Development

The development of community-oriented values and the raising of critical consciousness consists primarily of training and seminars being extended to the people's organization (PO) leaders, members and community folks. In terms of attitudinal knowledge and development, orientational training on CBCRM, environmental awareness, gender sensitivity and value formation are provided to people's organizations.

More specific skills are developed through the expansion of the training program with courses on community organizing, leadership, PO management, cooperative management, feasibility study, instructors'/facilitators' training, and conflict management. In addition, the program also provides exposure programs for PO leaders and members through participation in conferences and site visits to the areas of partner organizations.

Organizational Structure and Development

Under this indicator falls the strengthening and consolidation of SANRACA as a primary cooperative. Sufficient pre-cooperative activities will be undertaken to further refine the capability of the partner PO to become a full-blown cooperative. Likewise, with the recognition of the role of women in the community, it is planned that there will be a merging of both women and men into one cooperative with a special committee on women within that cooperative to tackle women-specific issues. Pre-cooperative formations are also targeted in the three other barangays which will later evolve into full-blown primary cooperatives.

Overcoming Gender and Other Biases

Activities under this include strengthening informal support structure for women and the implementation of self-help and income supplemental projects with women as the core implementors. Presently, women-implemented activities in the site include the conduct of feasibility study and implementation of the small-scale water supply project, *Linis Baybay-Dagat* (coastal clean-up) and possibly livestock raising.

People's Active Participation Through Coalition Building and Advocacy Work

This entails the formation of a tripartite group or forum between LGUs, NGOs, and POs and all stakeholders that will unite on a coastal resource use plan in terms of interest, agenda, role and function. Presently, this is being worked out through the barangay and the municipal development councils and other available and appropriate fora.

Basic Social Services Accessing

One of the findings of the previous studies in the site is the inadequacy of basic social services. Basic social services accessing is then targeted to equip the community with the capacity to make claims on responsible agencies for them to deliver these services. On the other hand, self-help initiatives will simultaneously be conducted, such as the establishment of a project on rainfall harvesting and spring development to be managed by the women's group, and the conduct of medical services through the support of the LGUs and other concerned agencies.

Resource Tenure Improvement

One of the primary targets of the project is the formulation and implementation of a coastal resource use plan that will ensure resource rehabilitation and sustainable use. Under this plan are measures for guaranteeing equitable access and control over coastal resources. Another possibility for tenure improvement is the conduct of an in-depth study on territorial use rights from which possible recommendations can be gleaned.

In terms of the land resources, the issue of tenure is also important given that most of the residents in the four barangays do not own the land in which they reside and which they farm, and that absentee landlords are the legal owners. The SCAD project envisions that the community will be able to internalize the agrarian reform principle and possibly initiate activities to solve the land tenure issue.

Ecological Nurturing and Agricultural Production

The formulation and implementation of a resource use plan for the marine and land resources are the primary target under this indicator. Specifically, this means the adoption of sustainable marine and agricultural technology, production and practices through the establishment of demonstration farms and the expansion of the present marine breeding reserve area.

Economic Strengthening and Self-Reliance

Another expected outcome of the project is that the community is able to engage in supplementary income-generating activities based on feasibility studies to supplement household incomes. Also, it is expected that community members and leaders are trained in project development and management.

Decentralization and Local Democratic Governance

This entails the conduct of community legal and institutional studies (CLIS) which

will provide inputs in the formulation and adoption of an alternative development agenda applied by all sectors of the community. The SCAD program of SANRACA provides the initial frame for this alternative agenda.

The Local Volunteer Organizers (LVOs)

A new approach incorporated within the SCAD program in Barili is the formation of a group of local volunteer organizers (LVOs) who will play an active role in the implementation of the SCAD. Part of the MOA between Tambuyog and SANRACA is the stipulation that some SANRACA leaders and members will act as volunteer organizers for project implementation. This gives assurance that a core group of individuals will be given more intensive training and actual experience in project implementation. In addition, this group of leaders can ease the task of organizing given their familiarity with the community and its way of life. The development of the LVOs is a core strategy for sustaining the initiatives under SCAD. It is also a long-term plan for the eventual phase-out from Tambuyog in Barili.

These LVOs not only help in structure formation and organizing support for SANRACA and the three other barangays, but are also equipped to provide training, conduct researches and advocacy work. The volunteers are provided with allowances in order to compensate for the time they lose from their economic endeavors as they devote it to the implementation of the project. The area coordinator from Tambuyog acts as their head personnel and is in charge of their supervision and training.

Among the methods being employed to develop the LVOs are:

1. Formal training, which includes basic and advanced course in CBCRM, environmental awareness, leadership, conflict management, community organizing, research, trainor's training, advocacy and organizational/cooperative management.
2. Informal discussions among the group of LVOs and the area coordinator in the area on the approaches and methodologies to be employed in their day-to-day activities.
3. On-the-job training such as facilitation in actual training, trouble-shooting of organizational and other community issues, and the facilitation of group and organizational meetings.
4. Cross-visits of PO leaders and members in other areas with ongoing CRM initiatives and exposure of the PO leaders and members to partner NGO program sites.
5. Attendance in seminars and workshops extended by various agencies - both GO and NGO. These seminars are on disaster preparedness, socio-economic work and broadcast communication. Two LVOs are currently enrolled in the CBCRM School project being implemented by Tambuyog in coordination with another NGO, the *Community Extension and Research for Development (CERD).

In this project, the LVOs are provided with lectures on CRM and participate in the discussions of the various concepts, approaches and methodologies on CRM.

6. The LVOs are also trained in documenting minutes of meetings, day-to-day activities and proceedings. Specifically, they are trained and actually prepare monthly activity reports, diaries, minutes of meetings and assessments.
7. Another area where LVOs are being equipped is in self-confidence building for networking and advocacy. This entails participation in meetings with different agencies, negotiations and dialogues within the community and even with government officials, and participation and paper presentation in conferences.
8. Regular meetings are also held in order to assess, plan, and undertake criticism/self-criticism. These sessions are held to check project progress and introduce and build capability on these methods/activities.
9. Lastly, aside from work-related activities and as part of continuous team-building exercises, personal relationship-building activities are being undertaken to ensure enthusiasm and camaraderie among the group.

Learnings

1. **Effects of local politics on program implementation.** The two distinct and powerful political blocs in Cebu province are those identified with two prominent government officials. This political factionalism is manifested even at the municipal and barangay levels. In Barili, majority of the local politicians are affiliated with the mayor. The mayor of Barili has held power for several years and has made a solid political base in the different barangays in Barili.

During the term of the former Cebu governor from 1992-95, he fully supported the formation of fisher-farmer organizations through the Cebu Development Outreach Project (CDOP). The CDOP organized the farmers and fisherfolk of Giloctog and Hilasgasan, naming them the Giloctog Farmers-Fishers Association (GIFFA) and the Hilasgasan Farmers-Fishers Association (HUFFA). Both organizations were oriented towards protecting the marine waters and eventually forming groups like the *Bantay-Dagat* (Fish Warden)). However, both GIFFA and HUFFA are inactive and there are allegations that the *Bantay-Dagat* group is actually composed of only one person.

Even if the newly-elected government officials continued the work of the former governor, squabbling between the two political factions continued. This affected the implementation and

continuity of development programs. The different people's organizations became confused as to what they should do to have the continued support of the local government.

2. **The limits imposed by the lack of stable sources of income in the community.** Dwindling fish catch, combined with low productivity of agricultural lands, results in widespread poverty in the coastal communities of Barili. The lack of income sources due to the continued degradation of coastal resources is dramatically manifested during the lean months for fishing. During this period, fishers usually search for jobs outside of Barili. Most of them work in construction sites or factories in Cebu. The women usually work as household helpers in places as far as Manila. Securing temporary jobs outside the municipality during the lean season is a regular pattern observed in Barili.

This situation poses limits to organizing work in Barili. The lean months for fishing are usually considered the ideal period for conducting training and other education work. This period is also the time when they can devote longer hours to activities related to their organization. When they return to the community during peak season, the fishers are normally very busy that they can hardly find time for organizational work. The peak months are very critical to sustaining the household economy, leaving very minimal time for any other kind of endeavor.

3. **Conflicting rather than complementing development initiatives in the area.**

There are several development programs being implemented in Barili by NGOs, the Catholic church and the local government. There is very little coordination among these groups at present and this results to confusion among the people as well as duplication of efforts. Tambuyog attempted to coordinate with the other groups but there are some basic differences in methods of and approaches to community development. One group is oriented towards providing livelihood projects at the onset of organizing work thus effectively using socio-economic work as an entry point to organizing. Tambuyog and SANRACA espouse a somewhat different approach by requiring some level of organization among the POs before implementing a livelihood project.

There is nothing wrong with having several development programs in one community because the bottomline of all programs is the economic and political empowerment of the people. The problem begins when developmental groups fail to coordinate their efforts and harmonize their programs, when they start "competing" with each other as to who among them has the "better" or more popular program. When this happens, development groups start pushing for their own organizational agenda and lose sight of the importance of respecting the initiatives and dynamics of the local community organizations.

Conclusion

The development and continuing implementation of the SCAD Program in Barili rely heavily on the experiences of SANRACA. The strength of the program lies in the strength of the partnership between Tambuyog and SANRACA. As an NGO, Tambuyog works within the framework of building the capacities of SANRACA and facilitating its organizational expansion in the adjacent coastal communities.

It is very easy for NGOs to lose sight of the fact that the people on their own can manage their own affairs. It is the role of NGOs to facilitate and hasten the process of learning and development. But it is not for NGOs alone to decide what should and should not be done in community development. It is only when NGOs become obsolete that one can really say that the work has indeed been accomplished.



Testimony

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In 1994, the Tambuyog Development Center (TDC) joined hands with our organization - the San Rafael-Cabacungan Fishermen Association (SANRACA) - a people's organization in the Municipality of Barili, in addressing the problems and issues faced by the residents of the coastal communities in our municipality. The rapid coastal systems appraisal (RCSA) conducted by TDC disclosed that Barangays Japitan, Candujay, Giloctoc and Hilasgasan in Barili share the common problems of lack of control and access to marine-based resources, degradation of the marine systems, low agricultural productivity, poverty and inadequate social services.

In this partnership, TDC introduced the Sustainable Coastal Area Development (SCAD) program which envisioned to respond to the problems of SANRACA members. Looking back, we were able to see our strengths and weaknesses and made these as basis for planning future programs. Thus, in December 1994, TDC and SANRACA entered into a formal agreement to jointly undertake the SCAD program in other coastal barangays and gave birth to the SANRACA Integrated Sustainable Coastal Area Development (SISCAD). SISCAD's first activity was to reach out to the people in the adjacent coastal communities.

In organizing the fishers, the women were also encouraged to join and organize themselves and to help in creating programs that respond to the families' daily needs. It was recognized that women, together with men, have a vital role to play in coastal resource management.

As part of capability-building, SANRACA organized and trained leaders from other barangays who help in organizing work and training activities of the organization. These organizers are called the Local Volunteer Organizers (LVOs) who have been actively working with TDC in our expansion activities in the three other barangays.

That is the experience of SANRACA.

Coastal Resources Management: The Experience From Eastern Samar

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The use of a sustainable community-based strategy for managing coastal resources is currently being tested by a non-government organization in Eastern Samar. Since 1988, the Guiuan Development Foundation, Inc. (GDFI) has been actively working with coastal communities in seven municipalities around the province. Learning from early unsuccessful attempts of introducing cooperatives, artificial fish shelters and seaweed culture, GDFI has developed a three-pronged strategy to manage the province's marine resources. These revolve around the establishment and enhancement of community organizations, the delineation and development of marine reserves and replenishment areas and the pursuit of research and development activities.

Introduction

There is a growing body of literature worldwide addressing strategies to manage local marine resources (Pomeroy, 1994). This appeared as a result of the alarming decline of fish catch pointed out by the Food and Agriculture Organization (FAO) and other numerous independent studies (McGoodwin, 1990). At the close of the millennium, we are seeing the effects of decades of unregulated fishing in so many parts of the world. The Philippines has not been spared and suffers from the combined effects of overfishing and the use of illegal fishing gears and techniques. There is, however, a great deal of effort going on in many parts of the country discussing and actually implementing participatory strategies in coastal resources management.

In Eastern Samar, the Guiuan Development Foundation, Inc. (GDFI) is concentrating its efforts to implement a community-based management strategy for a coastal area ecosystem. This ecosystem is characterized in a 1990 study undertaken by the Philippine Council for Aquatic and Marine Research and Development (PCAMRD) as exhibiting the following main features:

- * low fish density and abundant species indicating depauperation of reef fish populations;
- * live coral cover of only 20%; and
- * productive areas limited either to deep waters or to reef areas far away from the main islands (FPE, 1992).

The bleak picture has been brought about by extensive habitat destruction and heavy fishing pressure. The use of dynamite, sodium, and cyanide to increase fish catch, as well as the destruction of mangrove forests for fuelwood use, have largely contributed to this prevailing condition. This has been exacerbated by the wanton use of small-mesh seine fishing, a widely-practised fishing method which catches even juvenile reef fish. Aggravating the situation is the unsuitability of most of the soil in the area for commercial agricultural production forcing the population (especially for Guiuan and Salcedo towns) to concentrate on fishing as the primary source of livelihood.

For over a decade now, government response to correct the situation has been limited to the installation of artificial reefs, occasional arrests of illegal fishers, seizure of fishing boats, all aimed at ending the use

of dynamite and cyanide. Lately, mangrove reforestation has been pursued at the barangay level (GDFI, 1995). With the entry of the GDFI, a strong tripartite (i.e., nongovernment, government, and local community) initiative began addressing some of the problems confronting the fishers of Eastern Samar and providing alternative livelihood to local stakeholders. It underscores lessons learned thus far. Discussions are based on secondary data as well as actual interviews with local stakeholders and project management staff and beneficiaries in Guiuan and its outlying islands.

Site Profile

Physical and Demographic Setting

Eastern Samar is one of the three provinces that make up the island of Samar, the easternmost island of the Philippines. It has 16 municipalities and is bounded on the east by the Philippine Sea, which joins the Pacific Ocean; on the north by the province of Northern Samar; on the west by the province of Samar; and on the south by the Leyte Gulf.

Of the 16 municipalities of the province, GDFI operates in seven contiguous coastal towns located at the southernmost tip of Samar Island (see Figure 1). Moving from west to southeast, these are the towns of Lawa-an, Balangiga, Giporlos, Quinapundan, Salcedo, Mercedes and Guiuan. About 30% of the total number of barangays in the entire province are located in these seven municipalities, with Guiuan having the largest number at 60. Tables 1 and 2 (ASI, 1995) outline the geographic and demographic characteristics of these municipalities.

FIGURE 1 PROJECT SITE OF GUIUAN DEVELOPMENT FOUNDATION, INC.

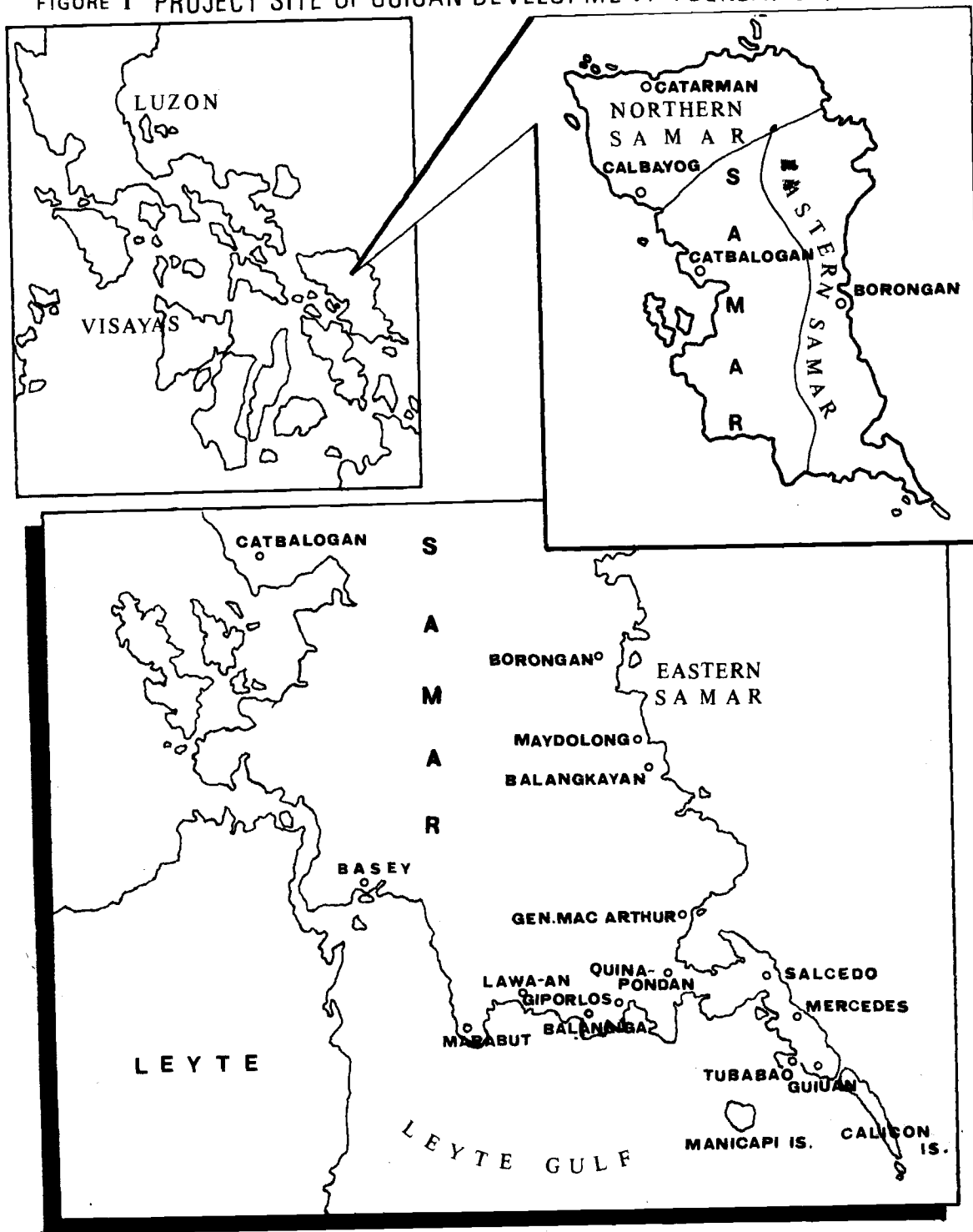


Table 1: Geographic and Demographic Characteristics by Municipality

Municipality	Land Area (sq. km.)	Income Class
(a)	(b)	(c)
Guiuan	109.3 (14)	5th
Mercedes	27.3 (4)	6th
Salcedo	166.6 (15)	6th
Quinapundan	67.7 (9)	6th
Giporlos	109.3 (14)	6th
Balangiga	192.6 (25)	6th
Lawa-an	137.9 (18)	6th
Sub-total	760.7 (18)	
Total	4,340	
E. Samar	(100)	

N.B.: Figures in parentheses represent percentage of sub-total

*Sources: NCSO, Provincial Profile of Eastern Samar 1990
NCSO, 1990 Census of Population and Housing*

Table 2: Geographic and Demographic Characteristics by Municipality

Municipality	Total Fishing Population	Total Population	(d)/(e) percent (sq/km) (e)/(b)	Population	Urban	Rural	Male	Female
(a)	(d)	(e)	(f)	(g)	(h)	(i)	(l)	(m)
Guiuan	7,888 (41)	30,689 (35)	26	309	13,360 (40)	20,128 (60)	17,257 (51)	16,501 (49)
Mercedes	570 (3)	4,848 (6)	12	165	918 (20)	3,586 (80)	2,311 (51)	2,193 (49)
Salcedo	6,495 (34)	16,597 (16)	39	142	3,032 (18)	13,557 (82)	8,596 (52)	7,993 (48)
Quinapundan	1,254 (7)	11,355 (13)	11	162	2,134 (19)	8,849 (81)	5,678 (52)	5,305 (48)
Giporlos	971 (5)	10,128 (12)	10	101	5,599 (51)	5,402 (49)	5,690 (52)	5,311 (48)
Balangiga	989 (5)	9,559 (11)	10	50	4,776 (50)	4,784 (50)	5,031 (53)	4,529 (47)
Lawa-an	931 (5)	7,275 (8)	13	57	3,403 (44)	4,389 (56)	4,128 (53)	3,664 (47)
Sub-total	19,098 (27)	90,451 (27)	21	124	33,492 (36)	60,695 (64)	48,691 (52)	45,496 (48)
Total	71,560	320,637	22		128,259	200,434	168,706	159,987
E. Samar	(100)	(100)			(39)	(61)	(51)	(49)

N.B.: Figures in parentheses represent percentage of sub-total

*Sources: NCSO, Provincial Profile of Eastern Samar 1990
NCSO, 1990 Census of Population and Housing*

Eastern Samar, like the rest of Samar island, lies in the path of devastating typhoons. As a result of its geographic location and proximity to the Pacific Ocean, it receives maximum rainfall throughout most of the year. The province is characterized by a rugged mountainous terrain mostly covered with vast patches of dipterocarp forests. Bolinao clay and limestone are the main soil types of the province, ranging in depth between 24 to 50 centimeters (Guiuan, 1994). These have been planted, where feasible, with coconut and occasional mangoes and other fruit trees. All towns, except for Maslog and Jipapad, face the coastal waters of either the Philippine Sea or Leyte Gulf.

The town of Guiuan is relatively prosperous when the income and class of each municipality are considered. In terms of land area, however, Balangiga ranks first (192.6 square kilometers), followed by Salcedo (116.6 square kilometers) and then by Lawaan (137.9 square kilometers). On the other hand, Mercedes, which was once part of Guiuan, has an area of 27.3 square kilometers and is the smallest. The seven towns have a combined area of 761 square kilometers or 18 % of the total for the province.

The combined population of 94,187 is 28 % of the total Eastern Samar population. About 70 % of the total population of these towns is found in the rural barangays. The towns of Salcedo and Mercedes, for example, have over 80 % of its population in the rural areas. Males appear predominant with the sex ratio for all seven towns at 107.02 (number of males per 100 females).

The fishing population of the seven towns accounts for 27% of the total for Eastern Samar. Salcedo has the highest

number (39 percent) of households involved in fishing. The non-fishing population is mostly involved in coconut farming and copra-making.

To reach the GDFI towns, one either travels by bus through Tacloban via Borongan route or one can take the overnight motor launch in Tacloban, which docks at the port of Guiuan. The town, incidentally, boasts of an airport built during the American liberation, well-preserved but barely used at the moment except for rare flights chartered by traders and tourists from Manila.

The GDFI and its CBCRM Program

The Guiuan Development Foundation, Inc. (GDFI) is a non-government organization that aims to contribute to the upliftment of the socio-economic condition of the fishers in the province of Eastern Samar. Established in 1988, it also commits itself to the rehabilitation of the parts of the province's marine environment as well as the development of the area's fishing industry. All these are geared towards the realization of its vision: that of developing politically, socially and economically empowered fishing communities committed to the development and protection of the fragile environment.

Armed with the above mission, GDFI has been concretizing its objectives with support from government agencies like the Philippine Council for Aquatic and Marine Research and Development (PCAMRD) and the Department of Environment and Natural Resources' (DENR) Coastal Environment Program as well as non-government institutions like the Foundation for the Philippine Environment (FPE) and the Philippine Business for Social Progress (PBSP).

The Early CBCRM Experience

During its first three years, GDFI embarked on a resource management program that revolved around livelihood activities carried out with funding from the Philippine Business for Social Progress (PBSP). Seaweed culture using the Euchema species was introduced together with offshore fishing using *payaos* (fish aggregating devices). A number of fishers' cooperatives were also established for credit lending. Women's groups even established a commodity store project funded by the National Confederation of Cooperatives (NATCCO).

Most of these projects failed miserably, however, with some cooperatives unable to pay back their loans. The cooperative model became a much abused idea among the fishers who joined organizations established by GDFI with the hope that loans would be offered. When these were not forthcoming, the membership drastically decreased. In interviews in Manicani, for instance, fisher leaders lamented that many of their members left their organizations because the loans they were expecting did not materialize. In one group in Jamor-awon, for example, only four out of 25 members were still active at the time of the interview.

In terms of environmental conservation and rehabilitation, however, GDFI was successful. With the help of PCAMRD, a marine reserve was established in Bagongbanua Island. The reserve proved successful enough to warrant replication in the other municipalities.

The Guiuan Marine Resource Development and Management Project

Armed with lessons learned during the early years, the GDFI refined its operations and, in 1992, established a new CBCRM program called the Guiuan Marine Resource Development and Management Project. Funded by the FPE during its first three years (1992-95), the project has taken on a life of its own and continued the pursuit of implementing a management program incorporating three CBCRM strategies. These are the:

1. Establishment and enhancement of community organizations, resource management councils and federations;
2. Delineation and development of marine reserve and replenishment areas; and
3. Conduct of research and development activities geared toward both coastal resource conservation/rehabilitation and community progress through income-generating activities.

Community Organizing

From 1993 to 1994, community organizing efforts resulted in strengthening 25 community groups. Of these, 21 are located in Guiuan and two each in Mercedes and Salcedo. In 1995, 13 groups coming from the municipalities of Quinapundan, Giporlos, Balangiga and Lawaan were organized. This year, the GDFI intends to add 12 more groups to the project. These groups have gone beyond the cooperative framework and have been tasked with inculcating ecological awareness among fellow fishers while advocating for and

establishing marine reserve areas. Prior to community organizing activities, a survey was undertaken to assess the communities' understanding of the marine ecosystem. Socioeconomic baseline surveys were also conducted to investigate the conditions occurring in the communities prior to intervention.

A key intervention strategy applied by GDFI among these groups is the holding of Ecological Awareness Seminars which are aimed at generating interest and commitment to protect, conserve and regenerate the marine resource base. A training module has been developed by the GDFI staff precisely for these seminars. Each seminar culminates in the formulation of resolutions or action plans by the participating organizations/groups. All groups consist of fisherfolk families numbering between 20 to 50 or more. Aside from the said seminar, all have undergone training in Leadership, Group-Building, and Organizational Management. A Community Organizing Volunteer (COV) training seminar was also conducted among participants selected from among the group members. There are now some barangays in the seven towns which have at least one active COV.

In April 1993, the Southern Samar Federation for the Protection and Rehabilitation of Natural Resources (SSFPRNR) was established by 14 of the original 25 groups under the GDFI. The number has since increased and included all active organized groups. The activities of the federation revolve around four areas:

- * *Bantay-Dagat* operations and advocacy work;
- * *Payao* and other livelihood projects; and
- * Coastal resources regeneration.

Paralegal training sessions have been conducted among *Bantay-Dagat* members who are also deputized as coastal zone wardens. These wardens, some of whom are women, are tasked with patrolling and apprehending fishers who resort to illegal fishing in the coastal waters. In Guiuan, a patrol boat provided by the FPE has been used in *Bantay-Dagat* activities, with fuel supplied by the municipal government. Meanwhile, advocacy work by the Federation has resulted in its membership in the Municipal Development Councils of the seven towns. It is also currently busy lobbying for the declaration of *hulbot-hulbot* (trawl fishing) and aquarium reef fishing illegal in the waters off Guiuan, Mercedes and Salcedo.

The making of *payaos* has been pursued as an alternative livelihood activity. The risks involved, however, have prevented most members from following suit. In Guiuan for example, one group funded by PhilGerFund got two motorized boats and materials for the construction of two *payaos*, but their efforts were in vain when one of the boats and a *payao* were destroyed by typhoon. The other *payao* was later stolen. As a result, GDFI has begun reseedling clams with some of the groups to test their commercial viability as an alternative source of livelihood.

Resource regeneration activities of the federation revolve around the reseedling, monitoring and protection of giant clams (*Tridacna sp.*), which were produced at the hatchery station of the GDFI and the Department of Agriculture (discussed later in this paper). As earlier mentioned, these clams constitute part of the income-generating activities that are being tried by GDFI.

Marine Reserves and the Coastal Zone Management Councils

In November 1991, GDFI began establishing a marine resource replenishment area or reserve around the island of Bagongbanua, off the coast of Guiuan, with funding from the PBSP/USAID. Bagongbanua is an uninhabited island composed of only about 100 square meters of land at high tide. The reserve, however covers about 50 hectares. The site was chosen, despite a coral reef cover of only 20%, due to its manageability and the presence of mangroves, seagrasses and corals. It is also home to numerous species of marine birds.

To enhance the poor resource base of the reserve, GDFI seeded giant clams, wing oysters, sea cucumbers, abalone, trionchus and other gastropods, together with mangrove propagules in certain parts of the islands and the 50-hectare reserve zone surrounding it. The reserve is managed by two caretakers employed by the GDFI. By 1997, it is expected to be turned over to the DENR under its Protected Area Management Board (PAMB).

A subsequent resource appraisal undertaken by the PCAMRD in 1993 indicated that coral cover has increased by 25% since the declaration of the marine reserve. Certain marine vertebrate and invertebrate species have also increased in number. The success has been attributed largely to the fishing ban in the area. Communities nearby have been reportedly active in protecting the reserve.

This experience has led further to the declaration of certain coastal areas as marine reserves by the municipal councils

of Lawaan and Balangiga, with another four soon to be developed in Giporlos, Quinapundan, Salcedo and Mercedes. Apart from municipal marine reserves, there are four established barangay reserves in Lawaan and Balangiga. The identification of reserve areas have been done largely by community residents themselves, pointing to a widespread acceptance of the concept.

To facilitate the monitoring of marine reserves, both planned and existing, a Coastal Zone Management Council (CZMC) has been formed in each of the seven towns. Multisectoral in membership, these councils are tasked with formulating, reviewing and lobbying for certain fishery ordinances in their respective municipalities. The fishery ordinance in Guiuan, passed by the municipal council with the assistance of the CZMC, has served as a model for the other towns to follow. The CZMCs were created after an Area Planning Workshop was conducted by the GDFI. All councils have already formulated concrete plans for the management of the coastal environment.

Research and Development

Research activities cover the assessment of marine resources in the project sites, both before and after project implementation. These assessments are undertaken by teams of marine biologists. A total of three more resource assessment studies have been undertaken since the first one done by the PCAMRD in 1990. This year, the USC Marine Biology Section team with a GDFI representative undertook a series of tests around Guiuan and Homonhon Island. The data collected primarily correspond to topography, and physico-chemical/biological aspects of the coastal waters.

Studies of similar nature have also been undertaken in other potential marine reserves. It is imperative that resource assessments and rapid resource appraisals are undertaken prior to the declaration of reserves in order to quantify and determine the diversity of resources. These activities will prove useful in gathering information for ecological management decisions as well as in determining changes toward the phasing out of a project. A sample of the data gathered in one of these studies is presented in Table 3, which outlines the live coral cover and reef condition of the southern Samar coastal waters. This was undertaken by the PCAMRD in 1993.

The PCAMRD has long been recommending that the only way to reduce fishing pressure in the area would be to introduce sea-ranching activities since land-based resources are hard to come by. As part of GDFI's development strategy, a marine hatchery and research station began operation in August 1993. Located at the Department of Agriculture Fishery Complex in Guiuan, the hatchery/research station has successfully spawned three giant clam species (squamosa, crucea and deraza). As a joint undertaking between the GDFI and DA, the research station is designed to develop and test new breeding technologies that can be transferred to fisher groups if found viable for commercial production. The hatchery is expected to supply fishers with juvenile marine organisms for sea farming and restocking of overexploited reefs.

The commercial impact of the hatchery has not yet been fully realized but GDFI has already sold clams produced there. The funds generated from the sale have been used to expand the hatchery's facilities. In

addition, a collaborative effort with the U.P. Marine Science Institute has resulted in the transfer of some clam species to the GDFI hatchery from U.P. Meanwhile, a blister pearl production project in Bagongbanua using wing oyster has already begun production for testing and technology verification.

Conclusion: Lessons, Recommendations and Prospects for Sustainability

The early years of GDFI resulted in meaningful but painful learning experiences in pursuing participatory management strategies. The long history of dole outs, a practice not at all unrelated to Philippine political life, has developed an undesirable attitude among many. For instance, fishers who planned to join GDFI organizations in their community backed out when they learned that GDFI was not there to offer them loans. Nevertheless, fishers who stayed on and continued to work on a voluntary basis with GDFI have provided an army of committed people. Today, the people's organizations (POs) established by GDFI are sustained by the spirit of volunteerism.

One strength pointed out by ASI in its process documentation report for GDFI is worth noting. Some PO members are also officers in the local government units. They are looked upon as authority figures in their local communities and exert tremendous influence on their fellow community members. This allows for greater capacity to mobilize resources for the environment. One of these is the marine reserve concept, which has been established in many parts of the seven towns thus resulting in a widespread acceptance of the idea.

Table 3: Live Coral Cover, Reef Condition in the Survey Sites

Site	Live Coral Cover (%)	Reef Condition
Bagongbanua	25.8	Poor
Balangiga (Maglolo)	50.0	Fair
Cablagan	49.6	Fair
Lawa-an A	44.4	Fair
Lawa-an B	57.9	Good
Manicani	27.6	Fair

Source: ASI 1995

There is, however, a perceived problem with regard to income-generating activities to reduce fishing pressure. It appears that much still needs to be done to respond to the needs of the local communities who are deprived of fishing grounds which have been turned into marine reserves. A GDFI strategy being developed is to clothe people's organizations with legal personality to enable them to avail of loans for livelihood projects. This has to be studied thoroughly, taking into consideration the data on unsuccessful experiences of loan-based income-generating projects. GDFI will have to innovate and learn from the experiences of others in this regard. GDFI is nevertheless aware that the success of its CBCRM programme hinges on the economic well-being of fisher communities.

Another issue that has to be addressed is the growing impatience and frustrations exhibited by PO members regarding the futility of patrolling the coastal waters unarmad. It appears that sodium cyanide users and blastfishers have become adept at identifying

Bantay-Dagat boats. Fishers revealed in interviews that they face the reality and difficulty of arresting dynamite fishers who practice their trade in broad daylight and threaten defenseless fishers with bodily harm.¹ Worse, the network of buyers and sellers of fish caught by dynamite continues to operate even beyond Tacloban City.²

¹Interviews with fishers pointed to a small island full of migrants from Bohol as the haven of dynamite fishers. When asked why people resort to blastfishing even though the destructive effect it entails on marine habitats is well-documented, the fisher leaders revealed that these were non-Warays who had no love for the Samar habitat because they were Bol-anons.

²It is believed that aquarium reef fish caught with the use of sodium cyanide has stopped in Guiuan because the market for it has moved elsewhere in Samar.

These issues, though they appear to put sustainability of the project in doubt, are nonetheless balanced by certain plus factors. First is the commitment of the GDFI to the development of Eastern Samar. GDFI is run by a devoted cadre of development workers who have designed a sound project even if limited in funds and has demonstrated limited success. As part of its plans to sustain its CBCRM program, GDFI have come up with four schemes. These are:

- * The training of local stakeholders to monitor and evaluate their marine reserves to prepare them to take over once scientists and technical personnel pull out from the project;
- * The holding of coastal resources management seminar-workshops among the various sectors of each municipality to plan and implement programs beyond marine reserve protection and introduce participants to management options/models of resource management;
- * The expansion of marine hatchery operations toward the breeding of other commercial species like abalone;
- * The development of a multidisciplinary and multi-agency marine resources development and management program (composed of the DENR, DA, UP-MSI, UP Tacloban) to produce a comprehensive development and management plan for the marine resources of the seven towns; and
- * The establishment of a financial mobilization fund aimed at reproducing institutional materials for distribution to potential funding agencies and individual donors.

All these are designed to prepare local communities for the eventual transfer of responsibility to them in the management of their coastal resources. GDFI intends to disappear from the picture but only at the time when local communities have been fully capacitated and empowered to assert their stake over local resources—something that has gradually entered the picture with the help of GDFI.

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Reaction to Case Presentation

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On the Fisheries Sector Program

The Fisheries Sector Program (FSP) is the flagship program of the Department of Agriculture. It is being implemented in the 12 priority bays that vary in sizes from small to medium and large-sized bays or gulfs. In the Visayas, the FSP operates in the four bays of Carigara, Ormoc, San Pedro and Sogod.

FSP's major components focus on resource and ecological assessment, research and extension, law enforcement, credit, and infrastructure. As regards gender issues, FSP recognizes the important role played by women not only in coastal resource management but also in major social, cultural, and economic endeavors. In FSP, harnessing women's capabilities in running their own organizations and their participation in CRM campaigns and alternative livelihood projects has been successful. Unlike in other countries which have cultures biased against women, Filipino women are given equal, if not preferential, treatment with men.

On Mangrove Reforestation and Rehabilitation

Mangrove reforestation under FSP started with contract reforestation, modified later on to a community-based approach. Working then with the Department of Environment and Natural Resources, the major problem that was encountered by FSP

was the unattractiveness of the amount and scheme of the community-based approach. Thus, the target of 30,000 hectares for mangrove reforestation and rehabilitation was not fully attained.

On Community-Based Coastal Resource Management

Community-based coastal resource management (CBCRM) can be best implemented through the participation of the fishers and other stakeholders in the program. The need to work closely together with local government units (LGUs), from the barangay level to the provincial level, in the formulation and implementation of CBCRM projects is indeed essential. In FSP, co-management of the resources has been actively pursued among the bay areas, particularly in the preparation and implementation of CRM plans. In the case of DA, Memoranda of Agreement (MOAs) have been entered into with the LGUs to strengthen government-community partnership.

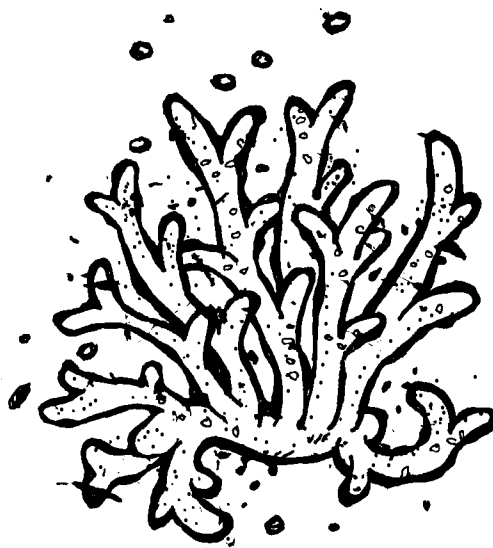
On Community Organizing

The delay in fund releases is one major factor which affects the organizing work of the program. This problem was attributed to the delay also in the submission of accomplishment reports by the non-government organizations (NGOs) contracted by the FSP. element caused by various factors such as sanizations (NGOs) contracted by FSP, the inefficient system of budget releases, and the lack of personnel who would monitor and supervise the activities of NGOs.

Even though the spirit of volunteerism may be the NGOs' reason for existence as non-profit organizations, our FSP experience shows that NGOs could not effectively and efficiently operate without sufficient financial resources.

On the Future and Prospects of CBCRM

The Asian Development Bank (ADB) has formulated the Project Preparation Technical Assistance (PPTA) for the Fisheries Sector Development Project (FSDP) that will serve as a sequel to the current FSP. This FSDP may still maintain CRM as its core project based on the achievements of FSP in this area.



Part Three



Luzon Case Studies



The Formation of Coastal Resource Management Council for the CBCRM Program of Pagapas Bay

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This study traces the development in the formation of Coastal Resource Management Council (CRMC) in the towns of Nasugbu, Lian and Calatagan in Batangas Province. It describes the partnership between the non-government organization (NGO), the Community Extension and Research for Development (CERD), Inc. and the people's organizations (POs) as they conceptualized, negotiated with the local government units, set-up and operationalized the CRMC. It narrates the initial enthusiasm of the trisectoral partners as they laid down the structures for managing the coastal resources of Pagapas Bay and the early demise of the CRMC as the NGO and the POs battled over differences in perspective.

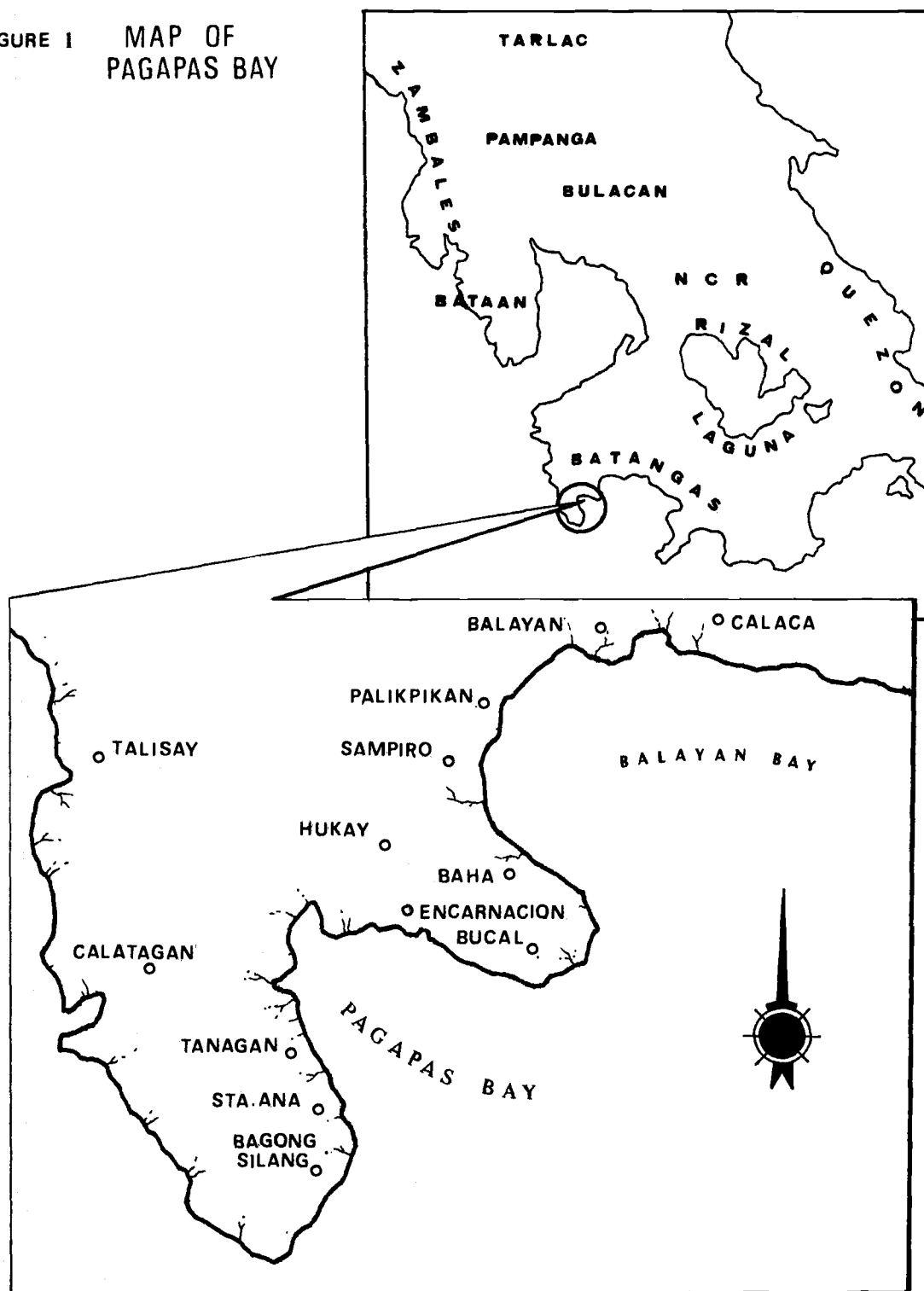
The study concludes with a synthesis of the lessons learned and recommendations in setting up a CRMC.

Site Profile

Pagapas Bay covers an area of 2,930 hectares. It is located in the southwestern portion of Batangas province in southwest Luzon. The bay is bounded on the east by the barangays of Bagong Silang, Tanagan, Sta. Ana, Sambungan, Bucal, Encarnacion, and Hukay, all in the town of Calatagan. An almost continuous fringing reef surrounds the bay to the north and to the west. The coral cover can be generally classified as degraded with an average of 1-10% live cover (see Figure 1).

Approximately 365 hectares of the bay is 0-10 meters deep and the remaining 1,770 hectares is over 50 meters deep. In some parts, the bay reaches over 200 meters in depth. The whole area is enclosed within seven kilometers of the coast so therefore, commercial fishing is banned.

FIGURE 1 MAP OF
PAGAPAS BAY



The present area of mangroves in Pagapas Bay is 26.3 hectares compared to the 132.8 hectares in the 1950s. All remaining areas of mangrove are dominated by *kalapinay/api-api* (*Avicenia spp.*), *pagatpat* (*Sonneratia caseolaris*) and *bakawan* (*Rhizophora spp.*).

The Pagapas Bay watershed is dominated by the Santiago River in the north. Despite its relatively small size, it feeds the rice fields of barangay Lucsuhin. Other seasonal rivers of the bay are not as reliable.

In coastal areas surrounding Pagapas Bay, 35.5% of the total land area is planted to sugar, and riceland constitutes only 3.1%. Degraded forest (scrub) covers 26.6% and the remaining forest area accounts for 5.7%.

The whole of Calatagan (the municipality covering Pagapas Bay) has a population of 35,543 (1992 NCSO). Of this figure, 58% or 20,639 are found in coastal communities. The number of fishers is 1,937, which accounts for 22% of the coastal labor force.

Most of the people are engaged in fishing and/or farming. Some are also engaged in livestock raising.

The fishers are generally engaged in the traditional method of catching fish using hook and line, drift nets, and bottom-set nets. Artisanal fishers using non-motorized *bancas* venture only up to five kilometers from the shore, while those on motorized *bancas* go farther than seven kilometers, sometimes even reaching Mindoro. Based on the Fish Stock Assessment (FSA) conducted by the Community Research and Extension for Development (CERD), a fisher's

average catch per day is 2.5 kilograms. Hence, the estimated monthly income of fishers along the bay ranges from P500.00 - P2,000.00.

Social services available to coastal communities include education and health. Schools are usually located along the highway, causing problems for coastline residents who have to use rough roads to reach the highways. Coastline residents usually have very low educational attainment, finishing elementary level, but seldom going beyond secondary level.

Most of the areas have health centers but these are also often located along the highway and are therefore relatively inaccessible. Occasional medical missions are conducted in the *barangay* by the government and some private institutions.

Community Problems and Issues

CERD's partnership with the fishers in Pagapas Bay identified the following problems and issues regarding resource use:

Foreshore Land/Demolition of Coastal Communities

Majority of the foreshore land where the fishers reside is being claimed by private individuals as titled, despite the government law that it is part of the public domain. Particularly in Bagong Silang and Hukay, cases of eviction and demolition are prevalent. This had been traced to the case of 2,000 hectares excess land of the Ayalas and the Zobels. According to Supreme Court Decision No. L-30240, dated 25 March 1988, the Ayalas and the Zobels were ordered to revert back the said property to

the public domain because these are part of the territorial sea, foreshore land and navigable waters. However, the Ayalas and the Zobels were able to block the implementation of the decision.

Quarrying of Corals and Sand, Illegal Cutting of Mangroves

Despite the ban issued by the government, wanton destruction of corals through quarrying and illegal cutting of mangroves continues to prevail. This is being done to give way to the construction of resorts and fishponds.

Unfair Competition from Commercial Fishers and Capitalists' Ventures Encroaching on the Traditional Fishing Ground

Trawlers, purse seines, fishponds and prawn farms have encroached into what were formerly the exclusive fishing grounds of subsistence fishers. These methods and ventures practically leave the fishing grounds overexploited and no fish for the small fishers to catch.

Non-ownership of the Means of Production

A large number of fishers do not own the *banca* or the gears needed in the pursuit of their livelihood. Hence, they become workers of those who own the means of production and receive only a fraction of the produce.

Dependence of Fishers on Middlemen for the Marketing of Their Catch

The fluctuating daily catch and the perishability of the produce make the fishers dependent on the middlemen. This system makes the fishers vulnerable to the whims of the middlemen. The lack of control of the marketing system and lack of access to credit facilities aggravate their economic status.

Industrialization

The industrialization of CALABARZON (i.e. the provinces of Cavite, Laguna, Batangas, Rizal and Quezon) poses a strategic threat to the conservation, rehabilitation and maintenance of the marine environment and its optimum utilization. Project plans show that the bay would be transformed into recreational and tourist areas and the adjacent Balayan Bay would be converted into an industrial zone thereby causing pollution which would affect the productivity of the bay.

The Community Extension and Research for Development (CERD), Inc.

History

In 1978, an informal group of professionals embarked on a community-based health program in a farming community in Pangasinan, using it as an entry point for organizing the people towards solving their various problems. Subsequent action-research projects on fishing communities led the group to focus its effort on fishing communities where only a few non-government organizations (NGOs) have been involved.

In 1983, the Community Extension and Research for Development (CERD), Inc. was organized and was registered with the Securities and Exchange Commission in September of the same year.

In 1986, CERD sponsored a National Consultation of Small Fishers during which the key issues and problems affecting the fisheries sector in the different regions of the country were identified and discussed. The consultation paved the way for the formation of a national fishers' association, the *Pambansang Lakas ng Kilusang Mamamalakaya ng Pilipinas* (PAMALAKAYA-Pilipinas).

CERD's Vision

CERD envisions coastal communities where there is equitable and sustained economic development; where the people, particularly the fishers, are entrusted with the control, use and management of the sea and its resources. Towards the building of a Philippine society that is free, democratic, just, humane, and gender-fair, CERD engages in sustainable development programs, particularly organizing, education, capability building, research, coastal resource management, and socio-economic and cooperatives development. CERD also seeks to cooperate with non-government organizations (NGO)s, people's organizations (PO)s, government organizations (GOs), and other entities for the promotion of its programs.

Project Objectives and Components

Pagapas Bay was selected as a community-based coastal resource management (CBCRM) program site for the following reasons:

- * Presence of fishers' organizations which have had experience in collective undertaking or, where there are no fishers' organizations yet, the willingness of the community to be organized and to collectively work towards the resolution of their community problems;
- * Relative concentration of fishers that the program would address;
- * Absence or lack of development programs to avoid duplication of efforts; and
- * Strategic location of communities in terms of influencing adjacent fishing communities.

CERD's core program, the Fishery Integrated Resource Management for Economic Development (FIRMED) is an attempt at operationalizing the concept of CBCRM. FIRMED's approach to development recognizes that the problems of fishers can only be addressed through an integrated approach, which undertakes livelihood projects and also takes steps to protect and rehabilitate productive land and marine/aquatic resources and utilize them at optimum levels.

Its core strategy is community organizing which focuses on the fishers sector in adjacent coastal communities of a given/selected bay area and inter-related resource units.

In pursuing its development work in a coastal community, FIRMED seeks to tap the organized strength of the fishers and other sectors through their local people's organizations and the cooperation of local government units, government agencies, and other non-government organizations. By linking with these sectors, FIRMED hopes to promote a multi-disciplinary approach to solving the fishers' problems.

FIRMED aims at sustainable resource management of the coastal resources at the bay level through community organizing, participatory research and resource monitoring, resource rehabilitation, setting up of socio-economic projects and support services (i.e., market credit, etc.), and the establishment of linkages with both government and private institutions for technical support and advocacy.

To effectively implement CBCRM, FIRMED employs the following strategies:

1. Formulating alternative livelihood sources that are appropriate, viable, sustainable, replicable and gender-sensitive;
2. Conducting awareness campaigns and activities for stricter enforcement of fishery and environmental laws;
3. Enhancing the organizing and capability-building skills of people's organizations, leaders and development workers;
4. Strengthening the linkages between other NGOs and local government units; and,
5. Developing and refining CBCRM practices and methodologies, e.g., monitoring of rehabilitation efforts and promulgating appropriate ordinances.

The FIRMED program has five basic components. The core component is the **coastal community organizing**, which aims at building viable and functional organizations. It ensures the participation of the community in the planning and implementation of the programs/projects. The **human resource development** component aims to develop and train key leaders and members of people's organizations at the sitio, barangay, municipal, and provincial level. Along with this effort is the training of its own program staff and other NGOs in order to meet the human resource needs of the program. The **socio-economic program development** aims to establish cooperatives, savings and credit

facilities to attain economic and political empowerment for the marginalized sectors. The **sustainable fisheries development** is geared towards the protection and rehabilitation of the resources in order to achieve productivity and sustainability at optimum level. Through **advocacy and networking**, development efforts are to be coordinated and integrated into complementary and parallel efforts to achieve effectiveness and efficiency.

The Formation of Coastal Resource Management Council

CERD - Batangas started implementing its FIRMED program in 1992. In the beginning a rapid rural systems appraisal (RRSA) was conducted to assess the resources and identify the problems in the community. The most common problem identified among the fishers was declining catch due to the deterioration of the marine resources brought about by, among others, illegal fishing activities. This problem in return has resulted in decreasing income among fishers.

The findings of the RRSA were validated in a workshop attended by fishers and local government officials. Realizing their common plight and the urgency to address their problems, the fishers decided to organize themselves. In the municipality of Calatagan they named their organization *Samahan ng Maliliit na mga Mangingisda sa Calatagan* (SAMMACA) or Organization of Small Fishermen in Calatagan).

United in the principle of organizing the coastal communities, CERD-Batangas and SAMMACA joined hands in launching the FIRMED program. The program aimed

at making the coastal communities the implementor-advocates of CBCRM through an integrated approach. The program advocated for a CBCRM and initially demanded the passing of a resolution declaring Pagapas Bay a marine reserve. Some municipal officials opposed this move but since the people's organization's demands were substantiated by the results of the RRSA, the fishers were able to prevail upon the Municipal Council of Calatagan to approve the resolution. The approved resolution even extended the scope of the marine reserve to cover the whole municipal waters of Calatagan.

In January 1993, the government, through the Philippine Maritime Command and the Office of the Congressman of the First District of Batangas, offered the *Bantay-Dagat* (Fish Warden) as an alternative resource management program. The organized fishers did not readily accept the proposed program but instead consulted their own ranks and CERD as well.

CERD facilitated the setting up of a study group composed of fisher leaders and CERD staff to review the *Bantay-Dagat* proposal. During these study meetings the idea of trisectoral approach was presented and discussed. Unlike the government proposal, the trisectoral approach will place the POs and NGOs on equal footing with the local government units in a formal structure. Moreover, the tri-sectoral approach will not be limited to the anti-illegal fishing practices and anti-commercial fishing thrust of the *Bantay-Dagat* program but will be broadened to include coastal resources protection and rehabilitation. The trisectoral approach was presented as a counter-proposal to the respective government agencies including the Office of the Congressman of the First District of Batangas.

From February to May 1993, a series of dialogues and workshops was held to discuss the PO's proposal to set up a "trisectoral consultative body" (TSCB) for resource management. In the beginning, the local government units (LGUs) were quite ambivalent to the idea of TSCB. The first three months of negotiation were difficult but finally, on May 9, an agreement was reached to set up a trisectoral consultative body. This was named the Nasugbu, Lian and Calatagan (NALICA) Coastal Resource Management Council (CRMC).

The Council is composed of the mayors of the three municipalities, and a representative each of the Philippine National Police (PNP) Maritime Command, Philippine Coast Guard, Bureau of Fisheries and Aquatic Reform (BFAR), *Sanggunian/Habagat*, and CERD. The Congressman from the First District of Batangas served as adviser. The respective municipal mayors of Nasugbu, Lian and Calatagan took turns every four months to preside over the CRMC.

In addition, a secretariat was formed to ensure the effective coordination with member municipalities in the CRMC. The secretariat is composed of the information officers of the three municipalities, the secretary-general of the PO, and the advocacy officer/CO supervisor of CERD. The formation of the CRMC was followed by a commitment from the Office of the Congressman of the First District of Batangas to put up an initial fund of P300,000.00 from his countryside development fund (CDF). Each municipality was allocated P100,000.00.

Memorandum of Agreement and Initial Operations

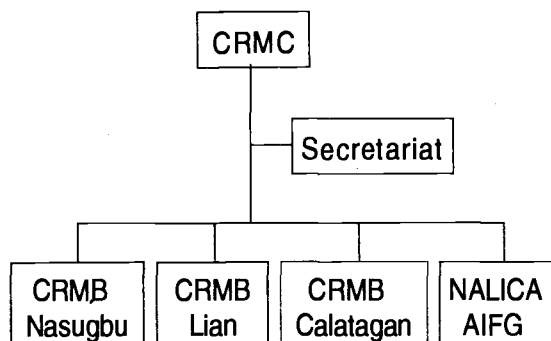
The Memorandum of Agreement (MOA) was signed on May 28, 1993 in Lian, Batangas. It was entered into by the municipalities of Nasugbu, Lian, and Calatagan, by the PNP Maritime Command, Philippine Coast Guard, BFAR, *Sanggunian/Habagat*, and CERD. The MOA stated the objectives of CRMC as follows:

1. To rehabilitate the municipal waters of NALICA;
2. To address the problems of illegal fishing and poverty of all sectors in the coastal communities;
3. To strengthen the partnership between government organizations (GOs) and people's organizations (POs); and
4. To promote the protection and sustainability of the municipal waters of NALICA.

The functions of the different committees were also stipulated in the MOA.

The first two months of the CRMC were devoted mainly to organizational and institutional matters. It was also during this period that the representatives of the POs and NGOs consciously levelled off with the members of the Council, especially with those coming from the LGUs. This was done through groundworking and reiteration of the principles contained in the MOA.

The Coastal Resource Management Body (CRMB) Formation



Structurally, the Coastal Resource Management Bodies (CRMBs) are the municipal counterparts of CRMC. This is where the specific details of municipal coastal issues are being discussed and resolved. After the CRMC Executive Committee formalized its composition and initially set its target for the succeeding months, it called for simultaneous meetings of the CRMBs to discuss the submission to the *Sangguniang Bayan* of the following: the proposed ordinance for a 15-kilometer limit of municipal waters, allocation of the P100,000 fund for each CRMB, and a request for a "Fish Wardens' Training."

During the 5 October 1993 meeting of the Executive Committee, the emerging consensus was to pass a uniform ordinance on the 15-kilometer limit of municipal waters. During this meeting, they also decided to include a budget for CRMB in their respective municipal budgets for 1994. According to them, this is to provide for the continuity of CRMB program and plans for the coming year.

Operationalization of the CRMC

On 9 November 1993, the presiding officer of CRMC (the mayor of Lian) called for a joint *Sangguniang Bayan* session of the respective *Sangguniang Bayans* of Nasugbu, Lian and Calatagan to legislate a uniform ordinance declaring a 15-kilometer limit of municipal waters. In order to broaden the discussion and get the opinion of the general public on the proposed ordinance, a technical committee was formed, consisting of three representatives each from the respective *Sangguniang Bayans*. The committee was tasked to conduct meetings and public hearings with fisher organizations and the general public to gather their views and suggestions on the proposed ordinance.

The debate on the proposed ordinance focused on two points: 1) the penalty of P5,000.00 for the violation of the proposed ordinance (this amount exceeds the limit stipulated in the Local Government Code which is only P2,500.00); and 2) amendments proposed by one of the *Sangguniang Bayans* to exclude titled lands from the coverage of the ordinance.

After conducting public hearings, the technical committee submitted its report in February 1994. It was the opinion of the committee that the proposed ordinance was no longer necessary as the prohibition against commercial fishing within the seven kilometer municipal waters limit is already provided for in Presidential Decree No. 704. The committee also pointed out that the extension from seven to 15 kilometers of municipal waters is also provided for in the Local Government Code.

In spite of the findings of the technical committee, the CRMC Executive Committee

went ahead and endorsed the proposal for an ordinance extending the limit of municipal waters from 7 to 15 kilometers.

CRMC, One Year After

The Coastal Resource Management Council (CRMC) celebrated its first anniversary on 17 June 1994 with a day-long meeting. The day's activities included a summing up of the CRMC's year-long experiences, presentation of fishers' perspective on CRMC, overview presentation of CBCRM models, and inspirational messages from the mayors of the three municipalities and other guests.

The NALICA-CRMC's experience was presented by the incumbent chairperson, the mayor of Calatagan. He narrated that before the formation of the CRMC, POs always appealed to the municipal government for assistance in protecting their source of livelihood especially the sea. But most often their requests were not acted upon. After the CRMC was formed and the MOA was signed, CRMBs were formed in each member-municipality to allow for broader participation of POs in the management of the coastal resources in Pagapas Bay.

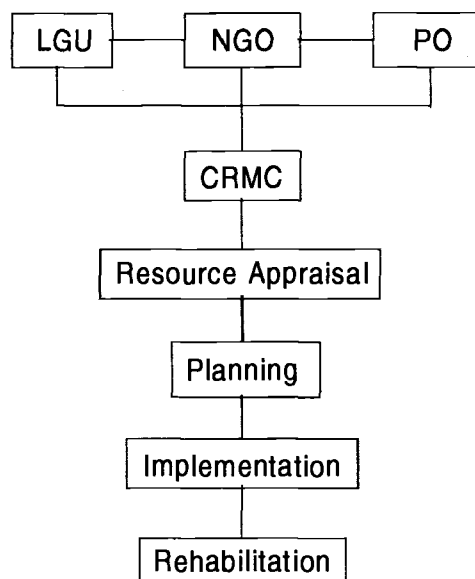
The CRMC was chaired by the respective mayors of NALICA on a rotation basis. The following were the highlights of accomplishments under the respective chairmanship:

1. Mayor of Nasugbu
 - * Validation of the findings of the rapid rural systems appraisal (RRSA) in District I; and
 - * Conduct of regular monthly meetings.
2. Mayor of Lian
 - * Conduct of training for fish wardens, with the assistance of BFAR; and
 - * Formation of Anti-Illegal Fishing Group (AIFG) composed of 80 fish warden-members, who assisted in the implementation of fishery laws.
3. Mayor of Calatagan
 - * Conduct of an assessment of the accomplishments of CRMC for the past year; and
 - * Planning for the following year.

After the presentation of NALICA-CRMC's experience by the mayor of Calatagan, an open forum followed. Representatives of POs from Lian and Nasugbu read a statement expressing their views on the status of CRMC. They alleged that the CRMC had failed to come up with a program of action and that only the fishers were serious in apprehending commercial fishing vessels intruding into the municipal waters. They believed that the Coast Guard was coopted by the owners of the commercial fishing vessels. In conclusion, they expressed the belief that the CRMC was a failure.

The mayors replied to the allegations of the PO representatives, saying that the CRMC was just one year old and it was too early to declare it a failure. Nevertheless, they expressed belief that, contrary to what the PO representatives think, the CRMC had been able to come up with a program. They asserted that they had implemented the provisions of PD 704 and that they had apprehended violators of the law. They also made it known that aside from the P100,000.00 that the Congressman from the First District has contributed to each of the CRMBs, they have also allotted funds from their respective municipal budget. Finally, they urged that problems encountered by members of the CRMC should be discussed during meetings. They pointed out that differences between the fish wardens and the Coast Guard should be threshed out in dialogues between the agencies involved.

Lastly, CERD made a presentation of CBCRM models (see illustration below).



The Early Demise of the CRMC

On its second year, the CRMC suffered a setback when the differences in program perspective between CERD and the people's organizations in Lian and Nasugbu came to a head. The POs looked at coastal resource management as an issue to be raised against government for its failure to protect the resources and undertake programs to rehabilitate it. On the other hand, CERD believed that coastal resources management was a program that should be implemented with the broadest participation of all stakeholders including the local government units. While they admitted that government was the main protector of the environment, it had limitations and it was only the stakeholders, the fishers, who could be effective managers of their coastal resources.

This difference in program perspective led to the termination of CERD's program in Lian. This situation was made difficult by the resignation of CERD's advocacy officer who was CERD's representative to the CRMC. Since no immediate replacement was available, CERD's program coordinator took over the post. This arrangement was far from ideal and led to the decline of contact with POs in Lian and Nasugbu.

But despite of weakening of the CRMC, CRMB-Calatagan continued its operation. Meetings and discussions with the *Sangguniang Bayan* on the implementing guidelines for the marine reserve continued. Also, problems encountered regarding apprehensions of illegal fishers were acted upon by the *Sangguniang Bayan*. However, during the holding of the May 1995 elections, the operations of CRMB Calatagan slowed down. As the presiding officers were busy

campaigning, the CRMB was not able to convene during the campaign period. There was a resurgence of illegal fishing activities in Pagapas Bay and the approval of the implementing guidelines for the marine reserve was delayed.

The election of a new mayor further placed the fate of the CRMC in jeopardy. As resource management operations continued to grow in Pagapas Bay, the fish wardens called for a dialogue with the new leadership of the municipal government. They called the attention of the new mayor to continuing illegal activities like mangrove conversion, quarrying, and dynamite fishing. They urged the new mayor for the continuity of the CRMC and the approval of the implementing guidelines for the marine reserve.

The new mayor expressed his willingness to help in whatever way he could but pleaded for understanding as he was still familiarizing himself with his new tasks as mayor. He promised to study the proposals, particularly the CRMC. He called on the POs in Calatagan to get themselves accredited and possibly serve as sectoral representatives in the Municipal Development Council.

Lessons Learned

1. **Policy and implementing guidelines are important to a Memorandum of Agreement.** The setting up of the CRMC was delayed for several months due to the lack of implementing guidelines. The initial months were devoted to groundwork, clarifying the basis of CRMC, and setting up of systems and procedures. A MOA should not only contain a statement of objectives but also include policy and implementing guidelines.

2. **Participation during the conceptualization stage of the CRMC was narrow.** Majority of the members of the CRMBs and secretariat were not participants during the early stage of dialogues and negotiations for the setting up of the CRMC. Thus, during the formal setting up of the CRMC, levelling off was still undertaken to strengthen the unity of the respective bodies.
3. **Almost all members of the secretariat were key staff of the respective mayors** which made it difficult for them to perform their duties.
4. **Lack of institutionalization of CRMC lead to its early demise.** The MOA did not provide for the institutionalization of the CRMC/CRMB in the respective municipalities. Thus, when a new local government official is elected, no formal turnover of responsibilities is undertaken, resulting in meetings not being called. Continuity of the program suffers.
5. **Participation of a strong and active people's organization is vital to the operation of a CRMC.** The CRMC was supposed to be a venue for tri-sectoral participation of the LGUs, POs and the NGOs towards the protection and rehabilitation of the municipal waters. The absence of one party especially the POs, and the lack of unity of understanding in the concept of CRMC can lead to its early demise.

Recommendations

1. **Implementing guidelines should be part of the Memorandum of Agreement (MOA).** This is to avoid delays and spending extra effort in levelling off and groundwork while setting up systems in the formation of the CRMC. This should also take into consideration the dynamics of the bureaucracy in the local government units, like turn-over of functions.
2. **LGUs only respond to public pressure.** If local government is to perform its work, constant follow-up must be undertaken by the POs and NGOs.
3. **Participation must be broadened from the beginning.** In the setting up of a CRMC, efforts to broaden participation must be undertaken from the beginning. This will allow for levelling off and developing stronger unity of participants in the program and will prevent the need for repetition of orientation at the later stages of the project.
4. **The people's organizations should be afforded greater technical assistance through orientation seminars and skills training.** To enhance active participation of the POs in the CRMC they must be equipped with skills to assert and articulate their interests.
5. **CRMC must be institutionalized to ensure its continuity.** To ensure the continuity of the CRMC beyond the original signatories to the Memorandum of Agreement, legal measures must be undertaken to institutionalize the CRMC. Provisions

must be outlined, particularly on the turnover and orientation between incoming and outgoing officials.

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Testimony

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Mangingisda sa Calatagan (SAMMACA)
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The formation of Coastal Resource Management Council (CRMC) had positive effects on the small fishers. These were manifested by the strong unity of the people's organizations (POs) from the three municipalities in Western Batangas from the time the council was formed up to the present. This was also seen as a venue to express/discuss important matters and demands based on the conditions of the small fishers. Having a venue for the PO to assert its agenda regarding the issues it faces is an indication of initial positive response to its vision of attaining equal rights. The action of the different groups which led to the decrease in the use of blast fishing ordinance, and the allotment by a Congressman of P100,000.00 which was used for the purchase of a patrol boat encouraged other small fishers to unite towards the management of the environment.

However, in spite of these, negative effects of CRMC were also observed. Regular meetings of the Council as well as cooperation of POs in Lian and Calatagan were not sustained and led to the disfunctioning of their respective Coastal Resource Management Bodies (CRMBs). This is mainly due to the insincerity of the government to perform CRMC functions while relying only on the initiatives of people's organizations (POs) and non-government organizations (NGO)s. Particularly in Calatagan, the CRMB held its last meeting in February 1995. With the defeat of the former mayor in the last election and the lack of proper turn-over to the incumbent mayor, the regular meetings of CRMB Calatagan ceased. The *Samahan ng mga Maliliit na Mangingisda sa Calatagan (SAMMACA)* attempted to revive CRMB through meetings with fish wardens and representatives of different agencies but to no avail.

In this condition, SAMMACA continued with the rehabilitation work in Calatagan by launching artificial reef project, mangrove reforestation, and pushing for the implementation of fishery laws.

SAMMACA believes that the management and preservation of the coastal resources should be done by the small fishers because they are the main stakeholders in the use of these resources.

The Coastal Resource Management Experience in San Salvador Island

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The coastal resource management endeavor in San Salvador Island typifies a resource-dependent community that has struggled to conserve and develop its remaining marine conservation project responsive to the worsening condition of the island's fishing ground. The marine sanctuary, complemented by other auxiliary resource management activities, has been conceptualized in accordance with the resource-based problems and unique features of the island. It aimed to address not just the most visible problems of sodium cyanide and explosives which are often blamed as factors leading to resources degradation, but also quiescent issues i.e., lack of livelihood alternatives and social service, as equally alarming problems that are contributors to further environmental exploitation.

The coastal management experience in San Salvador was provoked by unabated depletion of the natural resources. This has left the people with no other alternative but to succumb to sacrifices by giving up a significant portion of their fishing ground in favor of a marine sanctuary. In reaping sustainable bounties from the resources, the marine sanctuary has been perceived as a necessary option capable of restoring and rehabilitating the damaged coral

reefs thus, resuscitating the dwindling fish biomass and enhancing what was once an abundant fishing ground. The people, through a local organization called Samahang Pangkaunlaran sa San Salvador (SPSS), have taken a stewardship responsibility for preserving the natural environment. Inspired by a desire to pay homage to God's creation and to meet sustainably the present and future needs of the island's populace, SPSS has endeavored to apply a holistic approach to resource management. The marine sanctuary has been an important landmark that put in place a community-based resource management program in the island. This has, in fact, led to equally relevant activities like restoration of natural resources and cooperative development, among others.

The paper is, therefore, an attempt to put across learnings and realizations out of the resource management experience in the island of San Salvador. It likewise hopes to provide a vicarious learning experience to resource management practitioners concerning the arduous yet rewarding task of resource management and development.

Introduction

The exploitation of marine resources is a critical issue plaguing the country, where approximately 85% of the total population lives in the coastal areas and 5% relies solely on fishing as their means of subsistence.

Destruction of coral reef habitats and overfishing lead to declining fish catch. Floods and soil erosion due to heavy rains cause extreme siltation and degradation of marine resources. Almost all parts of the country's marine areas have suffered from these problems.

The small fishers are often blamed for the degraded state of the coastal areas, mainly because of their use of dynamite, poison and destructive fishing gear. A significant number of fishers from San Salvador, Masinloc, Zambales as an example, once engaged in illegal fishing methods. They used sodium cyanide and dynamite to catch fish with seemingly no concern for the long-term effects of the practice on the marine resources. The use of destructive fishing methods reached an alarming state when the fisheries showed significant signs of depletion.

Illegal fishing by small fishers, at the scale it is conducted, is not the principal cause of depletion of nearshore fisheries. Rather, artisanal fishers resort to use of destructive methods of fishing to cope with the loss of coastal productivity. Recent studies have shown that lack of adequate management of these rich natural resources leads to overexploitation and consistent decline in fish production, especially within the municipal waters. As a result, income of small fishers remains inadequate, leading

them to employ more efficient, even destructive, fishing methods such as blast fishing to increase their catch.

The government's ability to arrest the practice of illegal fishing proved to be inadequate despite the existence of numerous fisheries and environmental laws, as well as bodies charged with enforcing these laws.

Various coastal management projects commenced efforts to address these problems. So far, there have been successful small-scale and site-specific models/experiences involving coastal communities in the management of coral reefs and fishery resources.

Conceptual Framework

Central to development efforts is the principle that organizations are rational instruments for achieving goals. Social organizations are needed to effectively promote development. In fact, development can be viewed as the way in which resources, ideas, and organizations are combined to bring about something that will count as improvement. Broadly, the self-strengthening or self-reinforcing character of stable social systems comes about when resources, ideas, and organizations are combined in such a way that resources are renewed or increased; ideas are reinforced and, if necessary, corrected or adjusted in use; and organizations formed are preserved and/or improved (Leaf, 1991).

Community-Based Resource Management (CBCRM) is defined as a process by which the people themselves are given the opportunity and/or responsibility to manage available resources; define their needs,

goals, and aspirations; and make decisions affecting well-being (Fellizar, 1993). CBCRM implies both the mobilization and use of available resources by the community to achieve their avowed purposes and the community's ability to manage existing natural resources in their locality by employing "other resources or inputs available to them".

Whether in natural resources management or in social development, CBCRM operates on the premise that resources are managed best when the people affected by decisions participate in the design and implementation of these decisions. CBCRM seeks to improve these decision-making capacities by broadening options and by utilizing collective and democratic processes.

Organizing for a community-based resource management largely differs from the traditional viewpoint of community organizing. CBCRM requires a more comprehensive approach because it entails the need to recognize and consequently unify interest and sectoral groupings towards a common purpose - that of managing natural resources within the community. It not only focuses on the traditional issues of livelihood enterprise and community projects, but also extends people's attention towards resource conservation and sustainable development.

The objective of community organizing for CBCRM does not end in the formation of groups alone. In the end, CBCRM becomes a venue where conflicts on resource utilization are resolved. Competing interests and uses ultimately become the focal points. Thus, its goal is the formation of an organization which duly represents sectional interests, and whose activities impinge on the deterioration or enhancement and sustainability of a certain community resource.

Haribon Strategy: Community-Based Resource Management

The marine sanctuary in San Salvador Island was set up through the painstaking efforts of non-government organizations (NGOs), the local government unit (LGU) and the local residents. The marine conservation program in this sanctuary now reflects the people's recognition of the need to conserve the immediate marine habitat.

Haribon Foundation has been one of the first Philippine environment groups to recognize the key role of the community in ensuring the sustainability of conservation projects through a combination of community development strategies and resource conservation activities. The community-based resource management program also known as CBCRM thus effects a broader participation from the marginalized sectors of society towards achieving a genuine change and sustainable development through education and training of the resource managers of the community.

The intervention of Haribon Foundation's community-based resource management projects in selected fishing communities in the province of Zambales started as early as 1987. The foundation, as a non-government organization, entered into an agreement with the Dutch Embassy to implement a Marine Conservation Project in collaboration with the Department of Agriculture on December 1988. The project gave birth to the establishment of the San Salvador Island Municipal Marine Reserve and Sanctuary which has been maintained since then under a community management system.

The said project also paved the way for the implementation of various projects under its Community-Based Management Program such as the Philippine Netsman Project, a training project aimed to teach aquarium fish collectors the use of environmentally-sound fine-meshed nets instead of the deadly sodium cyanide. Other projects include the Community-Resource Management Manager's Training, an organizational development training, the objective of which is to build, strengthen, and equip the community organizations with the necessary skills and knowledge that will enable them to assume all other initiatives and projects on resource management.

The CBCRM project sites cover several municipalities of Subic, Palauig, Masinloc and Sta. Cruz, all in the province of Zambales in Central Luzon; municipalities of Infanta, Real, Burgos and Patnanungan in the Province of Quezon; Mabini town in the Province of Batangas; and Puerto Princesa in Palawan.

Premise of the CBCRM Approach

The destruction of aquatic resources, particularly the exploitation of coastal habitats, has reached an alarming level. In the Masinloc and Oyon bays, for example, resource depletion can be traced to illegal fishing and destructive fishing methods such as the use of sodium cyanide, blast fishing, fine-meshed nets, overfishing, and poor enforcement of law prohibiting such practices (Christie, et al., 1990).

In addressing the foregoing problems, community involvement and participation play a key role in institutionalizing change. The people need to be convinced to accept that their economic base, the fishery resource in particular, is being depleted and is in critical condition. It needs to be replenished and restored to its former condition.

The Haribon CBCRM program operates on the premise that the community perceives the need to protect the resources and that the people are interested to work together towards sustaining the resource base to further improve their economic, socio-cultural, political and ecological well-being. Ultimately, the local community is seen as the effective manager who can best protect and develop the natural resources.

Major Components

1. **Resource Management and Planning** - include the identification of a site ideal for sanctuary and reserve establishment, passage of a barangay resolution and municipal ordinance, development of management mechanisms, acquisition of necessary equipment and facilities, and clarification of work relations among other concerned authorities in the locality.
2. **Research and Monitoring** - include the collection of baseline environmental and socio-economic data; and monitoring of project results and impacts through surveys of substrate and fish population among other data.
3. **Community Organizing** - identifies the community's needs and objectives, develops the people's confidence and will to work toward meeting and achieving them; elicits the community's appropriate action; and in so doing, extends and develops cooperative and collaborative attitudes and practices.
4. **Community Education** - provides information and raises community awareness about key topics/issues.

5. **Support activities** - include facilitation of construction of physical structures and development of alternative livelihood.
6. **Linkages and support of outside agencies and groups** - include activities designed to encourage active participation in project activities and to build responsible roles for concerned NGOs and government.

The Marine Conservation Project in San Salvador Island (MCPSS)

Brief History

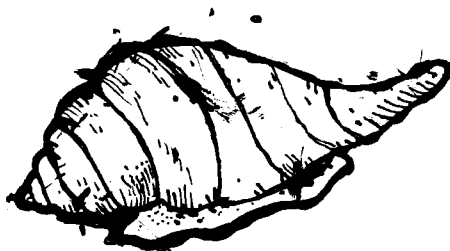
In the late 1980s, the fishing community of San Salvador Island faced the same problems and challenges typical to similar communities in other parts of the Philippines: rampant use of destructive fishing methods, declining fish yields and disappearing corals. The condition of the coral reef of San Salvador Island, in particular, correlates with an assessment of the Lingayen Gulf coral reefs. The studies by McManus (1988) showed 37% living coral cover. Gomez and Yap (1982) indicated that out of 12 reef sample stations in the province of Zambales, two were in good condition (50-74.9% living coral cover), three in fair condition (25-49.9%) and seven in poor condition (0-24.9%). Included in the last category was San Salvador's coral reef.

Given this backdrop, the Marine Conservation Project in San Salvador (MCPSS) aimed to raise the absolute number of fishes on the island's fringing reef and increase the fish yields of local fishers through the establishment of a fish sanctuary and a surrounding traditional fishing reserve area. The fish sanctuary was declared completely off-limits to any form of fishing.

Implementing a marine resource management plan, however, could not be forced/imposed on the residents. Hence, one of the objectives of the MCPSS was to strengthen the capability of the local fishers through education and community organizing.

Realizing this objective meant that a slow but productive effort to gain maximum results in the community's socio-economic, environmental and political life is necessary to convince the people that they can be effective managers of their resources. An encouraging move was the Memorandum of Agreement (MOA) signed April 4, 1989 between the Jaime V. Ongpin Foundation Inc., the Municipal Government of Masinloc, the Department of Agriculture - Masinloc, Haribon Foundation and the Marine Conservation Project Staff, and the *Lupon ng Tagapangasiwa ng Kapaligiran* (LTK).

Strengthening this MOA was the local government's issuance of Municipal Resolution No. 56, Series of 1989, supporting and allowing the establishment of a Marine Conservation Project at Barangay San Salvador. The said resolution was approved by the local Municipal Council on June 19, 1989.



Site Profile

The Environment

San Salvador is an island barangay with an area of 380 hectares. It is about two kilometers west of Masinloc, Zambales in the South China Sea. Except for the east coast, which was once lined with mangroves, the island shoreline is white-sand beach. The hilly interior is approximately 30% secondary growth forest, 60% rice fields and 10% mango trees.

Off the western, northern, and southern coasts are wide reef flats dominated by sea grass beds with various species of algae. The crest of the fringing reef where most coral growth occurs shows the effect of a strong wave current with deep spur and groove formations dominated by massive and encrusting coral types. Those areas with the more delicate branching corals have been heavily damaged by dynamite and sodium cyanide use. Substrate survey ranges from 5% to 50% living coral cover with a mean of 20.7% (Ridao et al., 1990).

The residents of San Salvador Island have long been suffering from the effects of depleted coastal resources. An unfavorable offshoot is poverty from which emanates related problems such as malnutrition, illiteracy, poor education, lack of sanitary facilities, inaccessibility of basic health services, and absence of alternative livelihood. Declining catches have led a good number of residents to resort to overharvesting and illegal fishing through the use of explosives, sodium cyanide and fine-mesh nets. These practices, coupled with heavy siltation from the denuded forest of Zambales and agricultural run-offs, have led to further decline in fish catch.

Marine biodiversity was ultimately affected as coral reef destruction proceeded unabatedly. Organisms like sea turtles and giant clams became extinct locally. Worse, fish density dramatically declined, driving small fishers to go beyond their traditional fishing ground. Ineffective law enforcement, or the total lack of it, has equally contributed to the sorry state of the coastal resources. With 60% of its total population deriving their livelihood solely from fishing and about 36% switching between farming and fishing, the continued destruction of marine living resources has become a matter of survival for the poor.

The People

The residents of San Salvador Island may be categorized into three distinct cultural groups, i.e., the native Zambals who reside in the northwest and southeastern portions of the island; the Ilocanos and Pangasinenses who reside in the northeastern portion of the island; and the Visayans who inhabit the southwestern part of the island. An estimated 1,519 people belonging to 395 families resided in San Salvador in 1992, with the Zambals comprising about 50% of the population, the Ilocanos and Pangasinenses about 20%, and the Visayans, 30%. Zambal is the main dialect used in the island.

Most people live along the coastline of the barangay which is distinctly divided into sitios. Occupation, cultural background, and family linkages are fairly homogeneous within each sitio. Striking differences among sitios are observed and manifested. A sitio called Cabangun is inhabited mostly by people engaged in aquarium fishing. Many of its residents came from the Visayan region.

FIGURE 1

CORAL REEF FEATURES, RESERVE BOUNDARIES,
SURVEY LOCATIONS AND POLITICAL DI-
VISIONS, SAN SALVADOR ISLAND

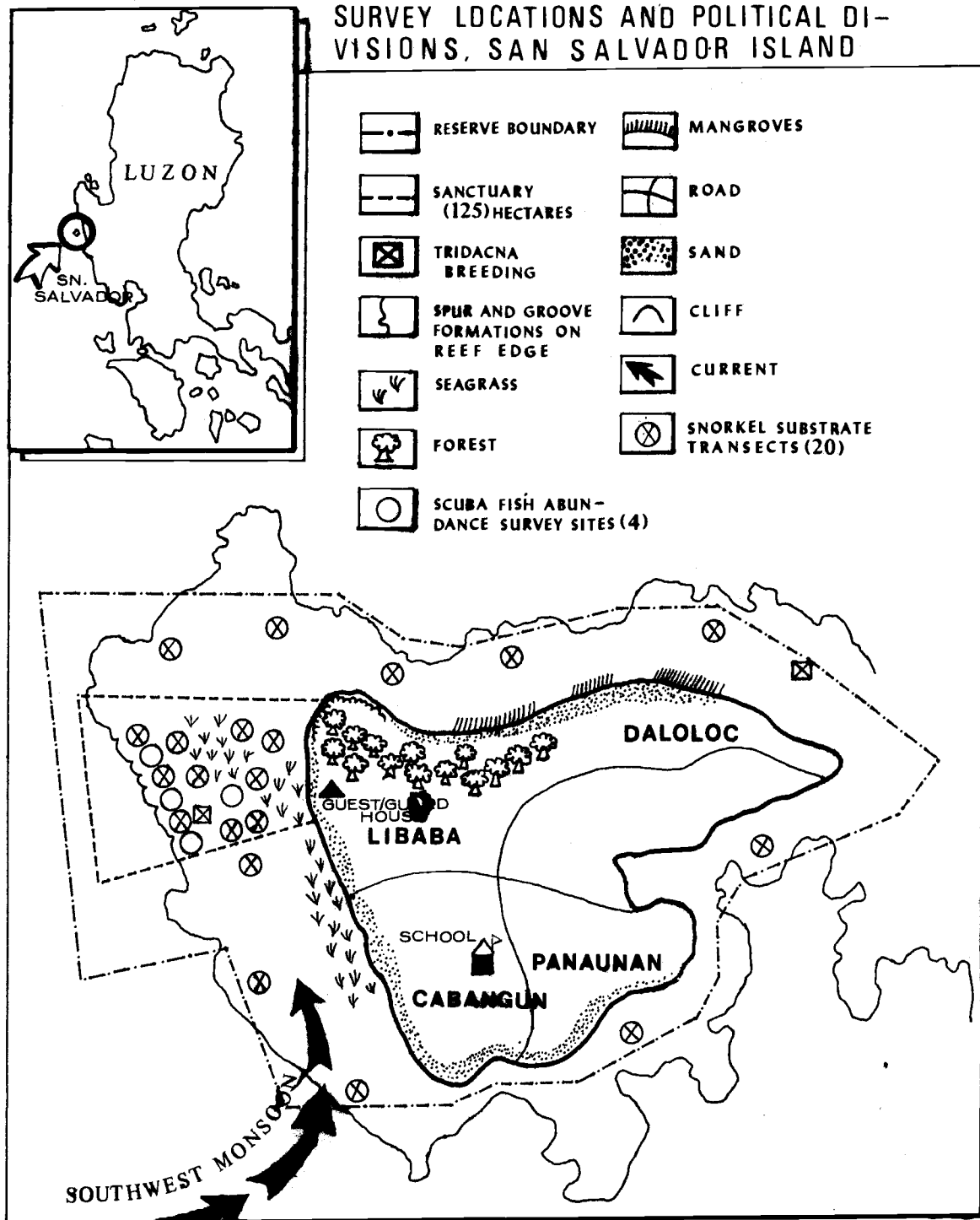


FIGURE 2

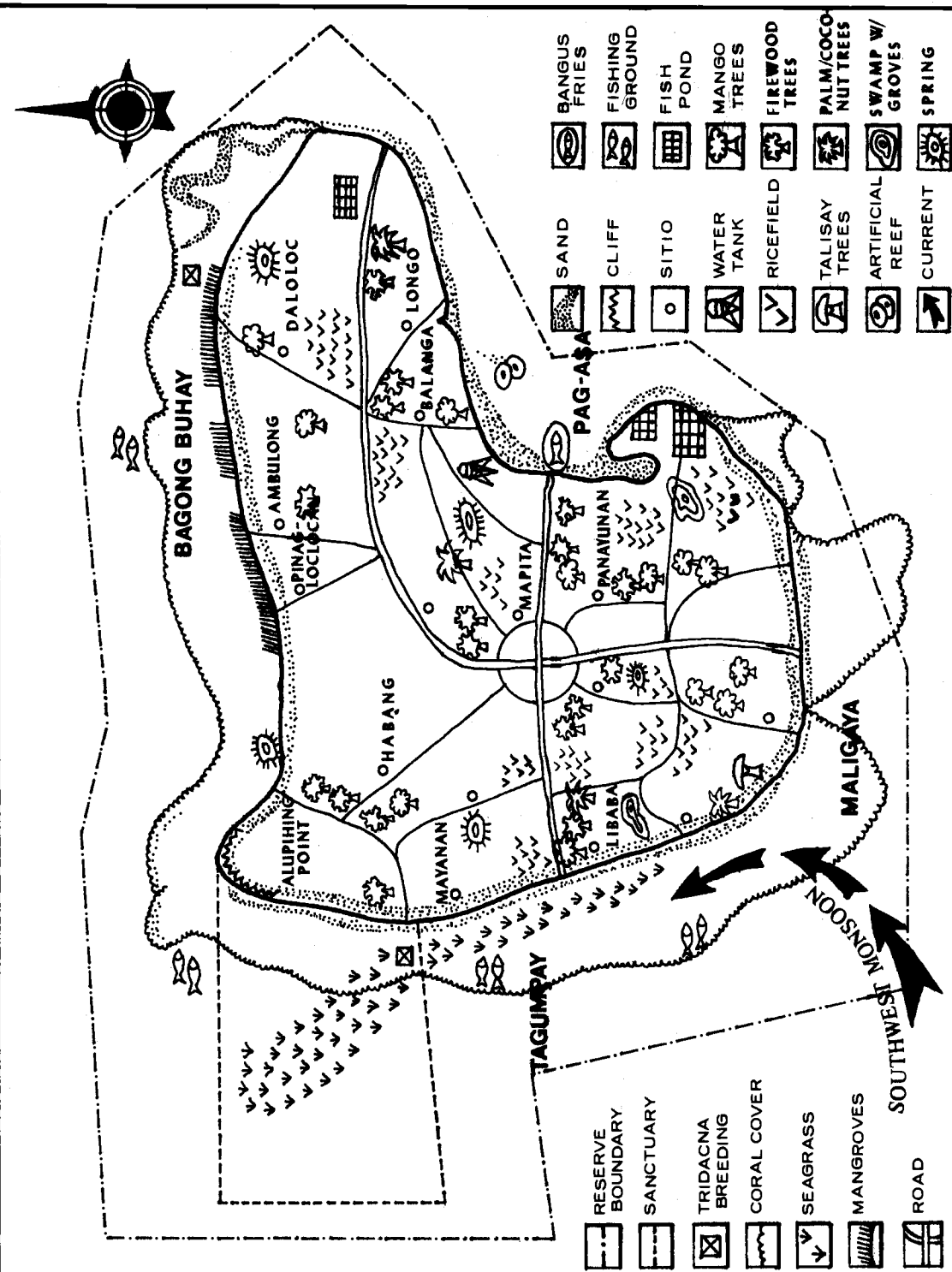


FIGURE 3



They started to migrate to San Salvador Island in the 1960s but had difficulty integrating with the Zambal community. This was rooted in part to cultural differences and to resentment among Zambals against the use of sodium cyanide in catching aquarium fishes, a practice which gave the Visayans a higher average monthly income compared to those who use traditional and legal fishing methods (Buhat, 1994).

However, the introduction of nets in aquarium fish gathering led many families to shift from sodium cyanide use to fishing with nets. This paved the way for the partnership of all island residents in managing their coastal resources. The people, through the *Samahang Pangkaunlaran sa San Salvador* (SPSS) and the power vested on them to perform citizen arrest, boldly protected and managed the coastal resources in San Salvador (Haribon, 1994).

Practically all of the household heads fish for their families' sustenance, with each household owning at least one motorized or manually-operated banca. Many of them support their dwindling income from fishing/aquarium fish gathering with inland farming of rice, coconut, mango, and other crops; and through other jobs in Masinloc, such as fish vending, tricycle driving, and other occasional odd jobs.



The Community-Based Coastal Management (CBCRM) Approach in San Salvador Island

Community Entry

The first community worker arrived in the island of San Salvador in 1987. At that time, most people in San Salvador were too pessimistic to believe that positive changes in both social and environmental order of the community would come about. The barangay was even cited as being poorly organized and underdeveloped compared to the mainland barangays of Masinloc (Cristie, 1988).

A barangay councilman who was also then connected with the Bureau of Fisheries and Aquatic Resources (BFAR) gave his unwavering assistance to the community worker. He was instrumental in providing the historical litany of resource degradation in San Salvador and how the use of illegal fishing devices was brought to the island and thrived through the years.

Preliminary Resource-Based Activities

Development activities commenced by the usual integration and familiarization of the community dynamics. Intervention was initially aimed at restoring the abundance and aesthetic value of the coastal resources. Auxiliary activities like fish census and snorkel surveys ensued, aimed at gaining an initial understanding of the resources' current status. This greatly helped in the formulation of future undertakings.

Surveys conducted showed that live substrate cover ranges from 5 to 50% with a mean of 23% for the whole island. Table 1 shows the findings of the substrate survey in the least damaged area which was declared a sanctuary and the surrounding traditional fishing reserve area.

The condition of the resources called for drastic but well-grounded action. The fast deteriorating coral reef situation (as shown by the surveys conducted) inspired the worker to suggest the idea of establishing a marine sanctuary, reminiscent of the experience of Silliman University in Apo Island. This was the best possible management scheme conceived at that time and it was brought to the people for consultation.

Identifying People for Core Group Formation

The formation of the core group occurred spontaneously in the island. Experiences on the drastic decline of fish catch and the foreseeable positive impact of a marine sanctuary in preventing further marine resource depletion, convinced some people of the need to pursue such project. Consequently, five people decided to bond together in order to translate the existing discontent on the current state of the resources into both preventive and curative actions. They later on composed the "core group".

The arrival of another community worker in 1988 helped put greater social dimension on the proposed marine conservation project. The core group was empowered through environmental education using both the formal and informal approaches.

Exposure Trips

To concretely elucidate the potentials and benefits of a marine sanctuary, a cross-visit to Apo Island in Negros Oriental was conducted. Core group members went with the community workers to study painstakingly the processes undertaken by the people in setting up a marine reserve. The visit was in itself a venue to see a concrete example of how a community meaningfully addresses resource-based problems.

The trip was an unforgettable experience for those who joined it. Members of the core group were encouraged to come up with the same strategy especially in line with the purpose of resource restoration and enhancement. Unknown to those who joined the exposure visit, the trip would be a trail-blazing event leading to a broad-based integrated coastal resource management plan for the whole Masinloc and Oyon bays.

Environmental Education

Environmental education played a key role in the establishment of the sanctuary. After the trip to Apo Island, the core group evolved into a committee called *Lupong Tagapangasiwa ng Kalikasan* or LTK (Environmental Management Committee). The members themselves (fresh from the Apo Island trip) shared with other members of the community the role of marine sanctuary in coral rehabilitation and enhancement of dwindling fish resources. Information on marine biodiversity and ecology shared during formal and informal studies to core group members was in turn relayed to the island residents.

**Table 1: Coral Reef Substrate Cover and Topography
San Salvador Island, Zambales**

Parameters	Sanctuary (ST* mean) % (n = 20)	Traditional Fishing Reserve (ST mean) % (n = 20)
Sand	8 (13)**	13 (16)
Rubble	12 (16)	16 (18)
Blocks	36 (23)	9 (14)
Dead standing coral	9 (14)	29 (22)
Marine plants	9 (14)	13 (16)
Live hard corals	20 (19)	4 (9)
Live soft corals	6 (11)	16 (18)
Total coral cover	26 (21)	20 (19)
Topography (m)***	2.8	

** ST = snorkel transect*

*** Numbers in parentheses signify 95% confidence intervals*

**** Meters of additional surge area per horizontal 10 m (a measure of surface contour)*

With the MCPSS in mind, the LTK drafted a resolution for the establishment of a 127-hectare marine sanctuary which would be off limits to fishing. This was submitted to the municipal council in July 1989. The proposed Marine Conservation Project in San Salvador Island (MCPSS), however, initially drew strong opposition from the locals. Resistance came from all corners of the island vehemently rejecting the proposed marine sanctuary. The LTK and community workers reaped cynical remarks and the mere sight of them disgusted the people.

The solution was to set up an information drive and environmental education campaign. The LTK members had taken the cudgel of pushing for the MCPSS by incessantly conducting day and night visits to convince project oppositors. Fortunately, the unwavering support and commitment of the few but dedicated people paid off. Although a few people remained opposed to the project, majority eventually became convinced of the benefits of the marine sanctuary.

LTK had boldly taken the challenge of explaining to the municipal officials the biophysical viability of the project and its importance in upgrading the coastal resources of the barangay. A municipal ordinance was passed providing legal and political back up for the MCPSS.

An adaptive mechanism for the sanctuary's management was introduced soon after the enforcement of MCPSS ordinance. The rampant use of *kunay* (beach-seine type) had invited sharp criticism and contentions from the community. For many people, the gear was potentially harmful to the resources for it indiscriminately caught big and small fishes alike. A huge segment of the community

classified *kunay* in the same category with dynamite and sodium cyanide for the simple reason that it posed equal threat to the marine environment.

For the proponents of *kunay*, it was not easy to give up the gear since it represented a sizeable amount of investment and had appeared to yield lucrative profits. The issue went as far as the *kunay* proponents working for the abolition of the MCPSS. They drafted a resolution on this end and went around to convince people to sign it. These people were once the active advocates of the project but turned oppositors when their interests went in conflict with that of the MCPSS. Their efforts however, was rendered fruitless as people simply rejected the resolution. In a nutshell, the use of *kunay* was disallowed in the reservation area and its users were forced to move to neighboring coastal barangays where restrictions do not exist.

The Installation of a Livelihood Arm

The need to introduce enterprise development activities along with coastal resource management (CRM) was a major concern next to the establishment of the MCPSS. Parallel activities that respond to the livelihood needs especially of the displaced fishers demanded equal attention. Consequently, the alternative income committee, better known as *Tulay sa Kaunlaran* (TSK), was formed.

Two activities were undertaken by the TSK: the loan assistance program and swine fattening/raising project. The fund came from the Jaime V. Ongpin Foundation, Inc. channelled through the barangay council. At least 10 families received piglets, and a number of

people availed of the loan assistance program. To upgrade organizational development skills, leadership and planning workshops were conducted. These were geared at enabling the committees to meet the demands and requirements of their roles and functions.

Commendable intentions and ends do not always lead to a happy ending though. Conflicts cropped up especially when the management of the projects was placed in the hands of the people. This situation worsened when the community workers were recalled at the time that the project was on the verge of difficulty and TSK members were still building their competencies. As a result, pigs were either butchered during special occasions or sold prematurely because of pressing financial needs.

The same situation befell the loan assistance program. Those who borrowed were not able to pay back. The TSK sought the intervention of the barangay council to run after people with unpaid debts. Since the long-overdue opening of the consumer's cooperative store had been repeatedly postponed, the TSK chairperson decided to use the remaining grant to supplement the capital build-up of the members to pursue the opening of the cooperative store.

In essence, previous livelihood initiatives were seemingly a fiasco. The projects did not flourish mainly because of TSK members' limited skills in handling enterprise development. The TSK members were overwhelmed by the immense responsibility of sustaining and developing the activities, in the face of their inadequate capabilities which did not match the actual work requirements. The lack of proper orientation and appropriate values and foresight toward livelihood activities accounted for why the aforesaid projects fizzled out.

Keeping the CBCRM Fire Burning

A lull period of roughly eight months saw the work at a standstill in Zambales. A feeling of apathy gripped the members, who exhibited greater indifference. The formation of a local organization free from the clout of the barangay council remained a primary concern in the island. If and only if an organization exhibited a strong representation of all sectors and independently pursued developmental activities could the ideals of CBCRM be realized. Such was the resounding theme all throughout the evolution of the island populace into a collaborative coastal manager.

The committees were not ready for the changes that swiftly overtook the community. Illegal encroachment in the marine sanctuary was becoming a serious problem. A ruined training center and other issues were simply too much for the committees to bear. Members of the TSK were astounded to have encountered violators armed with guns. Adding insult to injury was the fact that the organization remained subservient to the barangay council. Breaking free from the latter's shadows was the only way to be recognized as an independent local organization pursuing its own programs and plans.

Although quite willing to police the sanctuary even to the extent of losing their own lives, members of the LTK were forced to get the assistance of the municipal officials, particularly the Mayor, because of the growing threats from the violators. As a result, a Philippine National Police (PNP) detachment was deployed at the interior of the island. It was later on decided by the barangay council that the PNP along with the local guards could better man the MCPSS if the detachment

is posted right in front of the sanctuary. However, the PNP detachment did not last that long. Connivance of some members of the PNP with the violators worsened the situation and accounts of illegal encroachments in the sanctuary alarmingly went up. Members of the *Samahang Pangkaunlaran ng San Salvador* (SPSS) agreed to bring the matter to the authorities which led to the detachment's pull-out.

A local organization called *Samahang Pangkaunlaran ng San Salvador* (SPSS) or Association for Development in San Salvador was eventually formed. It came out as a result of a leadership training. This was a response to the need for setting a clear-cut boundary between a local organization and the barangay council. The organization's activities were geared towards increasing the people's foothold on the resources increasing not just their access to it but also their role as stewards and managers of the environment.

Strengthening of SPSS

The newly-formed organization was initially dormant. In fact, little or no trace of the organization could be found in the community. Only the MCPSS was the visible project constantly taken care of by people, whose commitment to resource conservation and development appeared unwavering. Aside from the name SPSS, no sign of vitality for organization could be felt. The meetings conducted were poorly attended with a maximum of only 10 appearing in meetings.

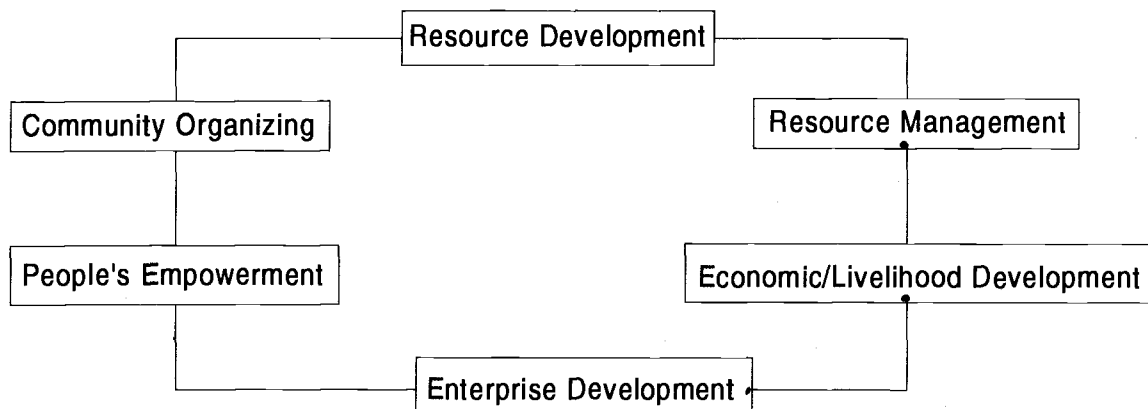
Attempts to formalize and mobilize a local organization was always derailed by resentment and bitterness specially within the leadership of TSK and LTK. Political and cultural schisms not to mention the internal bickerings among members reinforced the rift within the community.

The CBCRM Framework

If there was one activity capable of unifying people, it was the MCPSS. It served as a symbol of commitment that reckoned people to begin with what they have started together regardless of how unfavorable the present circumstances were. The marine sanctuary reminded the people of their efforts to preserve and conserve the environment. The MCPSS was an essential hallmark that enabled the organization to regain the spirit that once spurred them to establish a Marine Conservation Park. It was formerly the instrument that put people together towards an agenda on resource management; it was again used to awaken a sense of unity in the organization to continue its campaign for sound resource utilization and management.

Sustaining the program required a strengthened organization. CBCRM mechanisms were installed to be able to spot right on target the precise areas of the organization which needed development. The mechanisms were rooted in a solid environmental orientation expressed through a framework. This framework graphically described the components that respond to the common issues and problems typical of a resource-dependent community. The facilitating mechanisms/components were built-in the framework to operationalize the goals into realistic and achievable targets.

Figure 4 CBCRM Implementation Arms



The CBCRM Implementation Arms

Community Organizing

Community organizing (CO) in the resource management setting underscores the bonding between people inspired by the need to enhance the degraded resources. Coastal resources made up the livelihood base in San Salvador. Further exploitation of the resource base would end in starvation and non-access to life's necessities (e.g., decent shelter, proper education, etc.) for its residents. This perception drove the members of SPSS to act concertedly and collectively to set desired changes and development goals into the right context and perspective.

CO was in itself a significant stride towards empowerment. It was where people broke away from apathy in order to articulate their desire for change. The act of bonding provided a liberating experience through which people discovered their talents, opportunities, and the resources at their disposal, heightened collective awareness which inspired them to take relevant courses

of actions. An organized group equipped with the proper mindset, values, and principles was sure to move forward to empowerment, self-reliance and responsible management of their resources. This was the underlying principle that set the trend and premises of community organizing in San Salvador Island.

A new breed of leaders was highly called for in reviving an organization from its downward trend. Community organizing had to prioritize identification of a new set of leaders and reconceptualization of approaches and strategies in project implementation. The bases for selecting the second set of leaders of the organization were the following criteria:

1. Shows keen interest in and passion for coastal resource management;
2. Regularly attends meetings and activities of the organization;
3. Exhibits leadership potentials and at the same time was respected in the community;

4. Is willing to learn and share learnings as well; and
5. Possesses a strong desire to change and is willing to be an instrument of development both for the organization and the community.

Correspondingly, the structure of SPSS was set up. This was derived from the vision, mission, and goals formulated during the planning workshop of SPSS. Election of officers also followed. New officers were added in the roster of SPSS leadership, and quite a number of former committee heads still gained a vote of confidence from the general membership.

Advocacy and Networking

Advocacy and networking were the means of taking local issues to a wider scope either for alliance-building or for ventilating specific concerns to the public for common scrutiny. This was used to elicit support and foster partnership with groups upholding similar concerns and interests.

The coal plant issue in Masinloc, for instance, has opened a threshold of communicating their concern for the environment and for airing out hostilities on environmentally unsound projects. The people in San Salvador witnessed the changes in their fish catch and its increase was attributed to the fish sanctuary. There is, therefore, no iota of chance that projects such as the coal plant will be implemented without resistance from the island's residents.

Advocacy and networking enabled the people to understand organizations advocating similar agenda and the same development

activities. It was a source of strengthening and opportunity for the expansion of the SPSS as the organization eventually took bigger issues and concerns.

A network bonding all the people's organizations in Masinloc was facilitated. It was referred to as the Federation of Environmental Managers in Masinloc. The formation of the said federation was greatly influenced by the ongoing resource management projects in San Salvador. The federation aimed to translate the experience in the island into a larger scale-the Masinloc and Oyon bays. The federation envisioned its role as the principal managers that will be primarily responsible for policing, manning, and implementing the policies and regulations for the entire two bays. These functions were to be done along with the support and assistance from the local government units (LGUs), non-government organizations (NGOs), and government agencies (GAs).

Sound Resource Management

Management of the resources was primarily viewed in terms of giving value out of its receding fertility. Thereby, the setting up of MCPSS was aimed at enhancing both the food and cash security of the people. SPSS, being a staunch advocate of proper resource supervision, valued nature as possessing a life of its own. This recognition was nourished by in-depth attachment-building exercises aimed at commanding a deeper homage to and recognition of to the resources. Thus, environmental education sessions were underscored to reiterate stewardship principles and proper values on resource management.

Symbiotic and cooperative relationships between species on land and sea were vividly depicted in the environmental education sessions, which were supplemented by the people's own experiences as fishers and farmers. Consequently, a comprehensive management plan was formulated as part of the organization's expression of their renewed relationship to nature.

Restoration of the coastal resources through tree planting, mangrove rehabilitation and restocking of giant clams was initiated by SPSS. A regular boat and foot patrolling team complemented resource management, and most members of LTK voluntarily underwent warden training in the bid to police the whole of Masinloc and Oyon bays.

SPSS reconstructed a training center which they referred to later on as "home for development". The training and education activities on the use of nets for catching aquarium fish also contributed to the dramatic obliteration of sodium cyanide. The resource management theme of SPSS was "sound resource management equals sustainable livelihood".

Enterprise Development

Enterprise development is a bottleneck in any development endeavor. Not too many groups could claim total victory when it comes to a successful livelihood enterprise down to the community level. The same difficulty is expected to be met in San Salvador especially with the recent history of unsuccessful livelihood projects in the island.

In spite of perceived difficulties in implementing enterprise development, the current phase of work revealed timeliness

to go into livelihood projects. For one thing, there has been an established resource management regime in the island through the on-going marine conservation project. Relieving the pressure on the marine resources entailed parallel in-land activities that could either supplement the livelihood of the people or provide economic alternatives to them.

It was thereby appropriate to temper the existing resource management activities with concrete viable economic enterprise. The past experience provided the lessons while the vision and mission set the realistic goals. The workers, however, decided that any activities done within the livelihood premises must be well-considered and executed with great care and accountability.

This required that value clarification and formation must go together and that any possible livelihood activity should meet the following:

1. Started from and within the people's available resources;
2. At least a good number of members have knowledge of, skills and experience in the project;
3. Must be transferrable, viable and marketable if the project is introduced by outside institutions;
4. Premised on the people's needs and problems; and
5. Environmentally sound.

A list of possible livelihood activities were deliberated upon based on the said criteria. Proposals ranging from swine raising, poultry, handicraft, loan assistance, cooperative expansion, *palay* (unhusked grain) buying, mushroom culture, to mention a few, have all been considered and thoroughly studied. These were narrowed down to only two livelihood options: cooperative expansion and *palay* buying. The selection process subscribed to the criteria and was believed to be beneficial not only to members of SPSS but also to the community in general. A feasibility study was prepared by the SPSS illustrating the mechanisms and flow of project implementation. The feasibility study was presented to and defended in a meeting with Haribon program coordinators.

The cooperative expansion was soon undertaken after the fund was released to SPSS. Two stores were constructed other than the existing store of SPSS in one of the sitios in the island. The existing store was however buttressed through the supplemental fund given to the store. At that time, the store was assailed by problems like increasing uncollectible debts and internal conflicts among the members. The fund gave the members the impetus to regroup and assess the areas which required improvements. The cooperative stores were managed by volunteer members who acted as store caretakers. They did not receive allowance nor privileges except for a 10 percent share from the annual gross income of the store. Preliminary training and education activities were provided prior to the release of funds. Refresher course on cooperative management was given to members backed up by two consecutive exposure visits to the successful cooperatives in Central Luzon.

SPSS ventured into *palay* buying after the coop expansion. With a very limited capital amounting to only P65,000.00, enterprise development activities were designed in a way that these would bring sure gains and returns to the organization while servicing the needs of the community. The concept of *palay* buying came from the experience of fisher-farmers with very minimal income, and often incurred losses after selling their grain to the local traders in the town proper. On the other hand, local traders chiefly dictate the price of grain and on the other, the prices of capital input invested by farmers are dictated by the capitalists. A sizeable amount is invested by the farmers in planting until harvesting and transporting the unhusked grain to the mainland. This investment is hardly recovered due to existing lopsided systems.

On the other hand, this has rendered many people in the island unable to cope with the said rapid increase. As such, *palay* buying was proposed by most members and studied painstakingly by the livelihood committee. A flow chart was prepared to show how the livelihood committee would implement the project. The committee pegged the buying price of grain in the island at an amount appropriating the prevailing price in the town proper. Farmers were spared from expenses on gasoline, porters, and tricycle fares. *Palay* screeners were posted in four sitios in the island, and unhusked grain was gathered at the central cooperative store.

Eventually, the husked grain was retailed at the cooperative stores at a reasonable price. SPSS members made it clear among themselves that price of rice should never be influenced by the price increases in the town proper. The price of husked grain must always be subject to the decision of the general

assembly and must never depart from the real intention of providing service to the poor and the marginalized. Profits from the project was re-invested into the cooperative to sustain the supply of affordable rice for the island's populace.

The organization bought a carabao to be used in transporting merchandise to and from the stores and the port where goods are unloaded. This particularly applies to the store at the center, located at the hilly interior of the island where members had to carry up the merchandise especially during the rainy season. Besides, expenses for hiring porters would exceed the price of the carabao three times in a span of one year. Hence, SPSS decided to buy the carabao, which was also useful in fund raising projects of the organization, especially during the planting and harvesting seasons.

The organization also tried mango processing. The Department of Science and Technology sent a team that taught the members of SPSS the ways and techniques of fruit processing. The project was undoubtedly lucrative. However, since the members still lacked knowhow in quality control and packaging, the proposed project was subject to further studies.

Given the skills and capital to support the enterprise, it is deemed as a reliable supplemental activity that will help stabilize the price of mango and avoid possible waste especially during its peak season. The market price of mango usually plunges during the peak season. Furthermore, boxes of mangoes intended for export are rejected because of failure to pass international standards. These are seldom consumed in the local market. If excess or rejected mango can be processed, this will regulate its price and

encourage other livelihood options out of the product. Thereby, mango processing was seen as a promising and viable economic enterprise in the island.

Training and Education

Three basic stages characterized the work in the island: organizational formation and strengthening, capability building, and actual implementation of development plans.

Training and education sessions were basic to all stages. In fact, these were designed at the outset to provide skills upgrading and enhancement opportunities and at the same time serve as a momentum-building initiative.

To ensure that any intervention in education and training coincides with actual community needs, a training needs analysis was conducted through meetings, informal discussions, and house visits.

Values clarification and formation were introduced and underscored in the training and in related community education. These were translated into "attachment-building" exercises aimed at presenting the environment as possessing a life of its own and vulnerable to destruction and death. Attachment-building was integrated in the seminars and training.

Attachment-building actually came out of the need to deepen the commitment to resource management. The recognition of resources as God-endowed and of the stewardship given to mankind over the resources was emphasized time and again to make it part of people's day-to-day life.

The envisioned expansion of a cooperative through the satellite stores in key areas of the island led to cross-visits to successful cooperatives in Central Luzon. Training and education sessions covered environmental awareness to actual skills enhancement which capacitated SPSS to smoothly move towards the implementation of enterprise development and resource management activities.

Learnings, Recommendations and Conclusion

The coastal resource management experience in the island of San Salvador has borne fruitful results in terms of people taking direct responsibility for their own development. Most importantly, the people have learned the importance of unity through the local organization as an essential prerequisite to change and genuine development. The coastal resource management initiative in the island has deepened the appreciation of natural resources by the people. The marine resources for instance, were viewed not just as a source livelihood but also as a gift endowed by God and as a heritage from the previous generations. Thus, the resources were taken care of by the people with homage and responsible management.

The whole community organizing initiative in the island was directed towards resource restoration and development. Its concrete end goal was biodiversity conservation. The resource management experience, on the other hand, was a classic struggle that typified a community endeavouring to save the sea as its only major source of livelihood, from further degradation. It was, however, realized in almost five years of coastal resource management experience that conservation

efforts must not be detached from the concept of stewardship, values, and culture other than its usual character as a livelihood base.

The position taken by the local organization to put up a marine conservation project, even if it meant giving up a sizeable fishing ground, reflected a renewed understanding of their relationship with nature. The commitment to incessantly protect and soundly manage the project was a translation of their knowledge and practical understanding of the environment as their livelihood, as well as its cultural, recreational, and spiritual values.

Community organizing as a strategy in facilitating a community-based coastal resource management program could not have been that effective without the equally important components: training and education, enterprise development, resource management, and networking and advocacy. These components formed the whole essence of CBCRM agenda in the island. It helped the people realize and recognize the state of the local environment and, at the same time, it encouraged them to respond to the encompassing problems usually at play in resource-dependent communities.

The CBCRM components have effectively enhanced the local organization's capability for resource management and its skills to come up with equally relevant undertakings. In-house or organizational strengthening, which included awareness-building and values formation, was underscored. The ongoing resource management activity has actually included inland resources. Livelihood options were derived from either the natural resources or the collective material resources of the people as in the case of cooperative,

palay buying, and the pending mango processing enterprise. The principle was plain and simple: "start where the people are and build on what they already have".

The rapid depletion of resources can be attributed to cash and food security issues. It was thus appropriate that economic or livelihood options stemmed from the resources. The question of control over the resources must be underscored in the island in order to impress among the members their intrinsic responsibility of drawing up blueprints with reference to the normative methods of managing the resources. The experience of establishing the marine sanctuary must evoke greater participation from the people especially in the formulation of policies and plans for resource management. This way, more people can articulate their experiences and conditions as a jump-off point in mapping out relevant coastal development plans.

Lessons were drawn from the five-year wealth of CRM experience. For one thing, it entails a personal commitment and a clear foresight on the part of the worker to be able to settle in the area without the usual comforts of electricity and water supply, among others. Moreover, the swift turnover of staff often bogged down the activities in the island. Nevertheless, it is difficult to establish whether this has a correlation with the geographical location of San Salvador. Its implication, however, tremendously affected the activities and in fact, placed the organization in a precarious condition. It was the same reason why the committees, namely the *Tulay sa Kaunlaran* (TSK) and *Lupon ng Tagapangasiwa ng Kapaligiran* (LTK) remained subservient to the barangay council and took quite some time before they finally evolved into legitimate local organizations.

The untimely provision of funds did not actually help SPSS. The livelihood fund was given in good faith and intended to enable the organization to balance the ongoing resource management activities with viable economic enterprise. Because the livelihood committee does not have the required project and financial management skills as well as the foresight on how to develop the project, it was almost certain that the activity was bound for failure. The case of the loan assistance and swine raising program nearly created a dichotomy among the people in the island. The barangay council in fact was the one going after the people with unpaid debts. This could have been avoided had the formation and strengthening of a local organization been prioritized before any livelihood undertaking.

For resource management activities to further thrive and be replicated in other coastal barangays in Masinloc and in the neighboring coastal towns, initiatives ought to be persistently in line with the principles of empowerment, self-reliance and sound resource management. Empowerment in the sense that people should have the foothold to formulate the development processes from conceptualization, to implementation, and finally evaluation. Laws on environmental protection and management must reflect the will of the people, as they are the ones largely dependent on the resources for subsistence. SPSS has to pro-actively go into policy advocacy in order to lobby for laws and policies reflective of the small farmers' and fishers' interests in implementing and pursuing ways to safeguard the environment.

Self-reliance meant that small fishers/farmers must be afforded constantly the means and capabilities of breaking away from their dependence on those possessing the political and economic power. SPSS has to supplement constantly the assistance it receives from assisting institutions/organizations with the members' own indigenous skills and resources for sustainability and self-sufficiency.

The organization's intensity and aggressiveness in the activities it has undertaken will eventually taper off. Some members might become apathetic, and internal conflicts might be revived. It is thereby vital that the organization obtain a full grasp of these issues to avoid reacting to mere symptoms, and apply lasting solutions by getting into the roots of the problems. There are three suggested propositions to maintain and further strengthen the coastal resource management endeavour in the island:

1. Extension of community organizing to other coastal municipalities and barangays in Zambales;
2. Continuous capability building; and
3. A comprehensive livelihood program.



Community Organizing

Community organizing is a recognized prerequisite to any community endeavor. CO is a vital approach to contextualization of development interventions. Consultations do not tap sufficiently the people's involvement in designing appropriate resource management schemes. The relationship between people and the environment and the proper use of its bounties will only live up to its truest meaning and essence if marginalized people are given the free hand to determine their symbiotic relationship with nature and their responsibility to take care of it. This is well-delineated in the CO activity as people learn of their inherent right to protect and manage the resources as their stewards. To make this happen, the marginalized sectors, particularly the fishers and farmers have to reassess their condition taking into account the state of their resources and how inequitable distribution of nature's beauty evolved. Awareness-raising is an essential element in organizing. This will enable the stakeholders to be more critical, analytical of the current conditions, and expressive of desired changes.

Basically, this braces the commitment of the people as they are involved in the entire process; from issue/problem scanning to coming up with activities and projects congruent to the identified needs. The call for SPSS is always to go back to the basics. What consolidated them into an organization must be constantly renewed if this is to bind them continually. Replicating the CRM experience, however, needs the community organizing skills of some leaders to diffuse the CRM initiatives.

Continued Capability-Building

Continued capability-building is an essential component in enabling the local organizations to achieve self-reliance and empowerment, and learn proper resource management and utilization skills. Conscious effort must be exerted to identify the organizational needs and skills needed by SPSS to further equip the members with capabilities tantamount to its growing task. Capability-building through both formal and informal methods should include sharpening social analysis, strengthening relationships, and prioritizing values. These have to be done in the framework of CBCRM with due emphasis on the sustainable development perspective.

Value Formation

Just as systems and methods are important in CRM, so are right values required for a successful undertaking. The SPSS has to clarify its values and relate these with the way it perceives the environment must be treated and managed.

Degradation and exploitation of resources can be attributed also to erroneous values motivated by greed and misconceptions on the environment. In this light, collective values are to be honed and centered on team building, responsible stewardship, and appropriate resource management orientation. It is high time that the members of SPSS themselves share their values with other communities. In so doing, the organization has to study and institutionalize the values possessed and developed by the members in the years they have been involved in resource conservation.

Enterprise Development

A resource management regime is already in place in the island. The Haribon has resolved that it could embark on livelihood development only when a resource management alternative is already established and operating in the community. In the case of San Salvador, resource management can be considered one of the strongest components of the CBCRM framework. Needless to say, SPSS has responded remarkably to the challenges of maintaining and developing the marine sanctuary.

Enterprise development, however, remained a component of CBCRM that requires further development. The cooperative has definitely improved. Gauging from the increase in annual earnings, and the capability to put up its own concrete cooperative store and to expand basic services, SPSS has a growing cooperative enterprise. However, resources that can provide supplementary income remained unexplored or improperly studied. The case of mango processing is an example of a business enterprise with so much potential but failed to materialize mainly because this was thought of only when the project was about to terminate. Up to the present time, the organization is still grappling with the real concept and meaning of enterprise development. The need to start with a more concrete small-scale enterprise must be given more emphasis and time especially if the organization is to develop its skills in economic/livelihood development.

A comprehensive enterprise development program ought to be designed in order to supplement the livelihood derived from fishing. A community like San Salvador that could

actually boast of rich and diverse coastal resources, should really pay serious attention to the ways and means the resources could be translated into viable economic activities. If ever San Salvador would receive another funding, it is highly recommended that its thrust be focused on enterprise development. After all, what is called for right now in the island is an alternative economic base that could go alongside resource management activities.

The coastal resource management experience in the island has uniquely mirrored the people's commitment in bringing about desired changes in the coastal resources. The problems and needs encountered and experienced by the island's populace were the very factors that translated these into organizational vision, mission and goals. To raise the resource management agenda to a municipal and provincial scale is to put the whole CBCRM framework in operation. This connotes that the activities in San Salvador should convincingly set a precedent worthy enough to serve as a model to other communities. Support from all institutions whether private or government, should be welcomed to be able to effect immediate but substantive transformation to the fast-deteriorating natural resources.

Lastly, SPSS ought to focus its foresight on giving services to other resource - dependent communities. Mere testimonies of members on how they came up with a resource management alternative and their dedication to spur an island-wide development is already a story where people can draw learnings and inspiration.

Institutional Profile

The Haribon Foundation: Taking on the Challenge

The Haribon Foundation for the Conservation of Natural Resources, Inc. is a non-profit, non-stock, non-government organization that pioneered environmental and wildlife protection and conservation in the Philippines.

It is a member of the World Conservation Union of the IUCN and has institutional linkages with a number of international environmental groups like the World Wildlife Fund-USA, World Wide Fund for Nature-Switzerland, Wild Bird Society of Japan, Greenpeace International, and Birdlife International, among others.

Locally, Haribon is also represented at the Philippine Council for Sustainable Development (PCSD).

Vision

Haribon's vision is sustainable development for the Philippines. This means ensuring that "the needs for the present are met without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development).

Addressing poverty, Haribon envisions the need for the management of natural resources to be community-based, socially equitable and scientifically sound. Haribon's vision is life-centered, nature-promoting and pro-Filipino.

Mission

The Haribon Foundation seeks to actively work and contribute by:

- * Conducting scientific and socio-economic researches on natural ecosystems for the benefit of Filipino communities and promoting sustainable approaches to development;
- * Promoting and undertaking community-based resource management strategies in specific sites; and
- * Raising the national consciousness on sustainable development to promote a constituency for environmental issues, and membership for Haribon.

Programs and Services

Community Organizing and Development Program (CODP) - Haribon believes that members of communities should actively manage the productive resources. This program involves a process of empowering communities to undertake their own development through education, organizing and applied research, and cooperative development. Environmental education, resource management training, and research are integral parts of the organizing strategies from the beginning of a CODP pilot project. CODP projects include community forest management, marine conservation and marine sanctuary establishments.

Science and Research Development Program (SRDP) - Haribon aims to systematize Philippine natural resources information, particularly through Haribon's in-house research activities. Scientific and socio-

economic information have been generated to support the direct conservation projects of Haribon and its goal of sustainable development.

Environmental Defense-Legal Program (EDLP) - Through *Tanggol Kalikasan* program, Haribon offers environmental paralegal training, legal advice, research, as well as representation of members of indigenous communities, community organizations and individuals who have fallen victims to environmental law violations.

Advocacy and Networking Program (ANP) - The Advocacy and Networking Program conducts research and policy studies with a view towards influencing policy formulations. The process is largely participatory and consultative. Public awareness campaigns on relevant issues are also undertaken to inform and educate the public.

Membership and Chapter Development Program (MCDP) - This aims to mobilize, organize and educate the Filipino, the various sectors and non-sectors in environmental conservation. It also undertakes the task of organizing and strengthening a national network of Haribon chapters throughout the country that shall pursue the vision of sustainable development. Fora are available to chapters and members to keep them abreast of environmental issues and development.

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Testimony

Fernando Tiburcio
Head, Samahang Pangkaunlaran sa San Salvador (SPSS)
San Salvador, Masinloc

In the 1960s, illegal fishing was very rampant in San Salvador. We were so helpless, and could not do anything but watch what was happening. When Patrick Christie of HARIBON came, the marine conservation project was introduced to us. We consulted the people from the community in conceptualizing the project. The consultation underwent a difficult process. There were times when we were branded as communists and members of the New People's Army. Some even accused us of depriving the people of their source of living.

What we did was choose credible people from each sitio who could help us explain the benefits of the project. We had an exposure visit to Apo Island to see how marine sanctuaries work. We were successful in the preparatory activities of the project. There were ten of us who worked as volunteers in this preparatory stage. As a barangay official, I believed that people can work together towards success. So we worked together, we passed a resolution to the Sangguniang Bayan seeking the official promulgation of the Marine Conservation Project in San Salvador (MCPSS). With our patience and sacrifice, we were able to have the marine conservation project officially proclaimed by the government. The Office of the Mayor, the Department of Agriculture, and other government agencies were with us in promulgating the project. The mayor was very supportive of the project.

They say that the implementation stage is the most difficult phase of a project. But I believe that it is the preparatory stage which is more difficult. It is because, once the essential legal mechanisms are put in place (i.e., ordinances), project implementation is much easier. That is why I can proudly say that in our marine sanctuary, if ever there are violators, they are usually outsiders who are tempted to practice illegal fishing due to the abundance of fish in our place.

Besides our marine conservation project, we also engaged ourselves in other projects like tree planting and cooperative formation to respond to the other needs of the people. The need for a cooperative was seen so we set up a multipurpose cooperative in every sitio. Now we have three multi-purpose cooperatives in our barangay. These were set up from the members' capital build-up and from the P10,000.00 contribution from the *Samahang Pangkaunlaran ng San Salvador* or SPSS (Association for Development in San Salvador) for each cooperative to build a satellite store. Every yearend as we close our financial accounts, the members are happy to receive their share in the income of the cooperative. Last December, a member got P1,400.00 as dividend (*balik-tangkilik*) from his cooperative.

Since we do not have fence in our marine sanctuary, fishes can go outside the sanctuary. Some officials from other coastal barangays affirmed that fishes coming from the sanctuary were becoming prey to cyanide fishing in their barangays. This was disappointing to us who had no control over such practices. We thought it was useless guarding the sanctuary when illegal fishing was being done beyond the sanctuary.

We talked about this problem and we decided to form *Bantay-Dagat*. We coordinated this with the DA which facilitated the deputization of fish wardens from other coastal barangays. We started with 14 fish wardens from our barangay until we reached 35, including other deputized fish wardens from Barangays Baluganon, Poblacion, and Mataldig. We eventually formed a federation of fish wardens which apprehends illegal fishers not just in San Salvador but in the whole municipality of Masinloc as well. We were very successful in seizing illegal fishers such that they could escape the Coast Guard but not the federation's fish wardens. Since 1994, the federation was able to arrest no less than 20 illegal fishers.

Our organization did not stop at just protecting the sanctuary and halting illegal fishing practices. Through advocacy, we encouraged other coastal barangays to preserve the coastal zone and its resources; to regard it as a sacred gift from God that had to be protected. At present, our efforts are rewarded with the formation of an ad hoc federation of organizations in Masinloc where I sit as the chairperson.

They say that our organization is a very successful one. We believe we have been a very strong organization but we know there is still room for further growth and improvement for us in what we are doing. To all the institutions who have been with us in each step of the way, we extend our deep gratitude and appreciation. Thank you very much.

The Bolinao Community-Based Coastal Resource Management Project (Initial Phase): Towards an Interdisciplinary Approach

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The complex nature of problems and issues found in the coastal zone calls for an interdisciplinary and integrated approach if we are to realize the sustainable development of the coastal zone. Community-based coastal resources management (CBCRM) requires the fusion of knowledge and skills in the social, physical, biological, and legal-institutional sciences to address the problems of resource depletion, environmental degradation and increasing poverty of coastal communities. This interdisciplinary character helps develop the power and capability of local communities to play a central role in sustainable resource management.

This case study presents the evolution of a tripartite partnership between two academic institutions, an NGO and the coastal communities to pursue a CBCRM program in Bolinao, Pangasinan. It explores what are considered to be the essential components of CBCRM as well as strategies for harnessing active participation of local communities and concerned government units. The case study illustrates the difficult yet enriching process of building and nurturing a multi-disciplinary team that learns not only from each other but with the communities as well.

Introduction

Unlike similar projects oriented towards coastal resources management, the Bolinao Community-Based Coastal Resources Management (CBCRM) Project stands out in terms of evolution, conceptualization, and implementation. It was borne out of the independent research initiatives and development-oriented community interaction of its collaborating institutions. The subsequent tripartite partnership between the Marine Science Institute (University of the Philippines), the College of Social Work and Community Development (University of the Philippines), and the Haribon Foundation has provided a unique matrix of perspectives, experiences and expertise which now determines the manner in which the project evolves. Cognizant of the institutional and disciplinary filters which influence the interactions within and between the project and the Bolinao fishing communities, a conceptual framework has been articulated in an attempt to forge a holistic perspective and a broad framework for thought and action. This framework is continually refined by insights emerging from interactions internal to the project and with the local communities and institutions along various scales of governance. With this case study, the writers hope to provide an empirical model of CBCRM which can significantly contribute towards a generic Philippine model in defining basic components and strategic approaches for the sustainable implementation of resource management at relevant hierarchies of governance.

Beginning Institutional Partnership

The U.P. Marine Science Institute

The research program of the UP Marine Science Institute (UPMSI), specifically those studies which pertain to resource and habitat assessment for coral reefs, seagrasses and mangroves, and those which focus on technology development for coastal aquaculture (e.g., seaweed farming and giant clam and sea urchin culture) provides the milieu for its involvement in coastal resource management. Beginning 1976, it has embarked on the systematic survey of the status of coral reefs, which, to date, has included the assessment of over 600 sites in the country. Starting in 1985, through the ASEAN-Australia Living Coastal Resources Management Project, additional sites for habitat assessment included those of seagrass and mangrove systems. In 1986, MSI participated in the ASEAN-US Coastal Resources Management Project, which broadened its research interests to include resource management of the Lingayen Gulf, with special emphasis on the gulf's coral reefs located in the Bolinao-Anda shelf.

Research on habitat and resource assessment indicated the grave need for mitigating technologies which would allow reseedling of grossly depleted populations and the production of commercially harvested organisms through coastal aquaculture. In the early 1980s, a project on the biology and culture of giant clams began and continued for eight years under the sponsorship of the Australian Center for International Agricultural Research (ACIAR). Through this project, a hatchery and an

ocean-based nursery for giant clams were established. The biology of extant species was studied and culture protocols were established.

In 1987, the Seaweeds Project was approved by the International Development Research Centre -Canada (IDRC) and was aimed primarily at providing information essential to the expansion and diversification of the seaweed industry and the management of seaweed resources in the country. Seaweeds including Euclidean, Kappaphycus, Caulerpa, Gelidiella and Sargassum were included in this four-year research program.

In 1991, a follow-up project was approved to include not only seaweeds but also invertebrates in research and technology development. The project was approved for three year-funding by the IDRC. For the seaweeds component, the major emphasis was on the refinement and transfer of the seaweed culture, and the development of management strategies for natural stocks of Gracilaria. For the invertebrates component, refinement and transfer of the giant clam culture, and the development of culture technologies for other macroinvertebrates (e.g. Tripneustes), were the prime foci.

The limited success of the 1987-1991 Seaweed Project in transferring and sustaining seaweed farming activities underscored the need for a socio-economic study to complement the research of MSI. Initial attempts at transferring seaweed culture technology were met with apathy by local fishers, perhaps because of the lack of social preparation prior to technology development and transfer.

The U.P. College of Social Work and Community Development

The University of the Philippines College of Social Work and Community Development (UP CSWCD) is a major research institution in the ASEAN-US Coastal Resources Management Project coordinated by the International Center for Living Aquatic Resources Management (ICLARM) from 1986 to 1989. It was responsible for the socio-economic and legal-institutional studies among municipal fishers in the Lingayen Gulf. The results of the above studies and other bio-physical studies became, among others, the bases for the formulation of the Lingayen Gulf Coastal Area Management Plan (LG-CAMP), which has since been adopted by the Regional Development Council of the National Economic and Development Authority (NEDA-Region I).

In early 1992, a team from the CSWCD in consultation with MSI worked together toward the conceptualization of a proposal on participatory action research for CBCRM which was later funded by IDRC. The team initially selected three barangays in the coastal town of Bolinao (Arnedo, Luciente I and Dewey) as preliminary study sites. These were selected on the basis of the following criteria: 1) the diversity of resource and economic base, 2) community support for CBCRM, 3) resource use conflicts, 4) and accessibility and size of the community.

A major objective of the IDRC-supported research project was to develop a participatory process of generating knowledge and understanding of the coastal

communities' resources and social system. Complementary to this was the objective "to develop, use and validate the application of research techniques and methods e.g., participatory rural appraisal or PRA, in coastal communities in understanding the resource system and social system."

To operationalize the objectives, a training exercise on PRA was conducted on November 13-15, 1992 at the UPMSI Bolinao Marine Laboratory and at the project site in Barangay Arnedo. The training was a hands-on experience to allow the participants to apply and adapt the principles, methods and tools of PRA to coastal communities. The training was facilitated by consultants from the Institute of Environmental Studies and Management (IESAM) of University of the Philippines-Los Baños (UPLB) and the Tambuyog Development Center, an NGO with experience in applying Rapid Rural Appraisal (RRA).

The research team adapted and refined the methodology as they worked later in Arnedo. Cycles of theoretical inputs, field practice, group discussions, and synthesis were undertaken as the research progressed during the two months of data gathering. After an initial write-up and popularization of the results, a community validation workshop was held. Subsequently, PRA was undertaken in barangays Luciente I and Dewey.

Simultaneous with community organizing and capability building, the research team undertook in-depth studies of the cultural, legal/institutional and marketing/technology aspects of coastal resource management systems.

The Haribon Foundation, Inc.

Although efforts to build an interdisciplinary working relationship began in 1992, the development of a functional common workplan for the two institutions did not materialize until the second half of 1993 since most of the MSI research activities have already been programmed. For its part, the CSWCD needed time to set up its program, train field staff, and conduct research on the application of participatory action research in coastal communities. Among the team building measures adopted were cross-discipline orientation sessions to develop mutual understanding of natural and social science approaches to resources and communities.

By mid-1993, the importance of doing more intensive community organizing and mobilization has been identified by the two institutions. Hence, in October 1993, the Haribon Foundation for the Conservation of Natural Resources, Inc. (an environmental NGO), joined the project primarily to carry out community organizing in the project sites. A multi-institutional and multi-disciplinary base was then formed for the development of CBCRM in Bolinao. Needless to say, the participants from the three institutions had different orientations and work experiences. Thus, a staff workshop was conducted to allow some "levelling off" of expectations and to begin the arduous task of working towards an interdisciplinary framework that all would internalize.

Site Profile

The town of Bolinao is located on a cape of the northwestern tip of Pangasinan. It is on the western edge of the Lingayen Gulf, facing the South China Sea. The Municipality of Bolinao is bounded by the South China Sea on the north and west, and on the east by the Caquiputan Strait. This strait separates Bolinao from the town of Anda, the only island municipality of Pangasinan. To the south, Bolinao is bounded by the rolling hills and plateaus of Bani. Bolinao is approximately 40 kilometers northwest of Alaminos, the center of trade and commerce in western Pangasinan; 79 kilometers away from Lingayen, the capital town of Pangasinan; and 274 kilometers away north of Manila via Camiling, Tarlac.

The town of Bolinao is made up of 20 villages or barangays, 14 of which have coastlines. It has a total land area of 23,320 hectares. Its topography varies from flat to rolling with some steep areas near the seashores in the western and eastern portion.

As of 1992, Bolinao had a total population of 52,701 or 9,944 households. The CBCRM project is being implemented in four barangays: Arnedo and Balingasay in the mainland and Binabalian and Pilar in Santiago Island. Around 20% of the town's population lives in these four villages.

Bolinao has the most extensive coral reef formation in Pangasinan covering about 8,000 hectares on the northern side of Santiago and Dewey Island and along the northwestern coast of the mainland. The highly diverse multi-species coral reef-based fishery fuels

the economy of Bolinao, and is the source of livelihood to about 3,000 small-scale fishers. At the scale of the Lingayen Gulf, the Bolinao reef system provides the floating propagules of fish and invertebrates for the whole gulf, and functions as a critical support system for the associated shelf systems in the provinces of Pangasinan, and La Union, where about 7,500 fishers live.

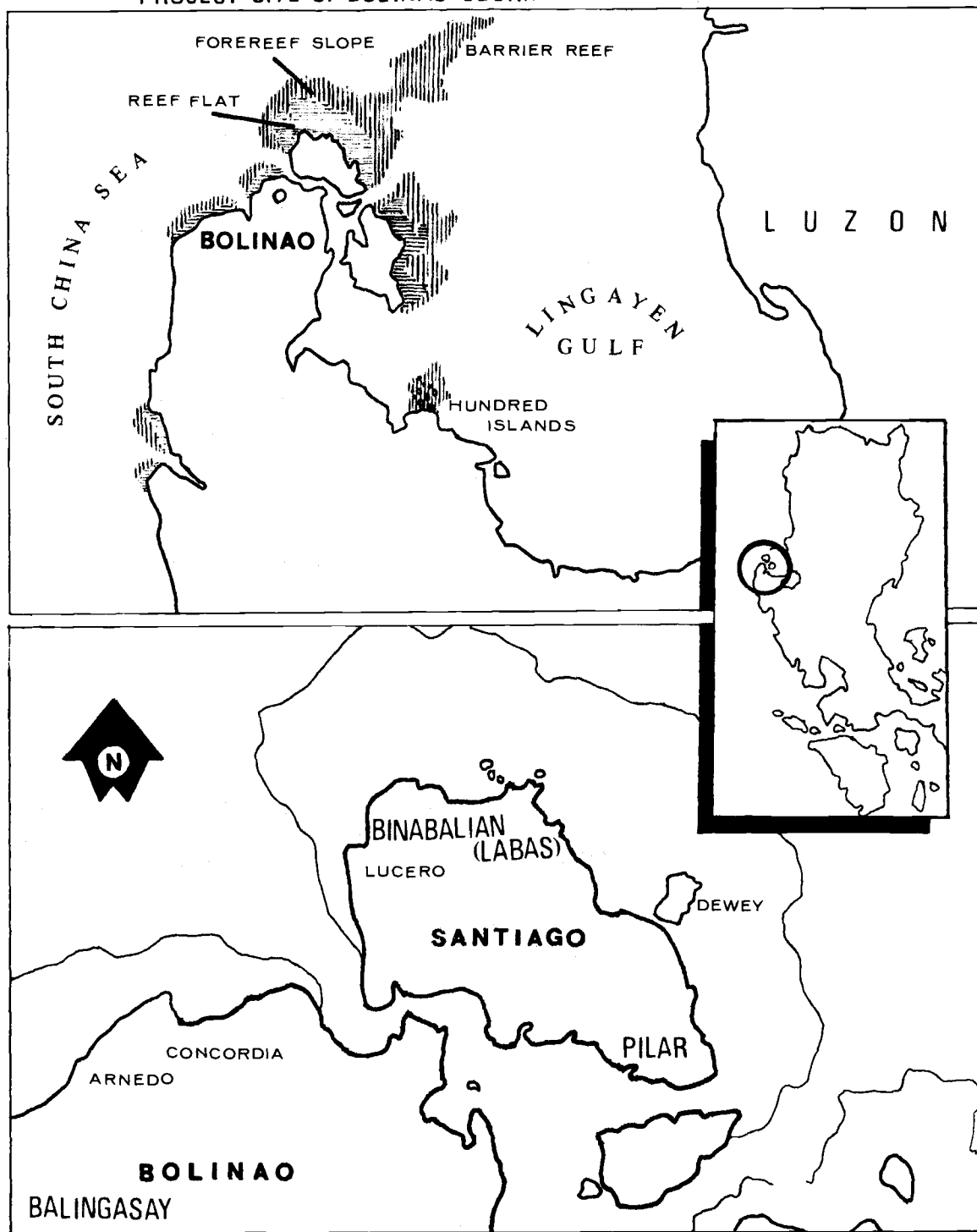
A five-year study (McManus, 1991) revealed that the reefs were overexploited and deteriorating because of destructive fishing methods and other man-made causes. Blast fishing occurs on both the reef flat and reef slope. It is usually targeted at clusters of coral but it is also used to harvest schools of pelagic fish. The blasting devices are generally prepared by locals from readily available materials. Blast fishing is far more destructive than other methods because it directly reduces the area to which coral reef fish can recruit.

Another destructive method is the use of sodium cyanide in aquarium fish gathering. The chemical is used to stun the fish and it is destructive to corals.

The degradation of the ecosystem has greatly contributed to the depletion of the resources in the waters of Bolinao.

The project is being undertaken in Barangays Arnedo and Balingasay in the mainland, and in Barangays Binabalian (labas) and Pilar in Santiago Island (see Figure 1).

FIGURE 1 PROJECT SITE OF BOLINAO CBCRM



Program Framework and Objectives

The Bolinao CBCRM project sets into motion an iterative and interactive research process of conceptualization, implementation, documentation and evaluation involving both the community and researchers in a dynamic partnership to realize coastal resource management. The project has five major components, namely: community organizing, environmental education, resource management, livelihood development, and networking and advocacy. Throughout this process, the community and the researchers teach and learn from one another, giving room for the expression of the community's collective wisdom which is focused, enhanced, and enriched within the framework of coastal resource management (CRM). Indicative of the community's level of maturity and commitment is the extent to which it can sustain this process on its own. The degree to which researchers can facilitate the community's attainment of self-reliance becomes the major index of their success.

The first step of this iterative approach is the conceptualization of issues, needs and solutions pertinent to CRM. The conduct of participatory rural appraisal allows the community and researchers to interact in systematically gathering and analyzing data about the former's environment and resources. Together, they identify critical problems and begin to formulate solutions. In this way, the community begins to focus on CRM issues and potential solutions as a collective body, gaining insights from their research partners about natural and social processes which they themselves have knowledge and experience on. The researchers, through

this close interaction with the community, obtain objective benchmark to determine how best to initiate community organizing, to prioritize what concepts need to be introduced in environmental education seminars, and to identify what resources and skills are important to livelihood development which community members have or need.

Based on priority problems, the community then identifies initial activities for implementation. The researchers use this as a basis for developing their workplans, which also address strategies that better enable a community to undertake the identified activities. A key preparatory strategy and one frequently used in community organizing is conflict management with respect to resource utilization. The community's problem-solving skills are enhanced together with complementary environmental education seminars to deepen the community's understanding of how living resources respond to harvest and habitat degradation. Leadership training seminars develop community leaders and lead to stronger community groups. At each step of the way, the researchers explain the purpose of capability-building strategies within the context of coastal resource management. During this process, needs for management strategies or options for technology development are evaluated and lead to research and development plans.

Identified activities address the needs for livelihood development, resource management and networking and advocacy. Each activity is subjected to evaluation by the community groups affected. Activities are also anticipated based on PRAs as well as previous knowledge on the resource and environment situation in Bolinao.

The interest of a coastal community in CRM as a framework for addressing its environmental and livelihood problems is sustained with each small success achieved in conceptualizing and implementing activities, all of which build its capability as a collective coastal resource manager. An evaluation of each activity is done as a learning step and as an occasion for consolidation of the community. Assessing both the emerging strengths and remaining weaknesses of the group to implement collective action allows for redefining initial perceptions about goals and strategies to realize them. For communities, a meaningful assessment of their status as managers of their coastal resources determines the degree of commitment and level of decisive participation in subsequent activities. For researchers, an examination of the impact of activities in reorienting values, in skills training, and in focusing indigenous knowledge allows for better facilitation of the CBCRM process.

The strength of the general approach of this project is the partnership forged between the community and the research partners. The partnership seeks to propel the communities into self-reliance through capacity-building in the crucial aspects of coastal resource management. Project phase-out is built into the process so that the communities are made aware of this phase-out from the inception of the partnership.

Project Objectives

In sum, the Bolinao CBCRM project framework is operationalized in the following objectives:

1. Develop interactive means to mobilize coastal communities toward collective coastal resource management through community organizing and environmental education;
2. Establish participatory mechanisms through which people's organizations at various levels are legitimized, institutionalized and strengthened, by society and by law;
3. Determine and evaluate appropriate coastal resource and environmental management strategies which will ensure a sustainable base of living resources in the coastal area;
4. Identify and develop culturally appropriate, gender-responsive and environment-friendly sustainable livelihoods that will address the need for food and cash, and which will alleviate direct harvest pressure on living coastal resources;
5. Devise networking mechanisms through which efforts on coastal resource management at the barangay and municipal levels are linked to provincial, regional and national levels of governance to achieve maximum viability and impact of the management program; and
6. Document the process of evolution toward a community-based coastal resource management program through an interactive learning process between the community and research program, for use in evaluation, training, networking, and application to other coastal communities.

Program Components

Community Organizing

Philippine experience in development work confirms the strategic role of community organizing in enhancing people's capability for self-governance: in empowering the people to manage their resources productively, equitably, and sustainably. Previous studies strongly support the view that local organizations are a crucial factor in development work (Uphoff, et al. 1979: 33). It is important that people have to be organized in order to participate on a substantive basis in development projects. Organization is essential in mobilizing and coordinating the human and material resources of the community and in fostering participation on a collective basis such that all members of the community can have equal access to decision-making and project benefits.

Community organizing is a problem-solving process whereby the community is empowered with the knowledge and skills to identify and prioritize their needs and problems, harness and mobilize their human and material resources to deal with these problems, and take action collectively. It stresses leadership formation and capability-building, hence it has also been referred to as a "learning process" approach.

As the most basic component of CBCRM, community organizing lays the foundation for the other four components of the program. It is complemented by environmental education so that the community can begin to think about their economic and social needs and problems within an environmental framework.

The Community Organizing Process

Community organizing in the project sites is undertaken in identifiable phases viewed in a continuum, but not necessarily as ladder-like distinct steps. These phases are 1) site selection; 2) community entry and integration; 3) community study through Participatory Rural Appraisal; 4) issue selection and prioritization; 5) contact building and spotting of potential local leaders; 6) formation and strengthening of a core group; 7) education and mobilization; and 8) setting up and consolidation of a community organization.

Site Selection. Many development agencies, when preparing plans for development projects, rarely have any idea of the particular community where the project is going to be implemented. But, for a community-based coastal resources management which is site-specific, the selection of the project site is a crucial phase. It may spell the initial success or failure of the project.

For the Bolinao CBCRM Project, six variables were taken into consideration in identifying the project sites. These are:

1. ***Diversity of resource base (in relation to available economic opportunities).*** Most coastal villages have hardly enough land for agricultural production. Aside from fishing and other marine-based activities, many coastal communities seem to have very few livelihood options; thus, diversity of resource base is an important consideration.

2. ***Willingness of the community to cooperate in laying down the foundation for CBCRM.*** The community itself is considered the main player in resource management. Thus, only with the community's participation and cooperation can the CBCRM process proceed.
3. ***Relative urgency to initiate CBCRM as a result of rapid environmental degradation and resource depletion.*** Fisheries in Bolinao and the Lingayen Gulf are threatened by degradation and stock depletion. The rapid rate at which these are taking place calls for immediate intervention to avert further damage.
4. ***Accessibility and manageability of the community in terms of population size and geographical area.*** Maximum impact of intervention is an important consideration. Thus, the program has to be implemented in communities which hold more potential for rehabilitation, development and management.
5. ***Peace and order situation.*** Where crime is prevalent the community and the development workers are distracted. The CBCRM process could be enhanced when the development workers do not have to worry about their security.
6. ***Presence of development programs.*** To avoid duplication of efforts which may only lead to confusion and inefficiency, new programs should avoid operating in communities where other programs are already operating.

Having these criteria in mind, the project team proceeded to select Barangay Arnedo together with Barangays Dewey and Binabalian as one of the first sites for community organizing. Later, the project staff pulled out of Dewey and moved to Barangays Balingasay and Pilar.

Entry and Integration into the Community. In order to gain the confidence of the people and first-hand knowledge of the community, it is important to immerse oneself among the people. As outsiders, the researchers/development workers can only learn of the local situation from the local people themselves. It is only the latter who can supply the most revealing picture of themselves and their community. However, the local people cannot be expected to reveal their problems and opinions to complete strangers. This can only take place after a process of integration.

Barangay Arnedo is one of the most populous barangays in Bolinao. In 1992 it had a population of 2,591 belonging to 543 households. It has a total land area of 361 hectares, of which 60% is agricultural land, 30% is residential and the remaining 10% is institutional, pasture and forest land. Arnedo is bounded by the South China Sea in the north and northwest, by barangays Concordia and Liwa-liwa in the east, and by barangay Balingasay in the south.

About 25% of Arnedo's population is dependent on the sea for livelihood. Most of them are located in the seaside sitios of Bareg, San Miguel, and Tinumrong. A 1994 survey shows Arnedo has 80 fisher families distributed as follows:

Sitio	No. of Fishers
Bareg :	49 artisanal fishers, 10 deep sea fishers
San Miguel :	21 artisanal fishers
Tinumrong :	8 artisanal fishers
Quintin :	10 artisanal fishers

Aside from fishers, Arnedo has farmers and livestock raisers (50%), constituting the majority of the population, employees and wage-earners (10%); business persons (7%); and laborers (8%).

Entry into Barangay Arnedo began with a courtesy call on the barangay captain - a retired woman-elementary school principal. This was followed by a formal meeting with the barangay council where the nature of the program, its objectives, components and process were elaborated. During this meeting the endorsement and support of the barangay leaders through the barangay council was sought.

After the project obtained the endorsement of the barangay council, the researchers/ community workers conducted house-to-house visits to establish rapport with the community and develop contacts for the community study.

Community Study through Participatory Rural Appraisal. Before any organizing can be done, an initial study of the community and its resources should first be undertaken. Such a study is necessary to guide the efforts of the organizer in identifying the resources and potentials of the community, the issues and problems towards determining the type of approach/ method to start the people moving.

The initial community study was done through Participatory Rural Appraisal (PRA). The PRA evolved from Rapid Rural Appraisal (RRA), a research technique developed in the late 1970s and early 1980s by researchers in rural development work as an alternative and complement to conventional survey research. PRA is a way of learning from and with community members how to investigate, analyze, and evaluate; and to make informed and timely decisions regarding development projects. PRA's approach borrows from anthropology and ethnographic research methods, and as such gives emphasis to understanding "the people's own point of view."

The PRA in Arnedo was an initial effort towards understanding the rapid environmental change and degradation and the increasing deprivation of the people in the area. The research activity was meant to achieve a better understanding of the status of the coastal resources, the economic activities of the people, and the existing dynamics between the two.

During the initial stage of the PRA the project staff conducted "walkthroughs" to familiarize themselves with the community and develop contacts. They also gathered secondary data. Apart from the formal structures of leadership, non-formal leaders like school teachers, and religious and civic leaders were also tapped as research partners.

The project staff initially engaged in *patanong-tanong* or casual conversations. The team later on conducted semi-structured interviews (SSI) and focused group discussions (FGD) using the guidelines they formulated.

The latter were conducted among farmers, fishers and women. They gathered data on the status of the resources, livelihood and income source, past and present development initiatives, issues and problems, and opportunities. To verify the data they were gathering, direct observations were also made.

To provide feedback and validate the PRA results, a community validation workshop was conducted. Through this activity, the community members and the project staff collectively analyzed the data and determined causes of problems prevailing in the community. On the basis of the analysis and collective understanding, a plan of action was proposed and prioritized.

The PRA process proved helpful in constructing a comprehensive picture of the resource status and of the people's socio-economic conditions. It also generated awareness of the various possibilities and challenges for coastal resources management and served as initial focus for mobilizing the leaders and members of the community. On the whole, the PRA became the stepping stone for subsequent capability-building activities for CBCRM.

Issue Selection and Prioritization.

After the initial community study, a presentation on barangay's situation in a synthesized and popular form was made to the people for validation, issue selection, and prioritization. This activity usually came in the form of a community validation workshop.

The community resource profile can serve as their mirror in understanding their community situation and may be used for

generating discussions regarding the status of community resources, problems, and needs. The discussions generated may be directed toward making the people conscious of the need for an organization that will serve as their venue for solving their problems.

In the face of so many problems, prioritization is needed. The degree of complexity of the problem and the project's capability have to be taken into consideration. Simple problems are easier tackled first to ensure success of initial efforts. This way, the project helps build the people's confidence in their ability to act collectively.

In Barangay Arnedo, participants in the Community Validation Workshop formulated a set of criteria for prioritizing the issues they raised. The criteria included:

1. Urgency of the problem
2. Gravity and seriousness of the problem
3. Number of people affected
4. Willingness of the people to act on the issue/s
5. Solvability of the problem

Using these criteria, they prioritized the following issues to be addressed by the barangay council:

1. Organizing of fishers in Sitio Bareg
2. Resource rehabilitation (e.g., mangroves)
3. Development of livelihood activities
4. Revival and strengthening of the maguey and cashew industry
5. Strict enforcement of ordinances against illegal fishing

Spotting of Potential Local Leaders and Core Group Building. The core group is the basic building block of any organization. The core group is formed from the initial contacts who have shown great interest and concern by taking time to attend regularly and participate actively in meetings and who are credible to other members of the barangay.

In Arnedo, the initial core group was organized around the introduction of seaweed (*Eucheuma*) farming as a form of supplemental livelihood. Five farming and fishing households were organized into a techno-livelihood cell who then underwent leadership development sessions and technical training.

The seaweed farming was envisioned to be economically viable and self-sustaining. However, after three planting cycles, shortcomings in the technical, economic and social aspects of the project prevented it from flourishing as an economic activity.

Education and Mobilization. Educational and mobilizing activities should be undertaken at every phase of organizing. Direct observation through fishers' exposure trips to other successful project sites effectively concretize abstract principles.

The failure of the seaweed project did not prevent the project staff from learning lessons from it and utilizing the techno-economic cells as a springboard for the transition from simple aquaculture to community-wide program of coastal resources management.

Beginning in mid-1994, the project focused its organizing efforts on the sitios where majority of the fishers reside. The goal was to establish a local organization of fishers who will take the lead in resource management along the principle of "resource-user-as-manager". Coupled with one-on-one discussion, small group and *purok*-level discussions on the environment and leadership development, these efforts led to the formation of the San Miguel Neighborhood Association and the Bareg Neighborhood Core Group.

By December 1994, several members of the techno-economic cells have joined the exposure trips to two relatively successful marine reserves in San Teodoro, Batangas and San Salvador Island, Masinloc, Zambales. These cross visits proved very effective in convincing the participants from Arnedo about the effectiveness of marine reserves as a resource management option. They came home totally convinced that it was possible to rehabilitate the degraded coastal resources in Arnedo. They proclaimed, "it could be done".

Environmental education modules formulated under the FAO-supported Integrated Coastal Fisheries Management Project of HARIBON were used as basis for environmental education sessions with the community organizations, local government officials and agencies, and school groups. An advanced course was designed for potential trainers at the local level including training for environmental, paralegal community education and alternative fisheries harvest and production methods.

The environmental education and training program was integrated with community organizing and a resource specialist with training in environment was assigned to be part of the field team in each barangay. In addition to the programmed activities the resource specialists were able to identify other needs and opportunities and worked with the project scientists to respond with appropriate training and demonstration materials. These specialists also worked with community groups as they developed new livelihood options and management strategies, which incorporated environmental monitoring.

Setting Up the Organization - *Samahang Pangkalikasan ng Arnedo (SAPA)*. Beginning January 1995, the team in Arnedo has formulated a more integrated program including setting up a people's organization, installing a marine protected area and piloting a community-based enterprise (i.e., seaweed farming).

During the first few months of the year, the community organizing process was rather slow and got sidetracked by the proposed setting up of a cement plant complex in Bolinao. Employing one-on-one education and information sharing proved helpful in raising the environmental consciousness of the core group, but did not immediately contribute to the program's thrust to attain a critical mass of CBCRM advocates.

Several months later, a working committee composed of representatives of the neighborhood clusters was formed to prepare the establishment of a people's

organization. The target was a broad barangay-level organization with fishers as leaders. The working committee assisted by the team began its work by conducting house-to-house calls on all the contacts it had made in the barangay during the last two years. It also began drafting a constitution and by-laws.

On June 25, 1995, the working committee called for a general assembly. It was attended by 64 people, out of around 80 old contacts of the program. Only 35 of these attended the general assembly, and the rest of the 29 participants were new contacts. The people's organization *Samahang Pangkalikasan ng Arnedo* or SAPA (Environmental Organization of Arnedo) was born at this assembly.

At the first assembly, 11 leaders were elected. They were tasked to lay the groundwork for resource management, including the analysis of the bio-physical, socio-economic and practical factors in Arnedo, the identification of resource management options, and the installation of a legal/institutional instrument that entrusts collective management to the organization. The leaders were also mandated to finalize the constitution and by-laws of the organization, to prepare its registration papers with the government, and to seek recognition from national government agencies (NGAs), local government units (LGUs), non-government organizations (NGOs), and other local organizations.

Organizational Consolidation and Institutionalization.

Social acceptance provided a sustainable basis for legal recognition. Previous work of CSWCD has analyzed the local ordinances and legal structure for fisheries resource management as means to allocate fishing concessions. HARIBON has had previous experience in working with municipalities in gazetting marine reserves. Based on these experiences work was initiated with the local government to pass village or municipal ordinances to endorse or legalize the status of the new organization and the management measures they proposed.

To evaluate the extent of legal and social institutionalization of newly formed groups, the community and their research partners assessed the following features:

1. Cohesion within the new organization and among its members and leaders;
2. Cohesion between the new organization and the larger community;
3. Ability of the new organization to identify resource management issues and to formulate viable solutions;
4. Ability of the new group to network beyond the confines of its community; and
5. Ability of the new group to upgrade the skills of its members and leaders.

Resources Management

The resource management component is responsible for developing and evaluating resource use and management options which have been identified through participatory research in the project sites. These options include (but are not limited to) community-based management of fisheries resources, aquaculture technologies, land-based production systems and other community initiated land and coastal development plans. This component works closely with the Livelihood Development component in the evaluation of options and in their implementation.

The management of the coastal resources of Bolinao can best be done through the formation of resource management councils at the barangay level which are represented in the municipal councils as provided by the Local Government Code. This component also assists in designing the scope of management areas and the management plans for specific areas or resources. The project strengthens these councils through various capability-building activities including environmental education. As partners in the management of the coastal resources of Bolinao, the project staff continue to provide technical assistance for the amendment and formulation of municipal ordinances that regulate entry into the fishery, implement resource-specific management schemes and in general, develop a coastal zone development plan compatible with the principles of sustainable development.

In line with this component's function of providing technical assistance, biophysical research projects geared towards marine resources development management and enhancement are continuously undertaken. These studies address needs identified by the people's organizations as well as those identified in previous research projects as data gaps. Among the priority research areas are:

1. Development of coastal aquaculture systems to enhance fishery production;
2. Inventory and assessment of selected, locally important fishery resources and resource management strategies for these resources; and
3. Monitoring of the impacts of management and other development interventions (i.e. fishery regulations, introduced alternative livelihoods, etc.).

The active participation of local cooperators in these activities is an important feature in all phases of the research program. Such activities are initiated by the project staff and short-term studies are subcontracted to appropriate experts as the need arises. In addition to these activities, the gathering of pertinent technical information to address resource management issues that may arise (e.g., impact of particular gear) is also facilitated.

Coastal Aquaculture. The potential of some aquaculture activities (e.g., seaweed, giant clam and sea urchin farming) in generating much needed supplemental livelihood for coastal communities and enhancing natural resource management was recognized by

the project. Hence, pilot farms were launched in two communities where some local groups had expressed interest.

In Barangay Arnedo, Eucheuma farming was introduced as a potential source of supplemental income. Unfortunately, results were not encouraging. In Barangay Dewey, three fishers took part in an experimental giant clam farming which, at the end of six months, provided them very modest supplemental income. The experience proved more valuable from an educational and ecological point of view. Integration of local fishers' and researchers' knowledge was a principle that guided the entire process. Fishers helped identify the ideal site based on their indigenous knowledge. The researchers helped deepen their scientific understanding of the organism - its population dynamics, feeding practices, reproduction, etc. - through the technical training conducted. Also in Dewey, culture of sea urchins in cages was conducted with local fisher collaborators.

To expand these aquaculture initiatives, integrated aquaculture technologies are being developed and tested. A model for the integration of fisheries management and aquaculture is being developed in the Coastal Resources Research (CoRR) Network. This may result in the enhancement of nutrient recycling, controlling pests and directing more energy and nutrients towards harvestable food products. Integrated systems under local control for the production of food and products primarily for local markets are more sustainable from an ecological and social point of view.

The CBCRM project is working with the CoRR Network to develop components of an integrated system in cooperation with collaborators in Bolinao. Fish culture is focused on food production rather than on producing marketable species. This is compatible with suggestions from local cooperators to explore other options to expand their aquaculture efforts. Indigenous knowledge and marine science knowledge are being combined to design an experimental plan to test species interactions in field units. This becomes the marine equivalent of kitchen gardens in which small-scale production is maintained for household consumption. As this effort is focused on indigenous species, especially those of local food value, there is little risk for participants.

The appropriateness of coastal culture technologies must be assessed using the criteria of social acceptability, economic/marketing feasibility and the potential for instituting an acceptable limited use rights system favorable to coastal aquaculture for local food production as well as cash (e.g., export products).

Resource Assessment and Habitat Rehabilitation. Stock assessment of selected fishery resources (finfish, invertebrates, seaweeds) and integration of available technical information on these resources is being conducted to fill gaps in previous studies. Based on these, conceptual models for the management of these resources can then be developed with the municipal resource management council. Among the priority target species identified from both the results of previous MSI investigations and community validation

activities were rabbittish, coral reef fish, Strombus Anadara, Caulerpa Lentillifera, Gracilaria, and Sargassum.

Reforestation of mangroves in areas previously identified by local communities has been started. Evaluation of coral transplantation and artificial seagrass to enhance fishery production will be conducted based on the results of ongoing UPMSI projects. If deemed ecologically appropriate, expansion of these activities may be undertaken in the future.

Development of rapid environmental appraisal systems is being undertaken with the primary goal of developing "local experts" who can undertake the regular monitoring of the status of the fishery resources in the area and monitor the impact of resource management and other development activities.

In subsequent years, project activities will contribute to the determination of the recruitment dynamics of target fishery species and simulation of larval dispersal patterns in the Bolinao reef flat with hydrographic modelling using various methodology in which MSI researchers have extensive experience. This understanding will be critical in the design of marine reserve systems (e.g. location of entrainment systems) in the area and the region in general.

The integration of culture and management contributes to resource enhancement through the establishment of mini-reserves which, in the short term, serve as reproductive reserves to enhance local recruitment. In the longer term these help demonstrate impact of larger, more

comprehensive reserves. An example is local sea urchin enhancement which is initially justified as a culture activity. However, since the sea urchin larval period is relatively short and larvae may be attracted to the presence of adults, strategic placement of these populations, based on local hydrography, could contribute to "natural" recruitment. The potential for other species is also being considered.

Marine Reserves. One of the potential interventions and possible means of resource management which has already been accepted in principle by several community groups is the establishment of marine reserves, which will serve as protected areas and provide seedstock for surrounding marine areas. There has been some success with these in the Philippines but not in an area as large a community as Bolinao. Therefore, a different approach is needed to reach consensus on the objectives and implementation of marine reserves.

Reserves have been discussed as a possible management tool in some of the barangays. The initiative either follows up on interest expressed by community groups or started with researchers evaluating the resource use by various fishing groups. Existing informal fishers' organizations based on the type of fishing gear they used were tapped in the discussions. Starting point for these discussions was the fishing gear used by each fisher. A series of exposure visits to the marine sanctuaries in San Salvador Island and Mabini, Batangas, complemented by environmental education activities helped draw the fishers' attention to the role reserves have played in other places. Discussions with leaders and

residents in the barangays visited helped to broaden their understanding of the resource situation and how the introduction of reserves might be done.

The Resource Management Component brought together available information on the resources and the areas to determine from a biological and ecological perspective what the best approach was. The Livelihood Component examined the value of the resources involved, in terms of both market value and family food impact, as well as the legal implications of the reserves. Since the resource users have been involved in all of these analyses it also served as a learning process for them in evaluating and developing such a management intervention.

Though a marine reserve in a large area of Bolinao has been proposed by some researchers based on biological analysis of reef fish recruitment, the implementation was considered too difficult because of the difficulty of monitoring the proposed site, which is far from the island barangays. The current plan is to start with smaller reserves more accessible to small communities' management. Models for small-scale reserves are now being developed.

Trials are being designed with user group involvement in the affected barangay(s). The rules for management of the reserve will be agreed upon by the users and a means for monitoring compliance established. Resource monitoring by researchers and later by resource users will be conducted to assess the starting situation and means to evaluate effectiveness of the reserve. The impact of the reserve

will be evaluated based on the status of the resource (species) within the reserve and the impact of fishery landings.

Livelihood Development

The rationale of livelihood development within the context of CBCRM is to reduce harvest pressure while the resource base is being allowed to regenerate, and to implement a management scheme that respects the desirable level of "sustainable rent." In relation to artisanal and subsistence fishers who are often unfairly blamed for the tremendous pressure on the sea, "reducing extractive pressure" means lessening their total dependence on marine resources and on particular productive activities. This is attained by 1) diversifying the livelihood options of marginalized families so that their basic needs are met through varied sources of income; and 2) facilitating their access to basic social services that can widen the range of socio-economic opportunities available to them.

If CBCRM is to break the total dependence of fisher families on their already-degraded resource base, facilitating their access to basic social services is most important, especially regarding their ability to put their children through school so that poverty and the abuse of the natural environment can be addressed at their roots. Only sustained capability-building and the livelihood opportunities that go with it can empower poor families to break free from their dependence on their resource base and to participate meaningfully in economically productive endeavors. Only through education can the poor acquire capital that can never be taken away from them.

Studies show that sustenance fisher families are indeed among the poorest of the poor. Not only are they deprived of productive resources - their children are also severely malnourished, prone to disease, and unschooled. If their children are to grow up this way, the vicious cycle of poverty and environmental decay would perpetuate itself in more disastrous forms. Livelihood within CBCRM has to ultimately aim for a quality of life that affords education and other basic social services for all.

For these reasons, "food security" and "cash security" are the logical goals of a sustainable livelihood program worthy of its name. The former has to make sure that added income from any new activity is spent on basic needs while the latter goal aims for a level of sufficiency that can provide for education, health services, transportation, electricity, and other needs.

Food security can be attained through food production that upgrades the quality of nutrition at the household level, and cash security can be attained if a culture of savings and austerity is fostered among fisher families. A livelihood project that successfully increases household incomes but does not catalyze the formation of savings will still be unable to lift coastal families above poverty.

Certain types of livelihood programs are apt to meet both goals of food security and cash security. Such is the case with integrated aquaculture still being developed in Bolinao, making use of scientific studies done by the UP Marine Science Institute on sea urchin ranching, seaweed farming, the rehabilita-

tion of coral reefs, and the culture of giant clams, Sargassum and others as starting point. Such concept integrates resource management and livelihood development in a single scheme that is close to the experience and desires of coastal families.

Beginning in 1993, the project initiated pilot farming of a seaweed variety locally known as *tamsaw* (Eucheuma/Kappaphycus alvarezii) in Barangay Arnedo. Arnedo was chosen as a suitable site because of its good water quality and the people's previous experience in seaweed farming.

The seaweed has been studied extensively by UP-MSI for almost 10 years. Eucheuma is a red algae that grows on coral reefs and sandy bottoms of marine waters in intertidal and subtidal zones where the water is very salty, clear and fast moving. Eucheuma is source of processed carageenan, a gelling, thickening, stabilizing, and emulsifying agent in both food and industrial products. Eucheuma is farmed extensively by around 50,000 fishers in the Visayas, the Sulu archipelago and Palawan.

Seaweed farming can be considered a form of resource management and livelihood development. It contributes to enhancement of marine habitats, for seaweed areas often serve as shelter, grazing and nursing grounds for various reef fishes. It is also a profitable activity. Dried Eucheuma is purchased at P6.00 - P7.00 a kilo (1994 price level). About 10 kilos of fresh Eucheuma make up a kilo of dried Eucheuma with 38% moisture content. Growing Eucheuma takes only about 1 to 1.5 months. Thus, multiple harvests can be done in a single year.

Eucheuma is grown on rafts made of bamboo measuring 5 x 8 meters. There are two methods used: the long line method and the raft method. Each raft can be planted with 300 seedlings weighing 100 grams each and can produce as much as one (1) ton of fresh Eucheuma (1,000 kilos) after two months.

Earlier in 1991-92, the Bolinao Farmers and Fishermen's Multi-Purpose Cooperative (BFFMPC) ventured into Eucheuma production with technical assistance from UP-MSI. The project did not last long, principally because the level of production could not meet the actual market demand. For big-time buyers to purchase Eucheuma at the farm-gate, the harvest has to be eight tons of dried Eucheuma, meaning 80 tons of fresh Eucheuma (80,000 kilos). This could only be attained if there are 96 rafts tended by about 16 families, with each family taking care of six rafts and producing six tons of fresh seaweed.

The failure of the earlier project was also attributed to the fact that the Bolinao Multi-Purpose Cooperative lacked social preparation prior to the technology transfer from MSI, plus the fact that many of the people involved in the project were not even fishers. But the root problems were really those of marketing and the lack of capital necessary to expand to a commercially-viable scale.

The new attempt at seaweed farming in 1993-94 integrated a few lessons from the previous experiment. The project concept was for five cooperator families to pilot seaweed culture using the raft method.

Three more cooperators - all artisanal fishers - were to follow suit using the long line method. A total of 17 rafts would initially be set up, to be increased to 40 rafts per hectare once successful. There would be five croppings in a year, with the produce packed into 50-kilo sacks for marketing. The feasibility study of a 40-raft hectare of seaweed farm expects an annual yield of almost eight tons of dried Eucheuma, or P54,521.00 worth of sales annually, which translates into a net profit of P 5,663.00 after materials, labor cost, and marketing expenses have been fully paid. If proven successful, more families would subsequently be involved in the project.

Selection of pilot cooperators was based on the following criteria: a) the family must come from the fishing and/or farming sectors; b) they must come from the relatively lower income groups; and c) must be interested and willing to try the technology. Of the five cooperators, two were full-time fishers and three were part-time fishers/farmers.

The cooperative underwent orientation and capability-building. The training focused on the situation of the environment, the development of leadership skills, and team-building. Emphasis was placed on systems orientation by relating the seaweed project to the concept of resource management, and relating the techno-cell to an envisioned broad CBCRM organization. Lines of responsibility and accountability were clarified. Individual tasking was done at all phases of the project, from construction of raft, planting of seedlings, weeding, crop monitoring, cleaning, drying, etc.

Organizational mechanisms put in place included periodic and collective planning, updating, monitoring and evaluation. Complementation from the professional staff was undertaken by one community organizer, one livelihood specialist and one resource manager.

Because of the project's philosophy of self-reliance, financing relied heavily on the resources of the techno-cell. Since only one of the cooperators was relatively well-off, his family volunteered to finance the acquisition of materials, to be paid from the sales of the first harvest. The seedstocks for planting was lent by UP-MSI to be returned after the cooperators have produced enough seedstock. The overall sharing scheme was that 50% of harvest would be the cooperators' share and the other 50% will be returned to UP-MSI as payment for seedstock, until the original quantity is fully repaid. No interest would be charged on all loans (in kind). If the crops are destroyed, the cooperators are under no obligation to pay back.

The harvest of the seaweed farm did not turn out well as expected. The first cropping from December 1993 to April 1994 was harvested prematurely because of a series of typhoons causing 30% loss of seedstocks. Disease also struck the Eucheuma, such as "ice-ice" or white spots resulting from too much heat and intensity of sunlight. Growth was poor, largely because of the grazing done by Siganids, the effect of Epiphytes, the appearance of balu-balulang (Hydroclathrus clathratus) and nutritional deficiency due to the close placement of rafts that affected distribution

of nutrients among the plants. It was later concluded that the fact that the seedlings were imported from Cebu and Bohol may have partly contributed to their failure to adapt to numerous biophysical factors.

Despite the poor production output of the first trial, the cooperators pushed on with the farming. The results of the second harvest in early November 1994 were better. It netted 10,195 kilos from 10 rafts, or approximately one ton per raft.

A third cropping from November 1994 to February 1995 was also dismal because of disease, grazing and fluctuations in water temperature. Only four cooperators participated in this last effort.

After a thorough evaluation in early 1995, Eucheuma farming was discontinued beginning March 1995. The original investment has not been fully recovered, and the cooperators remain indebted to UP-MSI and to their volunteer financier although both have presumably written off the losses.

The failure of Eucheuma farming was not only due to biophysical factors. Many past lessons were not taken advantage of, particularly in the economic and social aspects. Production was not consistent with the specifications of market demand. The desired volume of marketable production was not attained. Very micro-scale projects would not be competitive and viable especially if their market is a broad one. If they remain micro, they are limited to the local market, which does not offer prices commensurate to the production cost for certain products. Thus, for particular

projects to be profitable, the scale at which they can viably operate has to be ascertained first. A project that aspires to enter the export market cannot but operate on a commercially-viable manner with the implicit commercial-level capitalization and investment.

Even though CBCRM often stresses self-help and self-reliance on local resources, external inputs from outside cannot be ruled out in all cases. Outside help is at times necessary to spur growth and multiply gains. The question therefore is not whether outside inputs should be used at all, but whether these inputs are wisely and efficiently used to generate new resources that can then substitute for the infusion of outside capital. Self-reliance is not an issue of whether outside help is used at all, but whether such use has created a relationship of dependency.

Eucheuma farming in Arnedo was not devoid of any gain. Organizationally, the pilot techno-cells later became building blocks of a broader CBCRM organization in the barangay. The pilot cooperators became key persons in the dissemination of environmental awareness and in the promotion of the CBCRM vision. Eucheuma farmers, because of their intensive interaction with a three-member professional team, were well-equipped for organizational work, such that they were easily spotted and hailed as leaders when the *barangay*-wide CBCRM organization was set up in June 1995. To date, they remain the most reliable local partners of the CBCRM program.

Networking and Advocacy

Networking is the establishment of linkages with other groups and agencies working for a common goal such as coastal resources management. Advocacy is a mechanism through which organized groups and communities institutionalize their goals in policies and laws of other groups and higher levels of governance such as the national government. Networking is therefore a prerequisite of advocacy. In both phases, an organized community reaches beyond its confines to help and learn from other communities and groups and together effect significant policy changes as an ultimate expression of a collective evolution toward self-determination. In the case of coastal resources management, the Local Government Code already provides for the legal rights of municipalities to manage their coastal resources. The Code also recognizes the role of people's and non-government organizations as key partners in the development of local communities. However, a major lack of policy with respect to conflicts between national development initiatives and natural resource-based economies on the matter of pollutive industries, among other policy gaps, remains an important target of networking and advocacy.

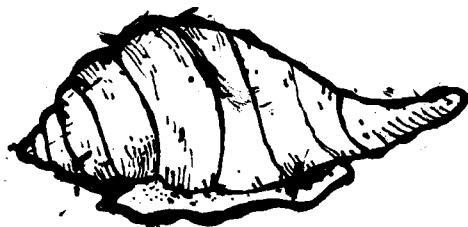
As indicated earlier, the community has begun establishing linkages with other groups even in the early phase of community organizing. The first major link to be established and strengthened was between the community and the municipal government. The CBCRM research program considers the municipal government as a priority group to be trained in the concepts and tools of coastal resources management.

Thus, in all the components of the research program, the local government has been identified as one of the major research partners. A dialogue between the Municipal Council, local community leaders and the researchers has been initiated and will be sustained throughout the duration of the project. Major points of deliberation included coastal zone use planning, legal infrastructure for utilization, processing and distribution of coastal resources, livelihood development for fishers, and a comprehensive development plan for the town, among others. Specific issues which have been identified and analyzed include the use of illegal fishing gear, the use of fishing gear considered potentially destructive, the current and potential fishing and trading monopolies, and access of fishers organizations to fishing grounds and fishing rights.

Because the concerns of coastal resource management go beyond local communities and townships, working relationships with provincial and regional development councils have been established. Currently, representatives from both levels have participated in two coastal resources management fora which were held in 1992 and 1994, which provided opportunities for a loose network to be formed among GOs, POs, and development-oriented NGOs in Bolinao. At the national level, interaction with the Philippine Council for Sustainable Development has been initiated. Along the three levels of development councils, a major theme for interaction and idea exchange is appropriate development paradigm/s for coastal resource management at all levels of governance. Such development models are needed to provide a broader context for

coastal resource management at all levels of governance. As the network tightens, these development paradigms will be expressed in comprehensive policies with sufficient legal and financial support in order to be effectively implemented.

While the network is driven by major advocacy issues, information exchange for environmental education is also important. Among communities, exchange of teaching materials and personnel, inter-site visits, and conferences are conducted to disseminate lessons in coastal resource management. Experiences in conflict resolution, and capital and personnel mobilization for livelihood development, among many examples, are shared using popular media. In the end, the impact of networking shall be gauged by the commitment of coastal communities to collectively manage their resources as they learn from and teach one another. For advocacy, a major impact will be the level of political will at each level of governance (village, town, province, region, and nation) that implements coastal resource management as a major component of a development paradigm for coastal communities.



Project Organization

The organizational structure of the Bolinao CBCRM Programme was designed to operationalize the participatory and interactive nature of the research process within and among the five components of the project. Majority of the research staff reside in the four study sites. Each site has a community organizer as a full-time resident (20 days each month), a resource specialist, and a livelihood specialist. Thus, a total of 12 field personnel (four COs, four RS, four LS) are on-site residents in the four study areas to directly facilitate community organizing, environmental education, resource management, livelihood development, and networking and advocacy. The community organizers act as the site team leaders and the two site specialists coordinate with these persons.

To facilitate and conduct technical studies, four resource and four livelihood specialists are based in Bolinao. All of the time of these eight people (for schematic research and on-site community work) are supervised by the coordinators of the Resource Management and the Livelihood Development components. As the research progresses, and with the development of participatory method in resource assessment and livelihood development, community members who could serve as resource and livelihood development specialists are identified to assist in carrying out the technical studies.

Overall research coordination is provided by a Management Committee headed by a Project Coordinator. The Management Committee is composed of the three research component coordinators and the Project Coordinator. To provide external evaluation to the research staff, an Advisory Council was formed and is composed of heads of participating institutions, advisors of funding agency/ies, and external experts. On the side of communities, evaluation is provided through the Coastal Resource Management Network, which includes members from various POs, NGOs and GOs with development and resource management interests in Bolinao.

Learnings

The Bolinao community-based coastal resources management project is still in its early phase of project implementation yet it already offers valuable lessons. Lessons are learned during the process of implementation and not apart from it. Lessons can be learned from project's success as well as from its errors. Shortcomings can be as useful as successes, if not greater, in teaching relevant lessons.

1. Communities can play the main role in managing their resources. Community-based coastal resource management starts from the basic premise that community members have the capacity capacity to understand and take actions on the problems they confront through their own efforts with initial support from non-government organizations in cooperation with local government units. During the short

period that the CBCRM project is being implemented in Bolinao, we have seen how the people's confidence grew, eventually taking on more responsibilities in strengthening their organization as their main instrument for managing their coastal resources.

2. While asserting the principal role of communities in resource management, we recognized, on the other hand, the limitation and inadequacy of vesting the main responsibility in resource management on the government. Evidently, government has always to be reminded of its responsibilities and prodded to do the right thing.
3. An interdisciplinary approach pooling together the expertise of bio-physical scientists, social scientists, and NGO practitioners can work. Such effort entails a lot of hard work and must begin with an appreciation and respect for each other's background and expertise. There must be levelling-off of perspectives and expectations and integration in the community is also a must.

Interdisciplinary work takes place in many levels. For instance, environmental education and training was integrated with community organizing and a resource specialist with training in natural sciences was assigned to the field team in each barangay. At another level, the resource specialist worked closely with the livelihood specialist in evaluating and developing resource use and management options (e.g., aquaculture technologies, land-based production system, etc.).

4. Community organizing (CO) is crucial in enhancing people's capability to manage their resources. CO is a problem-solving process which stresses leadership formation and capability-building.

5. Education and training is an important element in capability-building. Education was essential in the early stages of the project. In the project sites, education has been best undertaken by field staff on a one-on-one basis or through small informal groups. In Bolinao, appropriate and creative methods such as direct observations through snorkeling and use of microscopes; small group or community-wide presentations using slides, videos, comics, dramatization, role plays and other audio-visual forms have been used.

Cross visits and field exposures to successful project sites like the Marine Conservation Project of San Salvador in Masinloc, Zambales have proven to be very effective in demonstrating the viability of community-based coastal resource management schemes.

6. CBCRM must seek to identify and promote opportunities to increase the social and economic benefits derived from the use and management of coastal areas. In Bolinao, the project aims to provide both "food security" and "cash security". The former goal aims to make sure that added income from any new activity is spent on basic needs while the latter goal aims for a level of sufficiency that can provide for education, health services, transportation,

electricity, and other needs. One way the project addresses the goal of food security is through the promotion of aquaculture products that are consumed by the local people instead of exporting them. While cash security is addressed by generating capital through savings.

7. Early success is critical in establishing the credibility and acceptance of a project. Accomplishing concrete gains was also necessary for the CBCRM project. It is only when people see and experience that they begin to believe and act.

The project in Bolinao took a little while to produce concrete gains. Its initial effort to introduce the farming of seaweed as a form of supplemental livelihood failed. It took sometime before economic concrete gains were made in the production of homemade paper and *buri* weaving.

The failure of the seaweed project did not prevent the project staff from embracing its error and learn from it.

8. Networking and advocacy are two other important elements of capability-building. Networking is the establishment of linkages with other groups and agencies working for a common goal such as coastal resource management. Advocacy is a mechanism through which organized groups and communities institutionalize their goals in policies and laws at various levels, e.g., within the organization, and even in higher levels of governance such as provincial, regional and national bodies.

Through the project's efforts at advocacy and networking, CBCRM as a strategy was popularized and accepted in the Lingayen Gulf area through the regional office of the National Economic and Development Authority (NEDA) and the Lingayen Gulf Coastal Area Management Commission (LGCAMC). The acceptability of the CBCRM concept in the Lingayen Gulf area has made the work easier for the program staff and management and created a conducive atmosphere. This conducive environment will help sustain the project's momentum towards achieving its goal of sustainable management of Bolinao's coastal zone.

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Testimony

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The community-based coastal resource management (CBCRM) project in Bolinao initially focused on the problem of catching aquarium fishes using sodium cyanide. It is recognized that before the CBCRM project, we were all stone-blind in the sense that we were sightless of the destructive effects of what we were doing. This lack of vision on the part of the people may be attributed to the immediate need for survival, considering the impoverished situation of the community.

Upon the introduction of CBCRM, educational activities were initiated. A training course on the use of fishnets for aquarium fishing and a seminar on the environmental situation, particularly the coastal environment, were conducted. More than 100 fishers attended these sessions. Just like seedlings sown in the field, some of these fishers symbolically sprouted, some were pecked by the birds, and others, withered and died. Not every fisher who participated in these educational activities preserving coastal resources voluntarily withdrew from destructive fishing methods.

Our organization, the *Samahan ng Mangingisda at Mamamayan sa Binabalian, Inc.* or SAMMABI (Association of Fishers and Citizens of Binabalian, Inc.), is trying to monitor these harmful fishing practices. In fact, we see to it that aquarium fishes pass through the screening process of the Cyanide Detection Center (CDC) to determine whether they are caught using injurious ways or resource-friendly methods.

Besides giving training on organizational building and leadership seminars for its members, SAMMABI is also proposing the establishment of a marine sanctuary in our barangay. Discussions on alternative sources of livelihood are also in progress. We can say that the CBCRM project has been very helpful in facilitating all these activities initiated by the organization.

A lot of members have learned many things from the project and have been actively involved. Many of us have realized that people play a vital role in protecting and saving the environment.

At present, we are one in our principle that we are in the best position to effect change. Our credo is: if we will not take action, who else will? If not now, then when?

Reactions to Case Presentation

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On Delivery Structure

The case of Bolinao demonstrated what a combination of different fields of expertise and groups can do towards the promotion of community-based coastal resource management. The development of a common framework of action for coastal resource management was also shown in the case presented.

The Bolinao study also showed the need for a very strong delivery structure during the organizing phase of the program. The San Salvador study showed that there is a need for staff capability-building because of a lag in project implementation when a new staff came in. This is also true in the Batangas study when gaps in project implementation occurred after the proponent organization left the area.

But this does not mean that the implementing organization should stay in the area permanently. Although there is a need for a clear program direction, there is likewise a need to develop a timeframe for the phase-out of the organization. It seems that in San Salvador, phase out was completed after five or six years of organizing. Participation of people's organization is thus essential in planning as shown by the experience of Pagapas Bay.

On the Delivery System

The cases showed the importance of developing an information system within the organization. The participation of people's organizations should be tapped in the development of this information system. This basic process operationalizes the participatory approach which provides the take-off point for the organization to determine what their problems are and what directions they would want to follow. So it validates the principle that when the people themselves take part in the decision-making, they take responsibility for the program because they feel that the program is theirs, not the implementing agencies' nor the NGOs'.

In operationalizing the participatory approach, the formation of a strong leadership structure is also needed. However, there is a need to identify and train second-line leaders. As in the case of San Salvador, Mang Andoy is the epitome of a good leader. But his leadership extends to the whole structure of the community: the cooperative, the organization, and the barangay council. So there may be a need, for Mang Andoy, to develop second-line leaders to encourage the growth of the organization.

The promotion of a strong policy base for CRM is likewise needed. A lot of CRM issues revolve around the lack or non-enforcement of policies which promote coastal resource management. Like in the case of the CRMC of Batangas, there was still no policy base when CERD phased out of the area. Thus, the LGU was not able to sustain the CRM efforts.

Institutionalizing CRM as part of the local development agenda is also necessary. In Masinloc, CRM was institutionalized at

the barangay level but not at the municipal level. But if we do not have this municipal-level institutionalization, in the long run, policies may be implemented counter to our resource management agenda.

On the Promotion of Alternative Livelihood Projects

The first thing to be considered here is the appropriateness of the technology. Haribon presents the criteria for identifying alternative livelihood: resource base, knowledge and skills-base, transferability, marketability, people's needs and problems, and environmental soundness.

One of the issues when we talk about resource base is: what will you do in a situation where the resource base is depleted (i.e., overfished, polluted)? Do we implement resource-based livelihood ventures? Do we focus on the resources? In an island like San Salvador, it could be applicable. But in an overpopulated area, like Islang Puting Bato, it is not applicable.

Alternative livelihood should be fitted also to the knowledge and skills of the fishers. In an area which is overfished, or has no fish at all, do we promote the exploitation of the fishing area? If we have to promote that, how much capital is needed for fishers to go out to sea? The smallest amount needed is around P1.5 million.

In the promotion of alternative livelihood project, there is also a need for micro- and macro-analysis of the environment. Technology is not enough. The enterprise plan should be based on a thorough study of the environment: the market, economic environment, government policy (i.e., GATT), and other factors. Usually, the government gives services in support of the promotion of GATT products, but not all

fishery products are included, except for prawns. Are our communities capable of going into this type of venture? What if we make use of another resource base, like land, in order to propagate this type of venture? Are the municipal waters large enough to accommodate a large percentage of fishers? If it is, is it environmentally sound to crowd a bay with fishers?

On the issue of risk-sharing in the promotion of alternative livelihood, who bears the burden of the risk? For example, if we extend credit, will the community bear the burden of the risk? Does the proponent organization have a policy on how it can share the risk? There is a suggestion that we should include in the project design, within the time frame, a period for technology testing and technology transfer.

On Resource and Internal Capital Generation

In the three cases, I could not see how the generation of internal capital would be implemented. Our experiences show that there really is a need to generate internal capital within the organization.

Resource generation is one component that should be emphasized. It only shows that the formation of a CBCRM plan is an effective tool for implementing CBCRM. In terms of mechanisms, there should also be a clear phase out plan.

On Gender and Development

There is a need to promote gender issues among fishers.

On Structures to Leave Behind

What structures do we leave behind? There are clearly two types of structures in

the cases presented. One is the community-based organization whose primary functions are resource management and advocacy of resource management concerns, and promotion of alternative livelihood projects. These organizations may also act as a unifying force for a multi-sectoral movement which promotes CRM. The other structure is the multi-sectoral partnership like the Resource Management Council, composed of POs, NGOs, LGUs. The primary function of the council is to formulate policies that promote CRM.

From these types of structures, we can conclude that there is a very strong synergy between a strong people's organization advocating for resource management and doing other support activities, and a strong LGU supportive of efforts to enhance the achievement of the resource management agenda. We cannot do away with the LGU support because the Local Government Code mandates the LGUs to manage the municipal waters.

On Program Sustainability

What is the time frame for our intervention? What is the time frame for community organizing? How long does it take to set up a self-reliant people's organization? What is the time frame for technology development in terms of livelihood systems, and what is the time frame for actually implementing livelihood projects? What is the time frame also for resource generation? What is the extent of our intervention? How much intervention should an interim organization do at the start of the program? I think this should relate also to the phase-out scheme. And again, the development of second-line leaders is needed.

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The Bolinao Community-Based Coastal Resource Management (CBCRM) program is not really new to me. It is similar to that of Silliman University. It started as a research project, so there was involvement of the academe. The researchers found out that transfer of technology was difficult without the participation of a local people's organization. The involvement of people's organization graduated the project into a CBCRM.

The Silliman University had a marine biological station, and another unit within the university helped them out in the social science aspect. They also had an NGO, the Ilaw Foundation, which accomplished the community organizing aspect. In the case of Bolinao, it is the Haribon Foundation. And there is the people's organization, and here it is KAPPA.

This project would be similar to what SEAFDEC is doing in Malalison Island. There is the academe, SEAFDEC is there, it has researchers for the marine biological component. We also have our socio-economic section that is now working in Malalison. And then we also have a strong NGO, the PROCESS, and we have developed a strong people's organization in the community and that is the FAMI or the Fisherman Association of Malalison Island.

So that is one grouping. And the other grouping would be the Pagapas Bay CBCRM. You have a non-government organization (NGO), the local government units (LGUs) and the people's organization (PO). Noticed that where the CBCRM program covers a large area, it is corollary that LGUs and local government officials become involved. It has become characteristic of CBCRM covering wide areas.

This is similar to the presentation of CBCRM in the Visayas wherein the Fishery Sector Program (FSP) came in with local government units and covered the whole area. Another grouping which is not so common is when you have a strong NGO and a PO. This is reflected in the presentation of San Salvador CBCRM wherein the NGO is very strong. Of course, the local government unit came, in but not as the main player.

So I think this will also facilitate the discussion for the workshop this afternoon covering the issue on which is the better CBCRM: concentrating on a small area or working on a big area. It is clear now that with people working in small areas (where you have the academe, the NGO, and the PO, or you have a strong NGO and a PO), the LGUs have minor role. And when huge areas are covered, there is a strong participation of the local government unit. With this, it would then be easier for us to evaluate which is the better approach.

I will go to another item which can be applied to other CBCRM projects. In all the presentations, the objective of CBCRM is, first, to rehabilitate, manage, and conserve the natural resources.

The Bolinao CBCRM used the words "food security" and "cash security". With proper management of resources you will have food security. And then if you have cash security, this means that you will have excess money later on. What the CBCRM presently has not gone into is to tell the people how to use excess money. This came into mind because historically when we interview fishermen, they would say, "In the fifties, in the sixties, we caught a lot. You just go down there, you just drop down your net and you have so much fish."

It tells us that they had earned more then. But if you look at their way of life or quality of life, it does not reflect this fact. They use the gun powder from the sunken vessels (the Japanese-Filipino vessels during the second World War) for dynamite fishing. Dynamite fishing is very indigenous. They were catching so many fish so they should have increased income then. But it seems that they were not able to properly utilize their income to improve the quality of their lives.

In my hometown, an ethnic Chinese started a business selling opium. It was, and still is, illegal. But now he has a big enterprise, he is now into general marketing and has the newest building in my hometown. The cash he earned from selling opium went into legal business. Perhaps we should have learned from this illegal example.

I think everybody is familiar with Apo Island. Their CBCRM is very successful. People go there for site visits. I also went there. I saw that they have food security and cash security. But then I asked them, "What is your problem now?" They said it

was health services. And then I asked how much the salary of a midwife just to provide basic services to the community. And they said about P4,000 a month. There are about 200 families there, so I told them, if one family contributes P30 a month for 200 families, they would have P6,000. And I said that they can have a midwife there supported by the whole community. Because P30 a month is P1 a day which is just more than a cost of one stick of Philip Morris.

So I think we should also go into that: self-sufficiency not only in food but also in other activities in the municipality. I told the Apo Island residents that they are a very small island and it would be very hard, even for the national or provincial government to dispatch a midwife to their island to provide health services. And I said they really have to do it themselves. They are protecting their environment because the government cannot protect it for them, so I said, why not extend it to the other activities in the community? And this is where the excess cash can be used.

I am glad that the Bolinao CBCRM mentioned education of the children. I think this is where excess cash can easily be channeled, too, to secure the future generations of the community. Unlike in the sixties, families then would welcome having more children because they have enough land to till, enough water to drink. But that is not the situation at present. This must be made clear to them because there is very little migration from small fishing communities. There will be more fishing pressures as the population increases. So this is one venue wherein you can teach the fishers how to use excess money, education

Finally, I would like to touch on the uniqueness of MSI-Bolinao CBCRM. MSI is permanently, I hope, stationed here, and permanently intending to extend assistance to the local community. That is why proponents are able to come out with a 29-page report, because they are continuously thinking of new project activities, due to the fact that they are permanently stationed here. Unlike the others, such as Siliman University, the researchers have left the project sites. They just go to the island for monitoring or additional inputs in terms of technology. SEAFDEC, for one, is slowly phasing out of the Malalison project.

I believe that MSI has to decide whether it intends to go on working with the local POs, and if not, it has to decide when to phase out. If it does stay permanently, other CBCRM implementors may not want to use the Bolinao project as a model. In CBCRM, all the players except the POs are transient. On one day or another, we have to pull out and leave the POs to manage their affairs. That is people empowerment.

Those are the main reactions I would like to share, and I hope I have given some additional things for the organizers to work on. Thank you very much.

WILLIE QUIZON

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My reaction is more of posing questions. What would be the future of the livelihood programs? of the community development program? how are the plans going to be implemented? How will we handle the establishment of a port here, which I think Ramos is pushing for? What will happen if an industrial city is set up here? What will be the end result of this festival-workshop?

We have to address these because the President is aggressively pursuing Philippines 2000. I know that the Philippines, which was once a sick country, figuratively, is in the process of recovering. Industrialization, especially in this vicinity, is being talked about. I think that the questions I posed sum up the challenge before us: how we will use the studies presented to address these issues.

SYNTHESIS



Synthesis

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Community Based Coastal Resource Management (CBCRM) has become a hot topic among policy makers, development workers, and academicians for the last 10 years. CBCRM has been used to suggest a number of meanings, layers and dimensions but the common denominator is placing a premium on communities and the central roles they play in resource management. The value and wisdom of CBCRM lies in its recognition that communities, by whatever definition we use, are potentially the best resource managers since they have the biggest stake in the sustainability of natural resources.

The case studies presented at the Festival-Workshop on Community-Based Coastal Resources Management show the complexities of the problems and issues found in the coastal zone. The following is a listing of themes and trends in CBCRM presented in the case studies during the Festival-Workshop.

* Community participation is crucial to CBCRM.

The need to involve the community in resource management is clearly illustrated in all case studies. The case of the Baliangao Wetland Park (BWP) provides a good example. In the early establishment of the sanctuary, PIPULI Foundation opted to put community organizing as a "secondary" approach. In a year's time, a municipal resolution was passed declaring a 150-hectare sanctuary in barangay Misom. However, putting up the sanctuary, as reported by PIPULI, was no guarantee that the people understood its significance and, indeed, there was not much community support. PIPULI Foundation reports that "it is very hard to organize the people around an abstract idea of CRM or a sanctuary." Hence, the approach was to initially work towards the physical set-up of the sanctuary. Organizing and education became a "bigger" component of the program at a later stage. The Baliangao experience shows that only when community organizing was considered of primary importance that communities understood, accepted and respected the concepts and implementation of the marine sanctuary.

It has been demonstrated that communities, as direct resource users, are involved in the daily management of natural resources. In the Fishers of Talangban case study, it was shown that women plan and allocate resources, transact credit and train young people in conserving and recycling resources. They are, in a raw and basic sense, resource managers. In other case studies, it was through local community commitment to resource management that new interventions worked as seen in San Salvador and Baliangao. Thus, local level participation and grassroots initiatives are key elements in any CBCRM effort.

*** CBCRM is holistic and integrated.**

CBCRM is an integrated approach to area development. It is holistic in the sense that it responds to resolving conflicts over multiple resource use. CBCRM attempts to integrate the socio-political and the economic aspects with the bio-physical elements. Its integration is clearly reflected in the various program components mentioned in the case studies including: research, organizing, training, advocacy, and socio-economic or enterprise development. Additionally, gender perspectives are also being slowly integrated. In the case of Bolinao, social science researchers team up with marine biologists to come up with comprehensive research in the communities. The UP-CSWCD reports that there was a need for the research team to arrive at a "mutual understanding of disciplinary approaches to resources and communities." In addition, both the Bolinao and Barili case studies emphasize the formation and strengthening of partnerships between the researchers and the community. Finally, as an integrated approach, CBCRM emphasizes the fact that environmental problems have both social and technological components.

*** Local communities work in partnership with government.**

All the case studies explored the relationships NGOs and other local implementors have with government. In the case of Cogtong, Panguil and San Pedro Bays, the local government unit (LGU) and various government line agencies (GLAs) play key roles in program implementation and in Baliangao, the LGU was supportive of the idea of setting up a marine sanctuary. In contrast, Tambuyog appears to have a "love-

hate" relationship with the LGU in Barili. All of these situations emphasize the importance of building relationships between government and communities. CERD calls this the tri-sectoral approach. In recent years this has been called co-management which is essentially a partnership where government and community share authority.

Two things can be emphasized as regards co-management vis-a-vis the roles communities play in resource management. First, it is maintained that co-management has a better chance of "success" in the Philippines because of the passage of the Local Government Code (LGC). As shown in the case studies and in many other experiences of NGOs in the Philippines, the LGC is a powerful tool for communities to: a) participate in local governance; b) promote local accountability; and c) be involved in the local development process. The CERD experience provides some insights on this aspect, yet, it would be a mistake to consider the LGC as the only instrument to effect development. It would also be naive to assume that government is more than willing to "share authority" in a smooth fashion. In some cases, in fact, government would not be willing to share power.

As in many partnerships, the issue of co-management will always be an issue of power. The case studies illustrate some of the difficulties of the evolving partnership and power relationship needed for co-management. NGOs become involved to facilitate the development of the partnership but they are sometimes at the mercy of government, for example in the FSP, for funding. The NGOs are weak partners in the "tri-sectoral approach" and their job is to strengthen an even weaker partner, and

people's organizations (POs). The complexity of the local social political situations put the POs at a disadvantage in implementing the LGC and only time will tell what is needed to establish sustainable co-management systems.

Secondly, co-management proceeds with the assumption that despite the advantages of CBCRM, it is unlikely for communities to successfully implement fisheries management on their own. One dangerous consequence of statements like this is that they can lead to giving less importance to grassroots initiatives and autonomous local level management. Peoples' initiatives have been elaborately discussed in the various case studies. A better premise for co-management is that communities need to link with external systems and groups precisely because community systems are intrinsically linked and connected to larger systems. As James Acheson puts it: "even traditional societies are systems within systems" (Acheson, 1989).

Unlike land-based ecosystems, marine ecosystems are open and have no demarcation to separate one area from another. Consequently, resource use by people flows from one place to another and efforts to control resource utilization entail difficulties of conflict and political negotiation for rights. An idealistic view of a community being able to effectively manage marine resources without the legitimization of local and regional governments is ill placed in most places. The question is the degree of control.

Co-management should involve the sharing of power with the community of users and stakeholders. In the case studies presented there was limited direct involvement of peoples' organizations in decision making

with respect to resource management. At best, they became more powerful in their influence on local government. It is understood that this will often be a slow process of empowering community organizations and the progress shown in some of the case studies of building confidence and capability in POs will lead to their ability to assume more powerful roles in resource management.

*** Will CBCRM be institutionalized?**

An issue which was not directly addressed in the case studies is the institutionalization of CBCRM, either within co-management or in other forms. However, it may be too early to identify the means to prescribe the role of community organizations in resource management. Alternatives being tried must be evaluated and the context of each situation analyzed. In many of the case studies, success was dependent on carefully orchestrated or, at times, fortuitous good relations with local political figures. The danger of dependence on particular individuals is the potential replacement of such individuals at election time. In some cases, like San Salvador, conflicts were resolved within the local community resulting in little political upheaval at the municipal level. If CBCRM is to become institutionalized, it must maintain the adaptive character which the early trials have demonstrated to meet changes to the social and political environment.

*** The outside agent plays a role in capacity building.**

In all case studies the task of capacity building has been taken by NGOs, government organizations and other external development agencies which facilitate community development and, thus, "intervene" with

their projects. We may have different names for our programs - CERD has FIRMED, Tambuyog has SCAD, FSP has its own approach, as do others. However, it appears that we all work within the framework of capacity building, but there is a need to clearly define what we mean by capacity building. What capabilities do we want to enhance? How are we going to do it? What is our time frame? There is merit in the reaction of Roger Ricafort of Helvetas when he wrote about the principle of "obsolescence". For it is only when communities cease to need the outsiders that we can claim to have built or enhanced their capabilities and the job of the external agent has been accomplished. As Albert Dizon of Haribon said: "We should be prepared to kiss our program goodbye."

This need for obsolescence has been recognized in the local communities where external agents have worked. However, when one considers the number of coastal communities in the Philippines and the cost of even the most limited intervention of external agents, it is clear that it will be impossible to provide externally funded and staffed projects for all communities. In short, we have to question the sustainability of the current model of promoting CBCRM. There is a need to identify ways in which PO-to-PO activities will be the driving force in spreading successful CBCRM approaches. There are some indications of (sea)grassroot spread of ideas in Bolinao. In their community work, Tambuyog adopts the formation of a group of local volunteer organizers (LVOs), who play an active role in program implementation. The LVOs participate in more intensive training and educational activities and work closely with the program organizers. The development of the LVOs is Tambuyog's core strategy for sustaining program initiatives.

The timing and role of the NGO in the process of intervention can be crucial in determining the success of the effort. As a partner in the process, the NGO must have a share in the planning and the initiation of the intervention. Though there are only a few case studies presented here, it is clear that in the case of the FSP program the NGOs were brought in late in the process and were a weak partner in the team. Their impact on community organization and the promotion of communities in resource management were thereby reduced.

*** Education is crucial in CBCRM.**

The fashionable thing these days is to be involved in "knowledge-based" activities. Certainly, CBCRM is a knowledge based endeavor. Virtually all the case studies identified education as essential in successful implementation of CBCRM but in the time available it has not been possible to provide details of the educational activities in the CBCRM projects.

The case studies illustrate the important role of NGOs in developing awareness and providing education on the alternatives to current practices which are not sustainable. Most resource users already know that their over-exploitation of natural resources is leading to continual decline of productivity. What they usually find difficult is understanding how to change their practices to restore the resource without leading to unacceptable economic hardship in the process. A number of the case studies showed how environmental education was useful in building consensus on the nature of problems which led to consensus on the necessity for change.

The approach to environmental education in CBCRM projects has included not only outsiders providing information about ecology and the adverse effects of some polluting or habitat-destroying activities, but includes organizing local knowledge of ecology, resources and resource utilization. By respecting local people's knowledge, the outsider is helping them find ways of applying such knowledge to better management practices.

However, little has been said in the case studies specifically about indigenous or traditional knowledge. This may be due in part to the complexities of the coastal communities in the Philippines. Migration of coastal people has been common and was cited specifically in the Baliangao and San Salvador case studies. With many communities having expanded through migration within the last generation, the "traditional" knowledge of local conditions may have been overwhelmed by people with different traditions. Changing fishing methods and economic forces promoting new species may also have contributed to shifts in fishing practices.

Only the case study on the fishers of Talangban focused specifically on women's roles, although even in this case study there was little said about the incorporation of women's knowledge, perhaps because the focus was on the introduction of a non-traditional technology. However, in most cases, women's knowledge would be crucial as women are usually the ones responsible for marketing the catch and preparing the family's food. CBCRM requires information about motivations and, thus, markets and uses of the resources, as well as the ecological and technical knowledge of fishing. As has been emphasized many times, "fishing" is

often perceived as "man's work" and the knowledge of women is ignored. However, fishing is an integral part of the more important concern for sustainable livelihoods in coastal communities. It would have been interesting to see more explicit discussion of how the NGOs incorporated women's knowledge in their CBCRM work.

As CBCRM becomes more sophisticated, it is important to be cautious in approaching knowledge generation and utilization. CBCRM is not simply about environmental protection and biodiversity preservation. Nor is it simply a mechanism for economic empowerment or an alternative development strategy. It is these things and much more. As a knowledge-based activity, CBCRM is a means for increasing knowledge and utilization of that knowledge to improve the human condition. As such it is important to be concerned about what, and whose, knowledge is valued.

*** Demonstration of impact is essential.**

Accomplishing concrete gains in a project is the most effective mechanism to convince people about the relevance of CRM. It is only when people believe in, and are able to practice CRM, that it will spread. This has been clearly illustrated in the case studies of Baliangao and San Pedro Bay.

Two key tools used by several of the projects are artificial reefs (ARs) and sanctuaries. The case studies presented here have not used ARs very much (except CERD) but others have (Malalison project by SEAFDEC, CVRP). The effectiveness of ARs to enhance fish production has been questioned by some scientists but they can serve as a useful entry point for CBCRM because they act as

"monuments" or markers that can be used to identify a sanctuary as done by SEAFDEC (Agbayani and Siar, 1994).

Marine sanctuaries, or protected areas, have proven to be extremely important tools in resource rehabilitation. In spite of the problems in maintaining continuity at some sites (Sumilon) sanctuaries have proven effective in enhancing fish production, not only in the sanctuary itself, but in surrounding areas (White and Russ). Another advantage is that they are usually equitable in that all users are excluded from the sanctuary and most, if not all, community members can benefit by the spillover fish production in surrounding areas.

During the workshop discussions we were reminded that although sanctuaries work and are important, there is still a much larger area outside the sanctuaries. If "business as usual" continues in the surrounding areas, the full benefits of careful and controlled resource management will never be achieved. The next step is to control extraction in the surrounding areas to wisely conserve the resources and the habitat. The training of aquarium fishers to use nets instead of cyanide is an excellent example of what is needed (San Salvador case study).

*** CBCRM should improve livelihoods.**

"Livelihood" is a very popular term and has been used frequently in planning CBCRM projects. The application is often with the objective of introducing "alternative sources of livelihood" which will allow people to withdraw from the local fishery and, thus, reduce fishing pressure. Such uses of the word "livelihood" emphasize people's economic activities, but a broader consideration of

livelihood would include other aspects of day-to-day life which go beyond the economically accountable activities.

Livelihood is a means to provide sustenance, shelter, health and satisfaction, but the activities are all carried out in socially legitimized ways. In short, livelihood is not independent of culture. The discussions have been about economic activities but mostly male and market-oriented or environmental in the context of a "resource". Little mention has been made of people's perceptions of resources or the activities, or of values and human relationships. At the start of the workshop, we were reminded by Prof. Elmer Ferrer that not only nature, but also culture, has been degraded. We could interpret this as a result of the essential and mutual interdependence of nature and culture.

In the case studies and other CBCRM projects, it always seems that the provision of alternative source of livelihood is the responsibility of the outside agent. Artificial reefs and sanctuaries are two examples. One must be concerned with the question of who really makes the choice. In a number of cases, it was apparently the PO that "decided" to establish a sanctuary, but the outcome was likely predetermined by the exposure trips and educational efforts of the outsider. This involvement of the outsider is indeed positive but we look forward to the evolution of methods which will promote more participation of community groups in the development of innovative means to solve local problems.

The reason why alternative sources of livelihood are needed seems to be based on the premise that the sea's resources are limited. It is indubitable that there are limits

but further studies need to consider what these limits are, rather than assume that current production levels indicate the limit. During the workshop Efren Flores reminded us of times when fish catch in the Philippines produced very large excesses. Did this excess production indicate the result of "mining" the fish stocks in unsustainable ways? Or was the sea intrinsically so much more productive during the time when the bio-physical environment had not been heavily damaged by pollution, destructive fishing practices and overfishing of particular species? It may be that the changes in the environment have undercut the potential productivity of many fishing grounds. Over-fishing of selected species may shift the ecology and move productivity away from desirable species. If questions of access and conflict can be resolved and we can stabilize and enhance livelihood in coastal communities, it may be possible to increase the potential of local habitats to provide food.

The reliance on providing alternative sources of livelihood as a means of drawing people away from fishing may just be an illusion. It could provide a useful partial solution to the problem of community residents, but other fishers may move into the fishery. It appears that many coastal communities in the case studies are made up of migrant families who arrived a generation ago. Access will have to be controlled and, in a broader perspective, ways are needed to reduce the pressure on others to undertake such economic migrations.

On the other hand, if the focus is exclusively on the fishery, other aspects of people's lives may be ignored. Most people depend on a multiplicity of income and food sources, which must be considered in solving

the problems of coastal communities. Thus, livelihood options as means of providing food and income are needed but they need not be "alternatives" but enhancement of the already complex economic lives of coastal communities.

*** CBCRM needs a clear and conducive policy environment.**

The confusion and conflicts over policy interpretation and implementation is clearly demonstrated in the Cotong Bay case. This is further exemplified by the conflict between the Local Government Code of 1991 (LGC) and P.D.704, which is still in effect. CERD reports that they still had to push for the passage of an ordinance even if the LGC provides that municipal waters cover up to 15 kms from the shore.

At the national level, the Non-Government Organization Technical Writing Group (NGO TWG) for Fisheries Reform and Advocacy is spearheading advocacy efforts to adopt a clear and comprehensive fisheries law which will spur the adoption of policy initiatives directed at addressing the open access problems in fisheries.

*** Power against poverty.**

Finally, two factors should be stressed, which have been both explicitly and implicitly stated in the case studies: 1) the highly unequal distribution of power and power relations; and 2) poverty. CBCRM, at its core, should not merely be oriented towards resource protection and rehabilitation. CB-CRM should address equity issues between and among classes and genders. Two approaches to better local management of coastal resources have developed in parallel. CBCRM has its starting point in local POs while co-management

appears, in many places, to be top-down. The model for institutionalizing CBCRM may end up as a combination of the two with variations depending on the local socio-political situation. One concern is the sharing of power and the distribution of the benefits among the traditional holders of economic and political power, and the poor.

CBCRM must continue to work towards the reduction, if not the eradication, of poverty. The approach demonstrated by the case studies is that of empowering the poor through formation of organizations. The difficult part is having those POs accepted and legitimized by the broader society which perceives these organizations as threats to traditional attitudes of gender and class and, thus, established power.

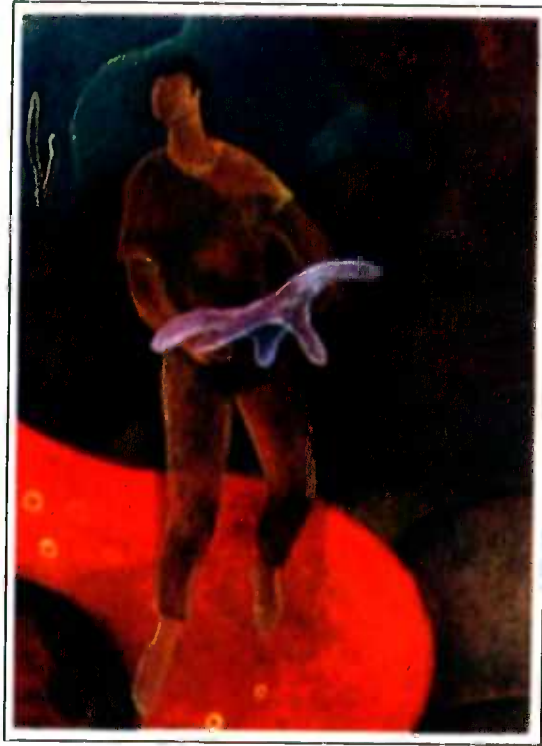
The way forward is indicated in the slogan for the Festival-Workshop: *"The seeds of our hope are nurtured by our past."* This speaks of the past and the future, but we must remember that those seeds are presently in our hands. Our generation must ensure that we have the right tools to cultivate those seeds, to protect the culture, embedded in our past, which nourishes the seeds and to allow the seeds to be shared by all and to grow in an evolving culture. We may not yet have all the tools but we are learning and making progress in transforming attitudes. In the Philippines, CBCRM as a process implemented by NGOs is part of the transformation of communities. Each initiative has very local meaning and impact but collectively will lead to sustainable livelihood immersed in an enriched cultural and bio-physical environment.

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APPENDICES



WELCOME SPEECH*

GEN. VALERIO PEREZ (Ret.)
Executive Director, Lingayen Gulf Coastal Area
Management Commission (LGCAMC)
Lingayen, Pangasinan

In behalf of the Lingayen Gulf Coastal Area Management Commission (LGCAMC), we would like to join the UP-CSWCD and the NGO-TWG and the people of Bolinao in extending our welcome to our guests and participants. You came at a time when the LGCAMC and Bolinao are virtually in the center of a storm, probably as strong as typhoon Rosing or even stronger. I refer to the ongoing controversy on what to do with the gulf and with the resources of the coastal area. So we are happy that you are here because your expertise, your advise will be very helpful to the decision-makers LGCAMC and eventually of the President.

We are aware that, during your trip here, papers will come in that are perhaps critical of what we have been doing or possibly supportive of some of our actions. I would like you to know that three years ago, the President himself said that the Lingayen Gulf is now a critical environment and therefore must be protected, conserved, and developed in a rational way. To give meaning to what he said, we created the LGCAMC and our excuse for being is precisely to protect, conserve, develop, and manage the resources of the gulf.

We are happy that you have organized this festival-workshop on community-based coastal resources management. I brought with me some of my staff and they will be with you for the next three days. With the permission of the organizers, they will gather information and disseminate it to the people of Lingayen Gulf. And so let me share again, this is an opportunity that will be very beneficial to the LGCAMC, to the administration of Bolinao and La Union and more particularly to the staff of the Commission.

We hope that during your stay in this part of our province, you will enjoy and appreciate the beauty that nature has given us, and possibly find time to see other places in other provinces that are worth appreciating. This is precisely why we are here: we would like to preserve this beautiful gift of nature, so that it will not only be this generation who will enjoy this gift of nature but also the next generation to come. We do not want to be condemned and cursed by the next generation.

We look upon UP-CSWCD and NGO-TWG and your group to help us in evaluating the programs and the measures we have been adopting. In fact, at this point, I am happy to announce that in the last regular meeting of the Commission, it was decided unanimously that U.P. will be our basic resource and consultant-institution in helping us formulate principal decisions. So we hope that we will get the cooperation and support from U.P. Thank you very much and welcome again.

** Speech delivered during the Opening Program of the Festival-Workshop on Community-Based Coastal Resources Management held last November 16-18, 1995 in Bolinao, Pangasinan.*

OPENING REMARKS*

JOCELYN T. CARAGAY

***Faculty Member, College of Social Work and Community Development
U.P. Diliman, Quezon City***

Warm greetings from the Dean of the CSWCD!

For this grand celebration, Dean Pangalangan extends her deepest congratulations to the workshop organizers, the workshop participants, our special guests, and the case writers/presentors who have labored it through the casewriting workshops last summer. Grateful appreciation is also extended to our partners in the program especially our hosts in Bolinao, the Barangay Council, our local government officials, NGOs, and private citizens for their untiring participation and support in coastal resource management endeavors. She regrets that she could not come personally as this day coincides with her departure for another conference.

In line with the CSWCD's vision of a just and humane society, the College shares the spirit and objectives of the festival towards an effective sharing of insights, lessons, and experiences in coastal resource management that can be translated into meaningful action by planners, policy makers, advocates, fishers, and concerned citizens. It is our fervent wish that while new areas for collaboration are explored, current collaborative ties are likewise strengthened by these activities.

We know for one that the Marine Science Institute (MSI), College of Social Work and Community Development (CSWCD), and Haribon Foundation for the Conservation of Natural Resources, Inc. have embarked on a community-based coastal resource management program. At the moment, the MSI and CSWCD are also exploring a joint curricular offering on coastal resource management.

The success of this festival lies in all of us and the greater challenges lie in viewing this conference as a learning experience with an open mind, body, heart, and soul where insights and resolutions are sincerely, patiently, and effectively translated into meaningful action.

There is no doubt that the concerns of coastal resource management is for all of us to confront. As it has been said, coastal environments are the primary habitat of human species and estimates show that about 50% to 75% of human population live along coastlines. As we may also know, the current pressure on coastal resources is still milder than what we would expect by year 2,050. And, as I remember, participatory development conferences in the late '80s and early '90s used to point out that where resources are depleted, there is nothing around which to organize

As we already know, the multidimensional nature of issues confronting coastal resource management calls for an integrated action from various sectors, making this meeting very timely and relevant. Each one needs every one here and probably even more. Fieldworkers, practitioners, researchers, academicians, planners, policy makers, and concerned people themselves have their stake and roles in addressing coastal resource management issues.

Our attempt for the moment is to draw lessons and insights, theorize and conceptualize from existing literature and from actual experiences that will be shared in the case presentations covering initiatives and programs in Luzon, Visayas, and Mindanao. This is a very significant move, as "learning through experience" remains an effective strategy. It is also surprising that little or not enough is known or written about actual experiences, theories, conceptualizations, and syntheses, despite over two decades of coastal resource management efforts in the Philippines.

As a word of caution, however, I would like to highlight that experience alone is no indicator that we have learned, especially when we continue to make mistakes. Just as we are doing now, we must work closely with one another to facilitate learning from experience, help others learn from experience, and pursue means of drawing lessons from a growing body of knowledge and experiences.

I am optimistic that the case presentations are going to draw us to the sites, get to the real problems, and make direct applications easier. Approaches, conceptualizations, philosophies will be formulated or learned. But what is important is: HOW TO MAKE THINGS WORK.

This is the challenge for all of us! For instance, if the future means changes in our coastal resources and environment, population, technology, or society's way of life, are we ready and are we willing to change and facilitate change as part of an operating environment? Moreover, how prepared and how convinced are we for people-centered, community-based coastal resource management endeavors, enough to forge the festival theme: *Uphold Communities Rights to Manage their Maritime Heritage*.

Again, in behalf of the Dean of CSWCD, my best wishes for a fruitful and productive conference.

**Prepared and delivered by Prof. Jocelyn T. Caragay in behalf of Dean Evelina A. Pangalangan for the opening program of the Festival-Workshop on Community-Based Coastal Resources Management held on November 16-18, 1995 in Bolinao, Pangasinan.*

KEYNOTE ADDRESS*

OSCAR M. ORBOS
Governor, Pangasinan

A good morning to everyone.

I am honored to be here and be part of this festival-workshop on coastal resource management. Let me welcome you to Bolinao. I myself grew up here, in a sense, and I would be in much light to see that it remains as it was before. I guess the message we have this morning is that nature, being a gift of God to his people, must be preserved for our own sake and for that of the future generations.

Let me just mention a good message Dr. Yap has sent to my office about a month ago. I was telling her at that time that perhaps there is only a small degree of faith in government as many of you may still have. I am a government official but sometimes I lose faith in government myself. It is a bigger problem than anything else, in many cases. I said, maybe we are in for a surprise, we might come out with a winning decision. I believe that this cement plant, this facility, should never be our neighbor here at the institute.

I talked to Dr. Helen Yap about my discussions with the President. In fairness, he said that he was going to respect my own position and decision since he knew I was against it from the start. He did for there was no pressure on me to change my opinion. I felt that the people's decision on the matter will ultimately be the most important but at that time we had to consider that there was going to be a process in government that would actually resolve the issue independently of other deciding factors.

I also informed Dr. Yap of my discussion with Secretary Vic Ramos of the Department of Environment and Natural Resources on the matter. I believed that the issue should not be resolved in an emotional way but in a very real and truthful way, which is to say no. He said, "You know me, partner, and I am going to come out with something, considering what you pointed out."

Earlier, I discussed this issue with former Secretary Factoran. I told him the issues and problems that I saw and he said these will be reflected in his recommendations on the study. This morning, my press officer told me that my office just received a fax message from the office of Secretary Ramos, upholding the denial of the Environmental Management Bureau of the issuance of the required certificate for the facility to be established here.

Maybe there is a message for all of us here. First, there is no greater force or authority in a nation than the authority of the people themselves. If you look at all the arguments my dear friends, this is not the short circuit, the whole process. Second, the whole process is not all right. But the people, in a sense, have spoken. They want to preserve their place. They want this gift to remain as gift to them and to the people of future generations. And government must actually recognize it. As man can be greedy, he can also be good. And sometimes in promoting causes that are somewhat adversarial to the interest of other sectors, we tend to forget in many ways that even on the other side of the fence, there can be some glimmer of hope and of good that in the end would bring us together. I hope I am right.

Insofar as the provincial government and the people of Bolinao, of which I consider myself a part, are concerned, I think the lessons are very clear. If we talk about our stakeholdings in the future, and if the sustainability of the resources to continue to nurture all of us and the future generations is to be assured, decisions cannot be made on the basis of what is right from my side but on the basis of what is right for all. I am happy that the Institute was established here fifteen years ago; maybe it was destined to be, because at some point fifteen years hence, there was going to be some proposal that would endanger the gulf, and the Institute had to play its role as a vanguard to preserve what we have here in Bolinao.

The stakes here are much really higher than what many of us think. And this I have seen with my own eyes. I have relatives all the way to La Union. I grew up in this place. It is probably only in this place that we have certain kinds of fishes, certain kinds of marine life and corals which I cannot find on the other side of the gulf. Which means that we have something here that many other places do not have. As I understand it from Dr. Yap and from my own sister who, as a biology student years back at the University, used to explain it to me, it is only in this place, my dear friends, that we have still a live coral reef ecosystem.

In fact, I looked at the whole map. This is the most northern part, I think, that we still have at this time. I am happy that I was ordered to come here at six o'clock in the morning. I was able to see the baby clams project and the coral regeneration project. This means that, indeed, man can destroy and he does; he can be abusive but he can, in fact, also be a builder. And this is the reason why I think we all are here for this conference, the Festival-Workshop on community-based coastal resource management.

I think the number one lesson here is that government must not be an adversary. Sometimes people in government make themselves the adversary and the enemy. And I suppose this is the way we are going to do it. Because in the end, my dear friends, the cynic will always come out and say that the biggest problem in this country really is government. So it is now up to us, the people, to remind government officials every now and then that they are supposed to be there as friends, not as adversaries, but as servants of the people.

There are many things we have to do here in Pangasinan. A lot of work remains to be done. And I was just saying that this is my fourth month in office. We have started a lot of things. But one of the first things I said when I took over is let us just do the doables. My term is this: I cannot hope to bring heaven here, but at least I can lay the building blocks of the foundation that will allow us some sustainability in our efforts to develop. I said I cannot promise you the moon and the stars and that everything will be done. Development and progress will come, but if we cannot address what is illegal, then I don't think we have any business saying anything else.

So I said, let us have a doable program on illegal and dynamite fishing. Because we can have all the plans, we can have all the studies, I can come everyday and talk to you and agree with you on everything you say. But if we cannot even address what is illegal (and that is actually destroying our environment), then I guess we are not capable of doing anything else. So we have done this and above this way, I think we have put our best foot forward in this work. It is more difficult to sustain it, but we are ready to do that and we are now in our second phase which is to address the program of those who are engaged in this kind of activity.

As we always say, instituting alternative sources of livelihood is as much a part of the effort to stop illegal fishing as are apprehension and arrest of illegal fishers. But that is easier said than done. Sometimes government comes in, the government teaches. To me, I have always taken the opposite approach. There is much to be learned from the people, believe me. Sometimes it is really government which should learn from the people. I suppose we have not yet succeeded one hundred percent. There are still incidents of illegal fishing. But compared to what we had before, I guess we have made a lot of headway and improved the whole situation.

My dear friends, it is sad that you are trying to regenerate the corals while they practice blast fishing at the same time. You are planting clams, and they just blow it up the next moment. Everything that we are doing will be useless if government does not do its share.

Let me just give you a very good example. It is difficult to police the whole place. And it is more difficult to come up with an educational program that will educate and inform our people on what they have as a gift and convince them not to destroy it. We have found a remedy that has worked so far, which is to keep them in the market. That is why those who are trading by truckload end up with fish that are spoiled because of thrice being sold and resold in the market. It has worked better than chasing people, because we have no more illegal fishers to chase - they often escape before the authorities can apprehend them. The most important of all is that we have gone around this; we have shown that will and determination really get the upper hand.

There must be an alternative, and this is what the people in the Marine Science Institute have stood for for a long time. Insofar as development is concerned, as to that proposed facility, there is in fact a better alternative to the kind of development proposed by them and to be pursued by the people of this town and by the province.

I hope that I have sent my message across. The instruction to me this morning was to come early at six o'clock so that I could see the baby clams being grown and the corals being regenerated. I can tell you that it made my day. I really should visit the Institute more often, if only for the fact that you can plant clams and regenerate corals, which I saw with my own eyes. I am very happy that we can make Lingayen Gulf alive again.

Thank you and good morning.

**Keynote speech delivered during the Opening Program of the Festival-Workshop on Community-Based Coastal Resources Management held on November 16-18, 1995 in Bolinao, Pangasinan.*

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to the

FESTIVAL-WORKSHOP ON COMMUNITY-BASED COASTAL RESOURCES MANAGEMENT

**Bolinao, Marine Laboratory
U.P. MSI, Bolinao, Pangasinan
November 16-18, 1995**

Organized by the

***Community-Based Coastal Resources
Management (CBCRM) Resource Center
College of Social Work and Community Development
University of the Philippines, Diliman, Quezon City***

and

***NGO Technical Working Group (NGO TWG)
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