

PC-AAA-856

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Regulating the Commons

STRENGTHENING NATIONAL GOVERNMENT-LOCAL GOVERNMENT
PARTNERSHIP IN COASTAL RESOURCE MANAGEMENT



SIAM INSTITUTE OF MANAGEMENT • FORD FOUNDATION

REGULATING THE COMMONS
Strengthening National Government –
Local Government Partnership
in Coastal Resource Management

Asian Institute of Management

1999

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PUBLISHED IN MAKATI CITY, METROPOLITAN MANILA, THE PHILIPPINES. COVER ARTWORK BY
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Preface

Most of the studies undertaken since the implementation of the Local Government Code of 1991 (Republic Act 7160)¹ largely overlooked the relations between the national and local governments. These initiatives focused on the absorptive capacity of the local government units (LGUs) to implement devolved functions, capacity building for local officials, and participation of civil society in local governance. The relationship between the national government and the LGUs, a crucial factor for the effectiveness and sustainability of local governance, has not been adequately studied. The role of national government agencies (NGAs) and the necessary changes they have to undergo as a result of devolution have also not been really looked into.

Though the Code addressed devolution and decentralization comprehensively and ambitiously, it, however, did not spell out the role that the national government line agencies should perform in a devolved and decentralizing political system. Thus, there is a need to redefine the role and the function of national government line agencies in the context of a devolved political system. There is also a need to help these agencies transform themselves from frontline service providers to organizations that develop national policy guidelines, monitor performance, and extend technical support to LGUs. Specifically, these agencies must be able to shift their focus from directing development efforts to one of absorbing and integrating local programs into national development policies.

To complement this transformation, various modes of partnership between LGUs and national government agencies (NGAs) have to be explored towards a more ef-

¹Republic Act 7160 was signed on October 10, 1991 and became effective on January 1, 1992.

fective implementation of the devolved functions. The partnership between NGAs and LGUs also require changes in the way LGUs implement the devolved programs and the way they relate to NGAs.

Among the few studies that looked into the role of the national government and its relationship with the local governments in the devolution process are the annual Rapid Field Appraisals (RFAs) of the Governance and Local Democracy Project (GOLD) of USAID² and the assessment of the implementation of the Local Government Code of 1991 written by Alex Brilliantes.³ Brilliantes identified the following as among the factors that hampered the smooth implementation of the Code: the lack of guidelines to the LGUs from the NGAs in operationalizing devolution; and, the continuing need to define and clarify inter-governmental relations, i.e. national-local and local-local.

Among his recommendations for a smoother and a more effective implementation of the Code are the following: (a) Clarifying inter-governmental relationships (i.e. national-national; national-local; and local-local); (b) Continuing support from the national government agencies, particularly in the areas of provision of technical assistance to LGUs, capability-building and training, ongoing dialogues and exchange of information; and (c) Continuing orientation for national agency officials to effect a continuing paradigm shift among national officials with regard to the frontline local governance and to avoid "unfunded mandates".

The first four Rapid Field Appraisals (RFAs) observed that "NGAs lag behind in terms of initiatives and ways of adapting to the demands of the decentralized system of government, and did little beyond the devolution required by law".⁴ The fifth (1995) and the sixth RFA (1996) observed that NGAs had not "pro-actively pursued new roles after devolution was accomplished." The 7th RFA (1997) identified the reluctance of the NGAs to devise methods to provide technical assistance to LGUs

²The 1st four RFAs (1992-1994) were undertaken under the Local Development Assistance Project of the USAID. The succeeding RFAs (5th to 8th RFAs, 1995-1998) were conducted under the GOLD Project of the USAID. The RFAs assess the pace and direction of the decentralization process from the local perspective by broadly identifying the trends in the decentralization process and the factors that constrain these trends.

³ *Historical Developments of Philippine Local Governments: Five-Year Assessment of the Implementation of the Local Government Code*. (Unpublished Paper, 1997).

⁴ *Synopsis of Findings from the Four Rapid Appraisal of Decentralization, 1992-1994*. Associates in Rural Development, Inc. USAID and the Local Development Assistance Program, 1994.

pursuing locally defined priorities and the lack of involvement of LGUs in planning and managing national programs as among the constraints to further decentralized democratic development.

The transformation required of NGAs and the need for partnerships between NGAs and LGUs become more imperative in view of the policy changes taking place in grains production and agricultural planning and implementation, coastal resource management (CRM), community-based forest management (CBFM) and socialized housing. These four program areas are the focus of this study. The trend of these policy reforms is to further devolve, strengthen, and institutionalize the decentralization and devolution process started by the Local Government Code. These policy changes will be discussed in more detail in the succeeding chapters of this report.

Consistent with these policy reforms, there are efforts within the national government, as observed in the eighth RFA (1998), to engage LGUs in new ways. One such effort is the Department of Agriculture's move to do a bottom-up planning process and to propose a co-financing scheme to finance provincial food security programs. Another is the emphasis on the role of LGUs as one of the two main strategies of the present administration in providing socialized housing.

THE PROJECT

A. Objectives.

The present study proposes to examine national and local government relations in the context of specific devolved program areas. In so doing, the study hopes to generate recommendations that will address concerns specific to a program area. Thus, this study uses the case study approach to look at the implementation of these program areas at the provincial level. The study also hopes to outline recommendations that will address devolution and decentralization in general.

Aside from focusing on specific program areas, the study also puts a strong emphasis on building a strong constituency that will help advocate and push for policy reforms towards strengthening national - local government relations. A strong constituency for policy reform creates a more supportive regulatory and policy environments for local governments. Thus, consultations and meetings with various stakeholders were done throughout the project cycle.

The three core activities of this project are participatory policy research, advocacy and constituency building, and documentation and publication. The *general objectives* of this study are:

- To determine what changes in policy and organizational structure are necessary to create more effective partnerships between the national and local governments;
- To gain commitments from national government agencies where they believe policy and organizational changes are feasible through the participatory approach involving all stakeholders; and
- To design follow-through activities to strengthen the constituent base that can advocate for the implementation of these reforms.

The *specific objectives* of the study are the following:

- To formulate a policy research agenda on national and local government relations within the context of decentralization through broad consultations with various stakeholders;
- To produce research papers, including case studies, addressing the issues identified in the policy research agenda;
- To formulate recommendations for policy reforms based on the findings of the research.

B. Program Areas.

The four program areas of this study were chosen after a review of the literature and consultations with various stakeholders. These are grains production, community-based forest management (CBFM), coastal resource management (CRM), and socialized housing. These four programs were also chosen due to their tremendous impact on the quality of life of the basic sectors, such as the indigenous peoples, upland dwellers, fisherfolk, farmers and the urban poor.

In addition, the implementation of these programs represents varying modes of devolution. In the case of the Department of Agriculture (DA), the agency responsible for grains production and agricultural development, its devolution is “partial”. Meaning, though its extension services were devolved to LGUs, it is still mainly responsible for the entire planning, financing and execution of agricultural development. In the case of the Department of Environment and Natural Resources (DENR), the devolution of forest management functions to LGUs are “under the supervision and control of the DENR.” For housing, the municipal LGUs have direct mandates to undertake socialized housing, with assistance from relevant national government agencies.

The implications, if any, of these varying modes of decentralization on the implementation of the devolved functions will be discussed in the succeeding chapters of this report.

C. Case Study Areas.

The case studies focused on the province and treated it as a political (and not a geographical) unit. Among others, the research looked at how the province manages, and, in certain cases, implements the different devolved programs and its relationship with the national government in managing and implementing these programs. The case studies also studied at least one municipality within the province to highlight the municipal LGU–provincial LGU relationship in the management and implementation of these programs.

Based on the consultations with the different stakeholders and the review of related literature, the Project Team initially came up with six provinces as possible sites for the case studies: Cotabato, Negros Occidental, Batangas, Bohol, Nueva Vizcaya, and Quezon. Initial socio-economic data, including data on activities of the province on the four program areas, were gathered to help the Project Team determine the final three provinces for the case studies. For the case studies on socialized housing, the Housing and Urban Development Coordinating Council (HUDCC) recommended Bacolod City and San Fernando City in La Union. HUDCC used the following criteria in coming up with these two cities:

- the need for socialized housing

- mayor is either a first- or a last-termer
- cooperative and reliable HUDCC Regional Office personnel
- presence of POs/NGOs who can participate in setting up the mechanisms to address the housing problem.

The Project Team applied the following criteria in choosing the final three provinces for the case studies:

- the willingness of the local chief executive to participate in the project
- the presence of two or more of the project's four program areas
- the presence of innovation or success stories at the local level, and
- the lack of written material on the site.

The Project Team also took into consideration the representation of the three major regions (Luzon, Visayas, Mindanao) in choosing the sites. The final three provinces for the case studies are Quezon (CRM and CBFM), Negros Occidental (grains production, CRM and CBFM) and Cotabato (grains production and CBFM). For socialized housing, the Project Team took the recommendation of Secretary David of HUDCC to study San Fernando City and Bacolod City.

After selecting the study sites, the Project Team met with individuals and research outfits that could possibly undertake the case studies for the project. One of the requirements was the relative familiarity of the case writer with the province as well as with the program focus. For Negros Occidental, the case study writer is Quidan-KAISAHAN, an NGO based in Bacolod City, represented by its executive director Mr. Teodorico Peña. The case study writer for Cotabato is Mr. Gerardo Bulatao, a senior consultant of the Institute of Politics and Governance (IPG). For Quezon, the case study writer is Mr. Adrian S. Cristobal Jr., a former consultant of the Local Government Academy and chairperson of the Board of IPG.

D. Thematic Papers.

As background materials for the case study writers, the Project Team commissioned individuals to write thematic or state of the art papers. These thematic papers give the macro perspective on the program areas in the Philippines and the role of local governments in implementing these programs. The the-

matic writers are Professor Antonio La Viña, former undersecretary of the DENR, for CBFM; Dr. Fermin Adriano, professor of agricultural economics at UP Los Baños, for grains production; Mr. Alfredo Isidro, former Director of the Fisheries Sector Program of the DA, for CRM; and Anna Marie Karaos, associate director of the Institute of Church and Social Issues, for socialized housing.

E. Consultations

As mentioned earlier, the study emphasizes the building of a constituency that will push for policy recommendations toward strengthening national-local government relations. Thus, consultations with the partner agencies, LGUs and other stakeholders were undertaken throughout the project cycle. The study's culminating activity is a national consultation that will bring together top policymakers and stakeholders for each sector. The national consultations had three objectives, namely: (a) to share major conclusions and recommendations of the project with the top policy makers and major stockholders for each sector; (b) to consult the stakeholders on the viability of the recommendations and explore follow-up activities; and (c) to heighten the need for greater synergy between national and local governments, in particular program areas, and in governance as a whole.

1. *With partner government agencies.* After determining the program areas that will be studied, the Project Team held meetings with Undersecretary Domingo Panganiban, Undersecretary Cesar Drilon and Secretary William Dar of DA, Undersecretary Ramon Paje, Undersecretary Elmer Mercado and Secretary Cerriles of DENR, and Secretary-General Joey Mendoza and Secretary Karina David of HUDCC to discuss the project and explore possible cooperation between the Project and these government agencies. Securing the cooperation and involvement of these national government agencies is crucial to the Project which, among others, aims to institutionalize recommendations on program, policy and structural reforms in the four program areas. These meetings were also significant in helping ensure that the focus of this policy project is consistent with the policy directions of these agencies.

During the course of the research for the case studies, the Project Team and the case study writers met with mid-level and top officials of these agencies to present the findings and recommendations at the local level. Members of the Project Team, in the writing of the final main report, also met with regional officials of these agen-

cies in order to understand the perspective at the regional level.

2. *With LGU officials.* After determining the sites for the case studies, the Project Team also met with the governors of the three provinces and the mayors of the two cities to discuss the project and explore possible cooperation between and among the LGUs, the Asian Institute of Management through the Project Team, and the NGAs. Also discussed during these meetings were the proposed tripartite Memorandum of Understanding (MOU) for the project.

The Sanggunian (legislative bodies) of the 3 provinces and the 2 cities approved the terms of the MOU between the months of September and October 1998. The LGU chief executives and the secretaries (or the regional directors in the case of DENR) finally signed the MOU in November 1998.

The Project Team, together with the case study writers, also held exit meetings with the governors and the mayors to discuss the findings and recommendations of the case studies. Also taken up during these meetings are possible follow-through activities that will implement these recommendations.

3. *With other stakeholders.* The local research teams held consultations with the local officials and other stakeholders during the course of their field research. In certain cases, case study writers held local consultations to present the findings and recommendations of the case studies. In some cases, representatives from national government agencies attended these final local consultations. The Project Team also held meetings with individuals involved in the four program areas, as well as with other stakeholders in decentralization and devolution.

F. Research Design.

The design for the case studies broadly identifies the mandates of the LGUs on the four program areas based on present laws and policy guidelines. The design also gives the case study writers enough flexibility to further determine the focus of their case studies, depending on what the LGUs want or plan to do in a certain program area and other realities on the ground. For example, the case study on grains production in Cotabato focuses on marketing, instead of production of grains, since the province is a net exporter of rice and corn. In the case of Toboso, Negros Occidental, the case study on grains production focuses on the municipality's attempt to shift from sugarcane to grains because its grains production is insufficient

to meet the demand of its population. In general, the project seeks to answer the following:

- What mechanisms and structures need to be put in place at both the local and national levels to improve the delivery of basic services to the people?
- How can NGAs help provincial LGUs do planning and implementation better?
- How can LGUs mobilize more national government resources for implementation of projects by local governments?
- What program, policy, and institutional reforms are needed to strengthen national government – local government relations and to create more effective partnerships between them?

In answering these questions, the case studies:

- Identified the mandate of the LGUs in each program area;
- Determined what the LGUs plan to do to improve its implementation;
- Documented its implementation;
- Identified and analyzed the gaps and constraints to its implementation; and
- Outlined policy recommendations towards strengthening national-local government relations for a better implementation of the devolved program areas.

The editors

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Acknowledgments

The making of any publication involves many people; but in this particular project, we not only involved the high and the mighty, but also the lowly and the voiceless, in the rural and urban communities. They are the people whom we would like to acknowledge first of all – the many fisherfolk, upland settlers, urban poor associations and farmers whose plight and concerns serve as the driving force of this study.

We started this project with an idea in mind – examining the relationship of the national and local governments in specific areas of devolution, and we chose the Department of Agriculture (DA), the Department of Environment and Natural Resources (DENR), and the Housing and Urban Development Coordinating Council (HUDCC) as our partner agencies. We acknowledge the warm support given by Secretaries William Dar, Antonio Cerilles, and HUDCC Chairperson Karina David. We also note the support given by Secretary Edgardo Angara towards the end of the project, especially in the national consultation on grains production and coastal resource management.

In the DA, we would like to thank Undersecretary Domingo Panganiban, and Undersecretary Cesar Drilon, and also, Director Eliseo Ponce of the Bureau of Agricultural Research, who provided numerous valuable insights in the DA operations. Likewise, Director Rudy Guieb of the Regional Operations was very helpful in understanding the nature of the bottom-up planning process for food security. We also met with then BFAR Director Arsenio Camacho, and also Mr. Marco Carreon, who is the project manager of the FRMP.

Assistant Secretary Carolina Z. Mangawang of the DILG gave us a walking tour of the intricacies of food security planning, and the difficulties of

inter-agency coordination, between the DA, DILG and the Leagues of Provinces.

For the DENR, we constantly plagued Director Romeo Acosta and Mr. Joey Austria for information regarding CBFM. We also would like to thank Undersecretary Ramon Paje and then Undersecretary Elmer Mercado for their inputs.

At the HUDCC, we got valuable information from Ms. Toby Monsod, then Deputy Secretary General, Atty. Jose Mendoza, then Secretary General and Ms. Anna Gonzales, then also the Deputy Secretary General.

We would also like to acknowledge the unstinting support we received from the following local chief executives: Mayor Oscar Verdeflor of Bacolod City, Gov. Rafael Coscolluela of Negros Occidental, Governor Emmanuel Piñol of North Cotabato, Governor Wilfrido Enverga of Quezon, and Mayor Mary Jane Ortega of the City of San Fernando. We have really appreciated their concern and enthusiasm for the study we have undertaken, and have participated generously in formulating the recommendations and follow-up activities in this project.

Also, we would like to thank the project staff who spent many hours in trying to make our appointments work, the consultations fruitful and all the other myriad details that truly make a project a success. Without them, we would be totally helpless. Specifically, we would like to acknowledge Ms. Asia Canieso, Ms. Glenda Tabut and Mr. Esteban Vejerano.

Finally, we would like to express our gratitude to the Ford Foundation, for their invaluable financial assistance to the project. In particular, we would like to thank Suzanne Siskel and Gary Hawes, who also offered their advice at critical stages of this undertaking.

The editors

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COASTAL RESOURCE MANAGEMENT IN THE PHILIPPINES AND THE ROLE OF LOCAL GOVERNMENTS: A SUMMATION

ERNESTO D. GARILAO

The Philippines is an archipelago with a marine area of 1.7 square kilometers (the Marcos administration raised this area to 2.5 million square kilometers when it declared the country's Exclusive Economic Zone in 1978). This area's most productive portion is the coastal shelf, which covers around 290,000 square kilometers (sq km). According to Alfredo Isidro's thematic paper on coastal resource management, the country's coastal area "includes all coastal marine resources and those dependent on marine influence and areas which are affected by or have a significant influence on marine resources within potential limits to implementation of a coastal resources management plan."

Coastal resources include all living and non-living components in the coastal area that have economic and ecological importance. These living and non-living components come in combination to form habitats with distinct characteristics. Coastal habitats include coral reefs, mangrove forests, sea grass and seaweed beds, estuaries or brackish waters, beaches and tidal mudflats, and coastal forests.

The Philippines is an important producer of marine products. In 1995, it ranked twelfth among the world's top fish-producing countries. It is also the fourth biggest producer of seaweeds and other aquatic plants in the world. The fisheries sector contributed P67.8 billion (or 2.8%) to the country's GDP in 1997, and provides direct and indirect employment to over one million people (5% of the labor force). Of this one million, 65% are municipal fisherfolk.

Unfortunately, current trends show that domestic fish production and population growth per capita consumption growth are on the decline. The decline, espe-

cially in municipal fish production, can be attributed to resource depletion due to overfishing, destructive fishing, siltation, and pollution. Much of this stems from the country's "open access" policy.

In recent years, the government has exerted efforts to arrest the decline in fisheries with the adoption of a Coastal Resources Management (CRM) strategy in 1986. This was introduced through the ASEAN-US Coastal Resource Management Project. A World Bank-funded program in Western Visayas complemented this program from 1986 to 1990. The Philippine government's first systematic attempt to address the problems of the fisheries sector was the Fisheries Sector Program (FSP), which started in 1990 with funding assistance from the Asian Development Bank (ADB) and Japan's Overseas Economic Cooperation Fund (OECF). The aim of FSP was to minimize coastal resource depletion and mitigate the persistent poverty of municipal fishers.

Building on the foundation of the Fisheries Sector Program and other CRM initiatives, the Department of Agriculture undertook a bigger program, the Fisheries Resources Management Program (1998-2003), with funding from the ADB and the OECF. The main attraction of FRMP was the shifting of focus from increasing fisheries production to fisheries resource protection, conservation and sustainable development. The project covers 100 municipalities in 18 priority bays. For project implementation, local government units (LGU) at the municipal level and the corresponding DA regional office signed agreements to set up a fisheries management unit. The main components of FRMP are:

- Fisheries resource management, which includes fisheries legislation and regulation, community-based law enforcement;
- Income diversification for the municipal fisherfolk, which involves community organizing, promotion of microenterprises, and support of mariculture development; and,
- Capacity building, which includes improving the implementation capacity of implementing agencies and improving the capacities of government agencies at all levels for long term fisheries resource management.

FISHERIES AND THE LOCAL GOVERNMENTS

When the Local Government Code (LGC) was passed in 1991, Philippine municipalities gained control over their municipal waters. The Code gave municipalities "exclusive authority to grant fishery privileges in the municipal waters and impose rentals, fees or charges thereof." Specifically, the Sangguniang Bayan or municipal council acquired the authority to grant fishing privileges, issue fishing licenses, and prescribe criminal penalties for illegal fishing activities.

The Local Government Code, however, did not adequately anticipate the organizational limitations of devolving the management of local coastal resources. It devolved the DA's extension personnel to the LGUs. Included in the devolution were DA fisheries personnel who were lodged at the regional offices. Fisheries regulation, research and technical assistance became responsibilities of LGUs, which could not adequately perform these functions effectively because of lack of funds. The DA was implementing programs and projects with funding from Overseas Development Assistance (ODA) sources. Local government level offices had to raise funds for their local fisheries projects.

THE CASE STUDIES

Toboso is a coastal town in northeastern Negros Occidental with a 10.2-kilometer coastline covering three barangays. Municipal waters cover 48 sq km. The town's fisherfolk, who are by and large engaged in subsistence fishing, contribute an annual fish catch value of P6 million yearly.

The local government of Toboso has been carrying out a coastal resource management program since 1989. An important component of this program is local fisheries legislation, specifically a Sangguniang Bayan ordinance calling for the protection, rehabilitation and conservation of marine and coastal resources. The ordinance has regulatory measures that cover, among others, the utilization and conservation of coral resources, conservation of marine turtles, conservation of mangroves, penalties for illegal fishing, a ban on the gathering of *sabalo*, and a declaration on marine sanctuaries.

In addition, Toboso launched a Bantay Dagat (Guardians of the Sea) scheme in 1991. Bantay Dagat was operational until 1996, when it had to stop due to lack of resources. The municipality reactivated Bantay Dagat in 1998 and complemented

this with the installation of artificial reefs, mangrove reforestation, livelihood support to municipal fisherfolk, and a public information and education campaign.

The case study on Toboso shows the constraints and difficulties faced by local government as it attempts to carry out a local coastal resource management program. These constraints include the following:

- Limited financial capability. Because of the limited Internal Revenue Allotment or IRA of the municipality, only 3% of its development fund was allocated to coastal protection between 1996-1999. Most of Toboso's local resources have been allocated for basic infrastructure. Coastal marine resources development and protection are not among its developmental priorities.
- Poor enforcement of municipal ordinances and fishery laws. Toboso's Bantay Dagat program lacks patrol boats and is generally inadequately funded. This has made enforcement difficult, if not impossible. In addition, commercial fishers arrested previously have filed countersuits against some Bantay Dagat personnel.
- Lack of unified efforts of different implementing agencies and the LGU. So far, coastal resource management efforts by the municipal government of Toboso have not drawn the involvement of the regional offices of BFAR and the Department of Environment and Natural Resources. Even some barangays in the municipality have not been cooperative.

In **Quezon Province**, the municipality of Padre Burgos is part of the Fisheries Support Program of the Department of Agriculture. Limited to Tayabas Bay and Ragay Gulf, this ADB-funded program is the first systematic attempt to address the issues and concerns related to coastal resource management in Quezon. Quezon's Sanggunian Panlalawigan has been supporting the program in various ways, including the passing of an ordinance against illegal fishing.

From 1996 to 1998, the province provided funding for watershed development and coastal mangrove development. The provincial government also gave emphasis to diversification of livelihood opportunities, including seaweed production, oyster production, tilapia nursery and bangus fingerling production. The province provided over a million pesos annually for these activities.

The case study shows that LGU officials and organized nongovernment organizations and peoples organizations are highly aware of the CRM projects in their areas. However, this is not true of marginalized fisherfolks, who routinely violate local ordinances that prohibit illegal methods of fishing. As a result, the volume of fish catch continues to decline in these areas. Funding for CRM projects are still not sufficient and coastal resource management is seen as a national, instead of a local program. Other major findings include the following:

A. Law Enforcement and Legislation.

The Padre Burgos Sangguniang Bayan has approved ordinances delineating its municipal waters and imposing penalties on illegal fishing. The Sangguniang Bayan has allocated funds for the maintenance of patrol boats and the operations of its Bantay Dagat operations. The project is under the supervision of the mayor. It has generated community support in patrolling and apprehending violators of the fishing ordinances and national laws. Nevertheless, more ordinances still need to be passed, particularly those that deal with the allowable fish catch in municipal waters, preferential licensing of marginalized fisherfolk, regulation of fishing vessels, and a comprehensive CRM plan. All these require technical and financial assistance.

B. Regulation of Fishing Vessels.

There is ambiguity in the regulation of fishing vessels. There is also ambiguity in the jurisdiction and roles of the different agencies responsible for the registration and licensing of fishing vessels. A clear delineation of authorities and procedures is needed.

C. Campaign against Illegal Fishing.

The campaign against illegal fishing is borne mostly by the municipal government, whose resources are too limited to cope with the extent of the area to be patrolled. Moreover, community enforcement has psychological and physical costs on the volunteers. There is fear of reprisal from violators and perceived limited support from the Philippine National Police.

D. Income Diversification and Livelihood Alternatives.

Attempts at diversifying the sources of income of fisherfolk have been attempted. However, resources for this are not sufficient. If municipal fishers are to be encouraged to avoid overfishing at the municipal fishing grounds, they need to have effective access to other livelihood opportunities. This will require funding.

E. Resource Generation and Enhancement Programs still Have to be Addressed.

F. Institutional Arrangements.

Problem areas between the DA and the DENR have been identified, especially in mangrove reforestation. There are similar difficulties in the relationship between the DA and the local governments that need to be resolved. In particular, local officials complain of limited opportunities for consultation and participation.

FISHERIES UNDER THE ESTRADA ADMINISTRATION

With the Estrada administration's emphasis on food security, there has been a renewed interest in fisheries as a sector and as a resource. Passage of the Agriculture and Fisheries Modernization Act (AFMA) in 1997 and the Fisheries Code in 1998 is a significant development. The Fisheries Code strengthens the jurisdiction of municipal and city governments over municipal waters. The Code also makes municipalities and cities responsible for the "management, conservation, development, protection and disposition of all fish and fishery/aquatic resources within their respective municipal waters." Municipalities and cities also are empowered to "enforce all fishery rules and regulations as well as valid ordinances enacted by their respective legislative councils." The Code seeks an integrated approach to managing contiguous fishery resources. It encourages LGUs to combine their resources and coordinate their efforts to facilitate the management of what is essentially a single coastal resource system.

It is within the context of these two laws that the Estrada administration developed its Makamasa Fisheries Program (1999-2004). This program is designed to provide a national framework for developing and managing the

country's coastal resources. Program activities intend to focus on expanding and revitalizing productivity programs, providing support services, conducting research and extension, and making available adequate financial and marketing assistance to fisherfolk. Management efforts will cover conservation, protection, and sustainable management to ensure long term sustainability of the country's fishery and aquatic resources. A growth rate of 3.5% for the fisheries sector is projected for the period 1999-2004.

In addition, the role of the country's 832 coastal municipalities — 44% of all municipalities in the country — in fisheries development is also emphasized. This was the highlight of the "Conference of Coastal Municipalities (Theme: Empowering Municipal LGUs for Integrated Coastal Management)" held May 26 to 28, 1999. The conference aimed to come up with a common course of action to address issues, concerns and opportunities that will benefit coastal environment. Among the resolutions passed during this conference were —

- To establish the water boundaries of coastal municipalities;
- To facilitate the delineation of functions of various government agencies and local governments with respect to coastal resources management; and,
- To press for amendments to the Local Government Code to enhance the enforcement of existing fisheries laws and to create a special Task Force headed by the mayor to monitor the implementation of these amendments.

In all, the conference passed 13 resolutions meant to increase the effectiveness of municipal management of coastal resources. If the agreements reached at this conference are an indication, then coastal municipalities today show a deeper level of concern for the coastal ecosystem than at any other time in the past. There is a need to support this new commitment by exploring ways to institutionalize coastal resource management programs in priority coastal municipalities.

RECOMMENDATIONS

Given the above, the following are recommended:

- Resolution of institutional issues: the roles of government agencies have to be clarified.
- Resolution of policy issues: (i) regulation of fishing effort; (ii) strengthening of fisheries law enforcement; and, (iii) strengthening of LGUs in coastal resource management and monitoring, control and surveillance.
- Greater involvement of the provincial government in fisheries. Fisheries development is a local activity (because coastal waters are municipal waters). However, a fisheries development program becomes effective only if it has a provincial framework and paradigm. The major focus of a provincial fisheries program must be the identification of priority coastal areas that the province wants to conserve, protect and develop.
- It is within this provincial framework that municipal fisheries programs should be developed, particularly issues concerned with legislation of marine ordinances, law enforcement and marine conservation.
- The province should provide technical assistance and capability building inputs to municipalities and should provide means for municipalities to gain access to the development funds of the province.
- The province can also play important roles in the formation of Bay Management Councils and Fisheries and Aquatic Resource Management Councils.
- The Bureau of Fisheries and Aquatic Resources must collaborate more closely with provincial governments so that provinces can design more effective fisheries development programs (under the Estrada administration's food security plan), and help resolve problems related to the BFAR's current lack of resources.



THE STATE OF COASTAL RESOURCE MANAGEMENT IN THE PHILIPPINES AND THE ROLE OF LOCAL GOVERNMENTS

ALFREDO O. ISIDRO

The Philippines is an archipelago consisting of 7,100 islands with a coastline of approximately 30,000 kilometers. The Philippines covers a treaty-negotiated territorial sea or marine water area of 1.7 million square kilometers (sq km), which expanded to 2.5 million sq km when the country declared its Exclusive Economic Zone (EEZ) in 1978.

Around 290,000 sq km or 11.6% of its total marine water area, called the coastal shelf area with depth ranges of from 0 to 200 meters deep or isobath, is the most productive portion. This coastal shelf area nearly equals the nation's total land area and is mostly found in municipal waters that extend up to 15 kilometers from the shoreline. About 75% of the coastal area are in the 0 to 100 meters depth range. The remaining 2.2 million sq km of the marine total area is classified as oceanic area.

THE COASTAL AREA OR ZONE DEFINED

Coasts and coastal areas or zones are defined as land alongside the sea, according to Webster's New World Dictionary. A more technical but otherwise important definition of the term was adapted by the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR) which is as follows:

In determining the boundaries of the Philippine coastal zone, the point of reference used is the zero mark or the mean sea level in the 1:50,000 topographic maps and governed by the following limits:

The outermost limits is the 200 meter (100 fathoms) isobath except at embayments in which case the 200 meter isobath at the mouth of the bay, gulf or cove is extended across. In cases where the 200-meter isobath is less than 3 kilometers from the shoreline, the 3-kilometer distance will be adopted;

The innermost boundary is 1 kilometer from the shoreline except at places where recognizable indicators for maritime influences exist like mangroves, nipa, beach vegetation, sand dune, salt beds, marshlands, bayous, recent marine deposits, beach sand deposits and deltaic deposits in which cases the 1 kilometer distance shall be reckoned from the edges of such features.

This means that the coastal area or zone may be regarded as a strip of water and land with the outer water boundary line reaching 200 meters in depth or 3 kilometers from the shoreline, whichever is farther, and the inner landward boundary line of 1 kilometer from the same shoreline or from the edges where recognizable indicators of marine or maritime influences could be found, again whichever is farther.

In the implementation of the Coastal Resources Management (CRM) component of the Fisheries Sector Program (FSP) of the Department of Agriculture (DA), from 1990 to 1995 with funding from the Asian Development Bank (ADB) and the Overseas Economic Cooperation Fund (OECF) of Japan, a practical coastal area was determined and agreed among FSP implementors as:

The area generally considered to fall within the 'coastal zone' is that which includes all coastal marine resources and those dependent on marine influence and those areas which are affected by or have a significant influence on marine resources within the practical limits to implementation of a coastal resources management plan.

Landward boundaries are the inner reaches of marine dependent ecosystems or 1 kilometer, whichever is greater unless there is a significant source of an influence on the coastal area which is located farther inland. Seaward boundaries are determined by the outer reaches of fishery resource systems which are associated with or influenced by the coast; and/or by areas beyond which contain human or natural influences caused by ocean currents, functional jurisdictions and/or arbitrary limits for management areas which affect the nearer shore coastal waters.

The above definitions can further be refined depending on the scope and coverage of the practical limits of a CRM Plan. Such a plan has to take into

account attainment of efficient and effective implementation of identified management measures.

COASTAL RESOURCES

Coastal resources include all living and non-living (biotic and abiotic, respectively) components in the coastal area or zone that have economic and ecological importance. The living components, aside from human beings, are composed of fishes, crustaceans (shrimps, crabs, etc.), molluscs (mussels, oysters, seashells, etc.), other marine invertebrates like starfishes, sea cucumbers, sea urchins, jellyfishes, worms, etc., marine plants like mangroves, seagrasses and seaweeds, coastal birds, mammals (e.g. whales and dugongs), reptiles (snakes and crocodiles), and, coastal forest trees and other plants. The non-living components include water, soil, sand, sandstone, gravel, pebbles, coral rocks and boulders, fossil fuel and other minerals.

These living and non-living components come in combinations to form habitats with distinct characteristics. These habitats are coral reefs, mangrove forests, seagrass and seaweed beds, estuaries or brackishwater areas, beaches, tidal mudflats, and other shorelands, and coastal forests. Marine plants and animals are inter-related with and inter-dependent on each other and their environment and they all come together in the coastal area as one whole ecosystem.

A. Coral Reefs.

Coral reefs are probably the most productive of all marine habitats and one of the earth's greatest natural attractions. They are frequently compared to tropical rainforests due to their abundance of species and great ecological complexity. But the rainforests will take a back seat in terms of sheer abundance of readily observable animal life that can be found in coral reefs. Coral reefs are extremely complex systems made up of different microhabitats that offer huge diversity of species in this environment. In addition to the obvious plants and animals seen on or above the reef's surface, thousands of unseen creatures can be found underneath or in the crevices and fixtures of coral boulders and slabs.

Coral reefs are formed by a rocklike accumulation of calcareous (calcium-containing) exoskeletons of coral animals, calcareous red algae, and mollusks. They

grow upward at rates of 1 to 20 cm. (0.4 to 7.8 in) per year by building up layer by layer of living corals growing on top of the skeletons of past generations. They are abundant in tropical regions and forming only where surface waters are never cooler than 20 degrees centigrade.

Why do coral reefs support such a super-abundance of life? This question is even more puzzling because of the fact that clear tropical oceans are very low in nutrients. This problem is overcome by the very independent nature of the coral reef systems. The reef's plants, particularly the single-celled round algae called zooxanthellae, are the real secret of its success. They utilize sunlight and carbon dioxide to produce energy-rich organic compounds that directly serve as food energy to the living polyps or animals of coral living in the outer layer of the reef. This food energy facilitates growth and secretion of the all-important calcium carbonate that provides the reef's structural framework. Coral animals also feed at night on zooplankton, which they capture with their tentacles, not so much for the calories but for the scarce nutrients, particularly phosphorus.

Through digestion, coral animals release these nutrients to the algae. Coral animals and algae apparently cycle these nutrients between them, reducing nutrient loss to the outside water environment. These algae and other associated plants make up most of the primary producers that are the food source of a host of invertebrates (sea urchins, sea cucumbers, brittle stars, and mollusks) and fishes, thus forming the vital first step or link in the coral reef food chain. This is also often referred to as a feeding web due to the tangled inter-relationships of consumers and consumed organisms.

The Philippines has 34,000 sq km of coral reefs. Of the 500 coral species found in the Indo-Pacific Region, a total of 488 coral species representing 78 genera have been identified in the Philippines. Majority of reef fishing occurs within the 10 to 20 fathoms contour. However, it was reported in 1985 that up to 70% of these have been damaged by destructive fishing activities (such as blast or dynamite fishing, the use of cyanide, "muro-ami" fishing), coral gathering and mining, and siltation coming from watershed areas. Recent estimates revealed that the damage has increased to 90% due to the same reasons and may require over 50 years to recover. It is estimated that over 6,000 cyanide divers squirt an estimated 150,000 kg of dissolved poison on to some 33 million coral heads in the Philippines annually.

B. Mangroves.

Mangroves are plant associations consisting of trees, shrubs, and vines with great potentials for ecological and socioeconomic uses that thrive along coastal areas of tropical and sub-tropical estuaries and sheltered bays. They play a significant role in the ecological stability of their ecosystem as well as outlying ecosystems. They serve as buffers against typhoons and tidal waves; prevent soil erosion through their air-root system that traps eroded soils and other pollutants during heavy rains; serve as land builders through accretion; and minimize water pollution. In addition, they also serve as habitat, breeding and nursery ground for marine fishes, crustaceans, and other animals and refuge for wildlife such as birds, reptiles, amphibians, and mammals. They also provide nutrient enrichment in nearshore areas.

Mangroves are getting scarce nowadays. The estimated 400,000 to 500,000 hectares of mangrove forests in 1920 dwindled to only 139,100 hectares in 1988 primarily due to conversion into aquaculture ponds, saltbeds, reclamation areas, and extensive logging operations for fuel wood and timber. Of the total 139,100 hectares remaining mangrove areas, 78,593 hectares are found within mangrove forests reservations with Palawan accounting for 35% of the conservation area and Surigao del Norte with 22%. Portions of these reserves are also found in other provinces like Quezon, Camarines Norte, Camarines Sur, Albay, Marinduque, Zamboanga del Sur and others. If the above-mentioned practices continue, the country will totally lose its mangrove forests. Hence, the need for resource management and conservation measures to address this specific resource depletion.

C. Seagrass and Seagrass Beds.

Seagrasses are the only group of submerged flowering plants in the marine environment that thrive in shallow-water coastal habitats. They are similar to the terrestrial grasses, which have erect leafy shoots and creeping stems or rhizomes for effective propagation. In contrast with other submerged marine plants like seaweeds and algae, seagrasses flower, develop fruit and produce seeds.

Seagrasses perform a wide spectrum of biological and physical functions. They are used for traditional uses such as basket making, roof thatch, fertilizer compost, fiber substitute, and contemporary uses such as sewage filters, coastal stabilizers,

source of useful chemicals, food and medicine. They also serve as food for turtles, and as nursery, shelter, and food for fish, invertebrates, wading birds, and dugong or sea cow.

In the Philippines, 16 species of seagrasses could be found in Bolinao Bay; Cuyo Islands in Palawan; and the Cebu-Bohol-Siquijor area; Zamboanga, and Davao. Other seagrass beds are scattered all throughout the coastal areas of the country. Seagrasses can grow as fast as cultivated corn, rice, or tall grass prairies even without the benefit of fertilizers. The production rate of tropical eelgrasses in the Philippines (1.08 g C/sq. m./day) is comparable to those of wheat, rice, corn, hay and other crops. In Bolinao Bay alone, a square meter of seagrass bed produces 8,635 calories per day or about 20% of the daily caloric requirement per kilogram of an ordinary individual. This shows that seagrass beds, based on the nutrients they provide, might be the most important ecosystem in the marine environment in the tropics.

Seagrass communities are being threatened by both natural and man-made activities like mining resulting in the discharge of mine tailings, coastal aquaculture, deforestation that causes siltation, and blast fishing. Inasmuch as this ecosystem also plays a critical role in fish production and provides other socioeconomic benefits, it is imperative to ensure its sustainability.

FISHERIES RESOURCES

The Philippines is an important producer of fish in the world, ranking twelfth among the 80 top producing countries in 1993, with its total production of about 2.65 million metric tons valued at around P71 billion (or US\$3.2 billion). Although not a dominant player in the economy, with its contribution to the gross national product (GNP) of 3.9% and 4.3% at current and constant prices and a net foreign exchange earnings of P12.5 billion in 1994, fisheries is an important sector. Fisheries is a net earner of foreign exchange for the country with the value of 1994 exports exceeding that of imports by almost five times.

The fisheries sector provides direct and indirect employment to over 1 million people, or around 5% of the total national labor force with 65% engaged in municipal fishing, 25% in aquaculture, 5% in commercial fisheries, and the rest in ancillary activities like post-harvest handling, processing, transport, marketing, boat and net building, and fisheries-related activities.

Fish is the principal source of protein for Filipinos. It accounts for 70% of the total animal protein intake and 30% of the total plant and animal protein intake. Per capita fish supply availability dropped to 28.5 kg in 1994 from 30.5 kg in 1987. Current trends in domestic fish production and population growth indicate that this per capita consumption will continue to decline unless measures are done to either increase fish supply or arrest population growth, or both.

The major source of fish are the coastal waters which have an estimated maximum sustainable yield (MSY) of 500,000 to 1,000,000 metric tons (MT) pelagic or surface dwelling fishes and 500,000 to 700,000 metric tons of demersal or bottom-dwelling fishes. The major species comprising the municipal catch are: small pelagics (sardines, round scads, anchovies, herrings, and mackerels); large pelagics (tunas, sailfish, swordfish); and demersals (shrimps, slipmouths, and squids). Fisheries production from the municipal waters had an imperceptible movement from 1985 to 1994. Municipal fish landings slowly increased from 1985 to 1991, but by 1994 decreased to its lowest level. In 1985, the catch was 1.05 million MT which increased to 1.15 million MT in 1991 and dropped to 1.01 million MT in 1994. The decline in municipal fish production can be attributed to resource depletion in the coastal waters, overfishing, destructive fishing, siltation, and pollution.

Competition between municipal fishermen and commercial fishermen results from the finite nature of the marine fisheries resources combined with the "open access" principle in capture fisheries. The open access system and the relative ease of entry have made municipal capture fisheries the "livelihood of last resort" in coastal areas. In this open access system, where the municipal fishermen fish side by side with the commercial fishermen, the municipal fishermen are the clear losers since their boats and gears cannot compete with those of the commercial fishing vessels. As a result, reduced Catch Per Unit of Efforts (CPUEs) have been experienced leading to even smaller incomes from fishing. It has been estimated that the current fishing pressure in the coastal zone is twice that of what should be allowed to ensure resource sustainability.

The uneven and intense competition between the municipal fishermen and commercial fishermen highlights the disadvantaged position of the municipal fishermen and points to the need to provide supplementary livelihood activities and poverty alleviation measures for coastal fisherfolk and their families. This will enable the coastal fisherfolk to augment their decreasing income from fishing and to reduce fishing pressure on the already depleted coastal resources.

COASTAL RESOURCES MANAGEMENT STRATEGIES AND PROJECTS

Coastal Resources Management (CRM) is a relatively new discipline that may be considered as still evolving. It is considered integrated and multi-sectoral and has been acknowledged as an accepted approach in resolving resource management issues affecting coastal areas not only in Southeast Asia but also in other parts of the globe. Simply put, it comprises activities that achieve the sustainable use and management of the economically and ecologically valuable resources in the coastal area or coastal zone.

There is no single formula that will ensure the success of CRM. To help bring about the success and effectiveness of CRM efforts, a CRM implementor must have a knowledge of the different strategies and tools that may be utilized. Strategies refer to the overall methodology by which the objectives of CRM will be pursued while tools mean the different activities or processes that have been tested here and abroad and found to be effective in achieving specific objectives.

The strategies or approaches may be any or a combination of the following: community participation, government intervention, NGO-intervention, and institution building. It may be noticed that these strategies refer to the different groups that will play major CRM roles. The first strategy means that CRM will be community-based and undertaken by the members of the community itself. The second approach involves the national and local governments taking the initiatives in CRM implementation usually through legislation. The third approach has a nongovernment organization, usually a developmental NGO or an academic or research institution starting everything and assisting in CRM activities. The last approach involves the creation of an institution created specifically for the purpose of undertaking CRM in a specific area.

Tools for CRM includes legislation and law enforcement, research, public education, establishment of protected areas (fish sanctuaries, marine parks, etc.) and zonation schemes, resource regeneration and enhancement (artificial reefs, mangrove reforestation, etc.), and alternative livelihood.

The ASEAN-US Coastal Resource Management Project had developed CRM Plans for particular sites in each of the six ASEAN countries when it started in 1986. A similar project, funded by the World Bank in the amount of US\$3 million, was implemented in Central Visayas from 1986 to 1990. The project was called the Coastal Resources Management Project in Central Visayas Region. These projects laid the

groundwork for the Fisheries Sector Program (FSP) of the Department of Agriculture (DA) that was implemented from 1990 up to 1996 with funding from the Asian Development Bank (ADB) and the Overseas Economic Cooperation Fund (OECF) of Japan amounting to US\$160 million.

A. Fisheries Sector Program (FSP).

FSP was formulated to be the first phase of the Government's systematic effort to address the most critical problems facing the fisheries sector. These problems included fisheries resource depletion in municipal waters, and persistent poverty among municipal fisherfolk. These two problems are closely interrelated. Fisheries resource depletion is a basic factor underlying the poverty problem in the coastal areas, which, in turn aggravates the resource depletion problem. Resource depletion is attributed mainly to illegal fishing, overfishing, and destruction of fish habitat. Among the FSP goals were to rehabilitate the ecological status of the coastal zone, reduce extensive poverty, and improve productivity of the sector. The scope covered all three fisheries subsectors, namely: municipal fisheries, commercial fisheries, and aquaculture. Geographically, FSP covered 12 of the country's 26 priority bays and 6 major aquaculture regions. The following paragraphs briefly discuss FSP activities, its achievements and weaknesses that have significantly influenced the design of its sequel project, the Fisheries Resources Management Project (FRMP) which is also being funded by ADB and OECF.

The Program Completion Report (PCR) prepared by the ADB in November 1996 assessed the FSP as generally successful. FSP's most significant achievement was its success in initiating a difficult process of "reforming" the Philippine fisheries sector. These policy reforms include, among others, : a) promoting limited access in commercial and municipal fisheries based on the concepts of Maximum Sustainable Yields (MSY), Total Allowable Catch (TAC) and other scientific approaches, and b) management of fishery and aquatic resources consistent with the concept of an integrated coastal area management approach. These policies have been adopted in the New Fisheries Code of 1998 otherwise known as Republic Act No.8550.

FSP initiated a set of CRM activities in the 12 FSP bays, namely: Manila Bay, Calauag Bay, Tayabas Bay, Ragay Gulf, Lagonoy Gulf, San Miguel Bay, Sorsogon Bay, Carigara Bay, San Pedro Bay, Ormoc Bay, Sogod Bay, and Panguil Bay. An intensive information, education and communication (IEC) campaign was launched

in conjunction with a program of coastal community development. A community-based CRM education program was conducted in 920 coastal villages, with various forms of media, such as publications, audio-visual productions, contests, and puppet theatre presentations. CRM plans were drafted for all 12 priority bays. Initially, training courses, workshops and seminars were conducted to identify critical issues and develop plans and strategies for a bay resource management. Broad participation of coastal communities and stakeholders was obtained in preparing CRM plans through multi-sectoral representations in the workshops, meetings, periodic consultations and dialogue with NGOs. With the assistance of NGOs, fisherfolk were organized to participate in CRM planning and implementation, particularly in resource regeneration measures like construction and deployment of artificial reefs (ARs), mangrove reforestation, and establishment of fish sanctuaries.

Fisherfolks were also organized for community-based law enforcement. With FSP providing training and logistical support like patrol vessels, 77 fisheries law enforcement teams were created to patrol municipal waters on board 59 patrol boats, with 6,206 fish wardens working on a voluntary basis. Law enforcement was supported by broad participation of the fisherfolks in a "coast watch" system by reporting to police authorities illegal fishing activities. This joint effort of the government and the coastal communities resulted in a significant reduction in destructive fishing methods in the FSP bays. While apprehension of illegal fishermen was strengthened, the conviction and prosecution aspects of law enforcement remained weak, mainly because of the lack of training in preserving evidence of illegal fishing, and in the local prosecutors' unfamiliarity with fisheries laws, rules, and regulations.

While CRM and fisheries law enforcement under FSP showed noticeable accomplishments, problems were encountered in cooperative development and income diversification. These activities were heavily influenced by the traditional approach of government credit programs in the agriculture sector. A big part of the US\$33 million FSP credit seed fund was established in the Land Bank of the Philippines (LBP) to provide low-cost credit to fisherfolk beneficiaries in the 12 FSP bays. Fisherfolk associations and cooperatives were organized by contracted NGOs with the expectation of getting subsidized credit. However, this credit-driven approach jeopardized the sustainability of cooperatives, discouraged savings mobilization, and encouraged dependency on external assistance. Aside from FSP, other national government agencies and LGUs also provided grants and soft loans to cooperatives to fund their livelihood projects. In some cases, the early influx of too much money

actually destroyed the cooperatives that lacked absorptive capacity in terms of cooperative management, bookkeeping and accounting skills. Loans turned into high debts which prohibited the cooperatives and their members in availing of additional loans from banks. Since the credit component under FSP did not focus on strengthening the fisherfolk's capacity to save and to manage their own business and loans, LBP found it very difficult to identify "bankable" borrowers among the FSP-established cooperatives. As a result, LBP was forced to fund "bankable" borrowers and projects such as strong cooperatives and aquaculture projects outside FSP areas.

The presence of credit subsidies in FSP areas and the criterion for NGOs to have previous CRM experiences had restricted the participation and expansion into FSP areas of successful large-scale national and regional cooperative federations with proven track records in cooperative management and development and handling businesses. Furthermore, the strategy of establishing cooperatives exclusively for fisherfolk led to ineffective financial intermediation and their isolation from other community groups in the coastal areas who also have similar cash flow patterns. Some NGOs contracted under FSP lacked their own financial resources and were solely dependent on FSP funds that they did not have the capacity to support the cooperatives they formed beyond FSP's program life.

While destructive fishing practices were reduced in the FSP bays, the adverse effects of land-based pollution and siltation on fish habitats have not been controlled. This will require an integrated approach that will incorporate economic activities in the coastal areas and the upland areas. This may be difficult to conduct on the national level owing to the complicated coordination among various sectors involved but may prove feasible in the municipal level where intersectoral coordination is easier with the municipal mayor concerned providing a strong leadership.

B. Other CRM Projects.

The United States Agency for International Development (USAID) is currently implementing a Coastal Resources Management Project (CRMP) in six sites in Luzon, Visayas, and Mindanao with a budget of US\$21 million which will end by year 2000. This project has been providing technical assistance to the LGUs on integrated CRM utilizing a community-focused and watershed system approach. USAID has been closely collaborating with the Department of Environment and Natural Resources (DENR) on this project which partially supports DENR's Coastal Environment Project

(CEP) that was launched during the term of then DENR Secretary Angel Alcala. CRMP has not tapped the services of NGOs for social preparation and community organizing work and is doing well with its information and education campaign (IEC) by holding exhibits and seminars in popular malls in major cities.

The World Bank is also funding a community-based resource management (CBRM) which is being implemented in Regions 4, 7, 8, and 13 with the Department of Finance (DoF) as the implementing agency. Depending on the local situation, fisheries resource management may be one of the sub-projects of CBRM in a particular municipality. The Municipal Development Fund (MDF) which is under the control of DoF is being utilized as funding conduit for LGUs that will avail of funds for the project. It is quite ironic that a highly specialized department dealing with financial matters has been actively implementing highly technical and specialized field that is not within its principal function or mandate mainly because of its control of the MDF.

C. Fisheries Resources Management Project (FRMP).

The Fisheries Resource Management Project or FRMP is based on the foundation laid down by FSP as well as various programs initiated by local communities and local government units (LGUs) on fisheries resource management and income diversification. Incorporating lessons learned from these projects, FRMP will strengthen fisheries resource management on one hand, and promote income diversification of municipal fisherfolk on the other. These tasks make it necessary to strengthen the capacity of government agencies in charge of fisheries management, particularly the LGUs, which have been granted the authority in municipal fisheries management, but lack technical and managerial capabilities.

FRMP will focus on reversing the trend of fisheries resource depletion by controlling illegal fishing and overfishing. In particular, the control of destructive fishing, although affecting the livelihood of those who conduct the illegal activities, will immediately reduce damage to fish stock and fish habitats, check the trend of fisheries resource depletion, and protect the basic livelihood of the majority of poor fisherfolk. FRMP will adopt a gradual approach that will —

- reduce the level of user competition by restricting new entrants to municipal fisheries through fishing licensing;

- reduce fisherfolk's reliance on fishing by promoting income diversification, which may reduce their fishing time and change from full-time to part-time fisherfolk; and
- through the promotion of mariculture and the development of other commercial enterprises in the long term, facilitate the gradual exit from fishery of some fisherfolk, although slowly and in limited numbers.

FRMP represents the Government's effort to shift the fisheries sector focus from increasing capture fisheries production to fisheries resource protection, conservation, and sustainable management. It also reflects the demand of municipal fisherfolk for public assistance to protect their basic livelihood, and the national and local government's concern over poverty and environmental degradation. Although the fisheries sector issues today are basically the same when the FSP was formulated, the environment for FRMP implementation has been substantially improved due to —

- FSP initiatives to keep fishing efforts within sustainable yield have been adopted as Government policies;
- CRM concept has been widely accepted;
- institutions for CRM have been established at local levels; and,
- experiences on CRM, law enforcement, and income diversification have been accumulated by fisherfolk, LGUs, and the Government.

FRMP will be implemented from 1998-2003, and will cover about 100 municipalities in 18 bays, 11 of which were formerly covered under FSP excluding Manila Bay; and seven new bays: Honda Bay, Puerto Princesa Bay, Davao Gulf, Lingayen Gulf, Gingoog Bay, Butuan Bay, and Sapien Bay. It has three components, namely, fisheries resource management, income diversification, and capacity building.

- Fisheries resource management comprises five inter-related elements of data management, CRM, fisheries legislation and regulation, community-based law enforcement, and monitoring, control and surveillance (MCS).

- Income diversification involves community organizing involving experienced non-profit organizations (NPOs), promotion of microenterprises, and support for mariculture development.
- Capacity building of executing and implementing agencies as well as government agencies at the national, regional, and local levels for fisheries resource management will be done by providing training courses and seminars to implementors, and on-site coaching in actual project implementation.

Project implementation in the covered municipalities will involve three steps. The first is to control illegal fishing through information, education and communication (IEC) campaign activities and the strengthening of the fishery law enforcement teams (FLETs) and the coast watch system. The second is to reduce overfishing by restricting new entrants through the establishment of a fishing licensing system and the imposition of new licenses for municipal fishing boats. The third is income diversification to reduce fisherfolk's reliance on fishing.

Similar to FSP, FRMP is co-financed by ADB and OECF. For activities to be implemented at the national level, the loan proceeds will be provided through budgetary allocations to the DA-BFAR. Activities at the local level (CRM planning and implementation, municipal fishing licensing, and community-based law enforcement) will be financed by the National Government and the LGUs concerned. The required amount of LGU counterpart contribution, in cash or in kind including labor, will vary by municipality based primarily on ability to pay. Specifically, the 4th-6th class municipalities will be required to share 20 to 30% of the direct project costs in their municipalities. The 2nd-3rd class municipalities will share 30 to 40, and the 1st class municipalities, 50 to 60% of the direct project costs in their respective municipalities.

ROLE OF LOCAL GOVERNMENTS IN COASTAL RESOURCE MANAGEMENT

A. Local Government Units.

By virtue of the 1991 Local Government Code (LGC) otherwise known as Republic Act No. 7160, some 1,000 municipalities or Local Government Units (LGUs) were granted jurisdiction over municipal waters. The LGC defines the management

jurisdiction to be as follows: “the exclusive authority to grant fishery privileges in the municipal waters and impose rentals, fees, or charges thereof.” The powers of the Sangguniang Bayan (Municipal Board) concerning fishery privileges include the following:

- To grant fishery privileges to erect fish corrals, oyster, mussel, or other aquatic beds or bangus fry areas, within a definite zone of the municipal waters, as determined by it;
- To grant the privilege to gather, take, or catch bangus fry, prawn fry, or kawag-kawag, or fry of other species and fish from the municipal waters by nets, traps, or other fishing gears to marginal fishermen free of any rental, fee, charge, or any other imposition whatsoever;
- To issue licenses for the operation of fishing vessels of three grt or less, for which purpose the Sangguniang Bayan shall promulgate rules and regulations regarding the issuance of such licenses to qualified applicants under existing laws;
- By appropriate ordinance, to penalize the use of explosives, noxious or poisonous substances, electricity, muro-ami, and other deleterious methods of fishing; and
- To prescribe a criminal penalty thereof in accordance with LGC provisions.

The Philippine Fisheries Code of 1998, otherwise known as Republic Act No. 8550, further supported the jurisdiction of municipal and city governments over municipal waters and specified the duties and responsibilities of the LGUs. They are responsible for the “management, conservation, development, protection, utilization, and disposition of all fish and fishery/aquatic resources within their respective municipal waters.” They may enact appropriate ordinances for this purpose and in accordance with national fishery policies, which will be reviewed by the provincial council following the LGC. They shall also enforce all fishery laws, rules and regulations as well as valid fishery ordinances enacted by their respective councils. The Code also stated the integrated manner of management of contiguous fishery re-

sources with the LGUs grouping themselves and coordinating with each other to facilitate their management as a single resource systems and to achieve the objectives of an integrated fishery resource management.

B. Need for Municipal Fisheries Ordinances.

Given the above mandate, it is extremely necessary for the LGUs to draft their own Municipal Fisheries Ordinances which will provide the legal framework for fisheries management, including the enforcement of regulatory measures to control fishing effort. In this regard, a Model Municipal Fisheries Ordinance has to be drafted to serve as a guide for the LGUs in their preparation of their own fisheries legislation that is consistent with the national legislation and policies, while allowing for flexibility to respond to local conditions.

As a proposed comprehensive fisheries ordinance for municipal governments, the Model Municipal Fisheries Ordinance should reflect the common context and various experiences such as the Philippines' archipelagic geography, the devolution of authority to various LGU levels, and the allocation of a 15-km municipal water zone to coastal municipalities. It also should take into account the country's strong tradition of local community initiatives, the very large number of coastal municipalities, and the need to improve fisheries management and local stewardship of resources. The rationale for such a Model Ordinance also stems from a number of needs, including:

- the need to assist and facilitate coastal and marine resource management at the local level;
- the need to facilitate the implementation of the Monitoring, Control, and Surveillance (MCS) system at the local level;
- the need to facilitate the enforcement and the administration of justice by making clear what law and procedure are applicable;
- the need for legislative flexibility at the local level while providing a common core for all municipalities, thereby facilitating management consistency and clarity in fishery law;

- the desire to promote a widely adopted Model Ordinance that would help avoid conflict and enable better conflict management when it arises, by providing rules that are predictable in outcome; and
- the opportunity to facilitate inter-municipal cooperation.

For the Model Ordinance to be effective, it would need the following:

- political support from national and sub-national levels;
- a simple structure that has a common core but allows for a flexible periphery to meet purely local issues;
- a consolidated model which would render unnecessary the need for various separate resource ordinances (i.e., consolidation into one code);
- an information system and training support for municipal legal officers, lawyers in fisheries law practice, and the judiciary;
- legal support to municipal legal officers from national government agencies; and,
- a good public education program supported by non-government organizations (NGOs).

A Model Municipal Fisheries Ordinance should provide the legal authority to LGUs to develop and implement fisheries management plans, incorporating biological, economic, and social considerations and reflecting a preference in allocation of access for marginal and subsistence fisherfolk. The Model Ordinance should also take into account related problems which affect marine resources, including marine pollution and habitat destruction, and should authorize a full range of management measures, including access control, closed seasons and areas, and the prohibition of destructive fishing methods. It should also make provisions for a range of administrative and penal measures to deal with fisheries

enforcement infractions in order to reduce the problems of evidence and burden of proof currently encountered in the prosecution of offenses.

LGUs should be encouraged to adopt the approach of the Model Municipal Fisheries Ordinance as widely as possible to ensure consistency and predictability on as wide a basis as possible. In addition to the adoption of common legislative approaches, it is necessary to enhance coordination between and among LGUs sharing contiguous waters or common resources. Coordinated approaches could extend, for example, to cooperative and integrated coastal resource management, the sharing of enforcement resources, the development of shared information resources, and the implementation of common fisheries management plans. The Model Ordinance should, where possible, support the development of Memoranda of Understanding (MOUs) to pursue coordination between and among LGUs and between LGUs and national agencies with resource, environment, and enforcement mandates in municipal waters, including DA/BFAR, the Department of Environment and Natural Resources (DENR), DILG, and the PNP Maritime Command (MARICOM).

LGUs will require substantial assistance from national and regional agencies in the development of their human, technical, and financial resources necessary to effectively manage their municipal waters. DA/BFAR and DILG should consider providing training on the legal dimensions of the implementation of the LGC provisions on municipal waters, in general, and the legal requirements of the MCS system, in particular. There is a need for better public dissemination of information with respect to the extent of municipal jurisdiction in order to prevent the unnecessary dismissal of cases on purely technical grounds.

C. Bay Management Councils (BMCs).

Fishery resources do not fall under distinct territorial boundaries and cannot be divided neatly into independent municipal management units. Some municipal waters are part of naturally demarcated bodies of water, such as bays and gulfs. For these reasons, Baywide Management Councils (BMCs) were formed in all the 12 FSP priority bays, except Manila Bay. The councils function at the provincial level and are consistent with the Local Government Code and the 1998 Fisheries Code.

BMCs were envisioned to perform the following functions:

- Participate actively in the preparation of CRM plans for the geographic area of their jurisdiction;
- approve CRM plans within limits of MSY or total allowable catch (TAC);
- allocate catch limits to individual municipalities as a basis for the issuance of licenses by them; and
- monitor TACs to ensure that those allocated to municipalities are within the limits determined by the BMC.

Except for the Lingayen Gulf Coastal Area Management Council (LGCAMC) and the Palawan Council for Sustainable Development (PCSD), the BMCs were organized through MOAs among LGU officials. The composition of the BMCs varies from one bay to the other, depending on who initiated its creation. For example, those organized through the initiative of the Provincial Governor include governors and mayors as members (e.g., Panguil Bay and Davao Gulf). Those organized under FSP are composed of mayors of the municipalities around the bay (e.g., Carigara Bay, Panguil Bay, Tayabas Bay). The LGCAMC is a special case as it is composed of seven Cabinet Secretaries,¹ the Director of the Presidential Management Staff (PMS), the Chairman of the Regional Development Council (RDC), the governors of Pangasinan and La Union, and the mayors of the municipalities around Lingayen Gulf.

The BMC concept is one that has proven workable and, in many areas, has resulted in strong management advisory units for multisectoral management of the Bay areas, i.e. Ragay Gulf, Lagonoy Gulf, Sorsogon Bay and San Miguel Bay. The BMCs are chaired and comprised of members of the LGUs, thus strengthening and supporting the legal mandate and responsibility of the LGUs for coastal resource management as contained in the LGC. This is a concept and management strategy that is to be supported and further strengthened under FRMP.

¹ Department of Environment and Natural Resources, Department of Agriculture, Department of National Defense, Department of Trade and Industry, Department of the Interior and Local Government, Department of Tourism, and the National Economic and Development Authority.

D. Fisheries and Aquatic Resource Management Councils (FARMCs).

Currently, there exists a series of councils and committees representing the fishing industry and fisherfolk, including the Municipal Agriculture and Fisheries Councils (MAFCs), Provincial Agriculture and Fisheries Councils (PAFCS), and the National Agriculture and Fisheries Council (NAFC). However, since the members of these councils are mostly commercial fishers and fishpond owners, it was determined that there was a need for a mechanism to ensure proper representation and input from the rural fisherfolk in the fisheries management process. Hence, the formation of Fisheries Aquatic Resource Management Councils (FARMCs).

The formation of FARMCs in all barangays, municipalities, and cities abutting municipal waters and of integrated FARMCs in bays, gulfs, lakes, rivers, and dams bounded by two or more barangays or municipalities/cities, is mandated by EO 240 issued by President Fidel V. Ramos on 28 April 1995. It is governed by Implementing Rules and Regulations (IRRs) issued jointly by the DA and the DILG on 25 April 1996. The establishment of FARMCs under EO 240 had been slow due to lack of funds which were supposed to be provided then by DA through the FSP that was about to close. The 1998 Fisheries Code further supported the establishment of FARMCs in the national level and in all municipalities/cities abutting municipal waters. It also mandated the creation of Integrated FARMCs (IFARMCs) for bodies of waters bounded by two or more municipalities.

LGUs may also create, when necessary, FARMCs at the barangay and lakewide levels. The FARMCs shall be formed by fisherfolk organizations, cooperatives and NGOs in the locality and will be assisted by LGUs and national agencies. The different FARMCs to be created are considered as advisory and recommendatory bodies to the LGUs and the Department of Agriculture (DA). Unlike the BMCs whose funding requirements come from the contributions from the Development Fund of the Internal Revenue Allotments (IRAs) of the participating LGUs, budgetary support for the FARMCs will be established and administered by DA from its regular annual budgetary appropriations.

The relationship among the MAFCs, PAFCS, and NAFC to the FARMCs has yet to be determined. One possibility — implied but not clear — through EO 240 and the 1998 Fisheries Code, is that for the fisheries component, the FARMCs

might subsume the role of these councils in their mandate. There is also a need to clarify the relationship between the BMCs and FARMCs with regard to their respective roles, mandates, structure, operational mechanisms, staff, and financial mechanisms.

CRM ISSUES AND CONCERNS

The key issues and concerns confronting CRM and the fisheries sector today can be grouped into four, namely: policy, institutional, resource-related, and social issues that are briefly discussed below:

A. Policy Issues.

(1) *Regulation of Fishing Effort.* This is perhaps the single most important policy that could ensure the sustainable development of the country's fisheries sector, considering the current state of the fisheries resources and habitats. Although licenses are required by the DA and the BFAR for commercial fishing and by a number of LGUs for municipal fishing, this represents an unacceptably low level of control when viewed in the light of the severe depletion of fisheries resources and degradation of the coastal environment because no limits have yet been placed on the allowable total fishing effort.

(2) *Strengthening of Fisheries Law Enforcement.* Although this has been cited as one of the most successful components of FSP, much still remains to be done in this area. The concept of law enforcement should not be limited to the apprehension of violators but should extend to the successful prosecution and conviction of proven violators.

(3) *Strengthening of LGUs in CRM and MCS.* While the policy of decentralizing the management of nearshore fisheries resources to municipalities and local fishing communities has been implemented as a result of the LGC and the 1998 Fisheries Code, the benefits from such decentralization have yet to be fully realized due to the lack of preparedness on the part of LGUs to effectively assume their new responsibilities for the management of nearshore resources. Both technical and logistical capabilities are limited at the LGU level and, in a number of cases, the principles and strategies of sustainable development are not even accepted nor appreciated.

B. Institutional Issues.

The lack of a unified, central focus for fisheries management, which was one of the institutional issues identified before, was recently addressed by the enactment of the 1998 Fisheries Code that created the position of an Undersecretary for Fisheries and Aquatic Resources and reconstituted from a staff bureau to a line agency. In addition, the said Code repealed various presidential decrees, executive orders, and rules and regulations that are inconsistent with the Code. One of them is Executive Order No. 292 or the Administrative Code of 1987 that caused confusion to the fisheries mandates of DA and DENR.

Under Title XIV of EO 292, "the DENR has the primary responsibility for the full exploration and development as well as the judicious utilization, management, renewal, and conservation of the country's forest, mineral, land, water, fisheries, wildlife, offshore areas, and other resources". DENR was also mandated to "control and supervise the exploration of the country's natural resources and to promulgate rules, regulations, and guidelines on the issuance of licenses, permits, concessions, lease agreements, and utilization of the country's marine, freshwater, and brackishwater and overall aquatic resources of the country."

However, most of the needed actions recommended by the Code's Implementing Rules and Regulations (IRR) through the issuances of Fisheries Administrative Orders (FAOs) and other means have not been observed and implemented and this may cause serious operational problems among the concerned agencies. There is an urgent need for close coordination among the concerned agencies on how to delineate specific coverage, duties and responsibilities in accordance with the IRR.

Most of the LGUs have neither the technical skills nor the organizational capability for fisheries management, and in those LGUs which may have the administrative unit and personnel in place, the weakness may lie in their limited understanding of fisheries management concepts and principles. Thus, there is an urgent need to provide LGUs with technical assistance in establishing a fisheries management system in their municipalities as well as an inter-municipality management system for contiguous marine waters, especially naturally demarcated bays.

Although the LGC and the 1998 Fisheries Code specifically devolved the jurisdiction over municipal waters to municipal and city governments, there was no provision as to the role of the Provincial Government in the manage-

ment of the fishery resources in municipal waters. The responsibility of the Provincial Government to supervise the municipal governments and component city governments requires that municipal/city ordinances be confirmed by the Sangguniang Panlalawigan (Provincial Board). Therefore, it is necessary to establish an inter-municipality and provincial coordination system for the management of contiguous areas.

The three-year office term of local government officials may affect the continuity of LGU commitment in implementing CRM activities. Countermeasures to this risk have to be undertaken to ensure continuity regardless of who will be in office. These include building up a broad consensus in the local communities in favor of CRM through intensive IECs and legalizing or institutionalizing CRM systems such as enactment of Municipal Fisheries Ordinances and the integration of CRM Plans into provincial and municipal development.

C. Resource-related Issues.

The sustainability of the country's fisheries resources is the single most important concern of the fisheries sector today. This is particularly true with respect to capture fisheries where a consensus has been reached that current marine fish landings have already exceeded, or are close to, MSY levels, at least in the traditional fishing grounds.

Another concern is the continuing degradation of coral reefs, mangroves, and seagrass beds that has added severe stress on the fish habitats, further constraining regeneration of fish populations.

D. Social Issues.

Food security and poverty alleviation are the two high-priority social issues at present. The declining trend in per capita fish availability is a cause of concern because fish is the principal source of protein and ranks second to rice as the most important food in the country. Recent forecasts show that total fish production may range from a low of 0.94 million metric tons in 2010 if sustainable resource management measures are not implemented. At this production level, and with the population estimated to exceed 93 million by 2010, per capita fish availability will plummet to slightly over 10kg/yr, which is significantly lower than the estimated per

capita fish availability of 28.5 kg/yr in 1994. Aside from adopting appropriate fisheries resource management measures to sustain fish production, important steps must be taken to control population growth so that it does not outpace the sustainable rate of increase of fish production.

Recent socioeconomic surveys conducted in some FSP areas (Carigara and Panguil Bays) show that from 55% to 59% of households surveyed live below the poverty line. This already represents a marked improvement over those recorded at the start of the FSP (65% and 80%, respectively, for the two areas). Opportunities for supplemental income generation will have to be identified and technical and financial assistance should also be provided to fisherfolk families to enable them to augment their decreasing income from fishing and at the same time, reduce the fishing pressure on the already depleted nearshore resources.



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■ COASTAL RESOURCE MANAGEMENT: ■ A CASE STUDY ON THE MUNICIPALITY OF PADRE BURGOS, PROVINCE OF QUEZON

ADRIAN S. CRISTOBAL, JR.

Since the enactment of the 1991 Local Government Code, devolved national government agencies (NGAs) have been adjusting to their new roles in a changing policy environment. While the performance of local government units (LGUs) have been intensely scrutinized, it seems that not enough attention has been paid to how devolved NGAs have fared in the changing policy environment brought about by devolution. Central to this area of study is the relationship between NGAs and LGUs in a devolved set-up and how this affects the delivery of devolved basic services.

This paper looks at Coastal Resource Management (CRM), a program devolved to local government units (LGUs) from the Department of Agriculture (DA). Through the case study approach, this study gathers “on the ground” information to gain a local perspective of the program’s implementation within a defined political territory and hierarchy. The paper begins with a brief situationer on the Philippines’ coastal resources. This is followed by a background on the concept of CRM and on devolution of some CRM functions under the Local Government Code. This is followed by a description of the project site in the Municipality of Padre Burgos, Province of Quezon. Finally, the findings of the research are presented with some policy recommendations to improve national and local government relations for more effective implementation of CRM in the province.

COASTAL RESOURCES OF THE PHILIPPINES

The Philippines is an archipelago consisting of about 7,100 islands with a coastline of approximately 30,000 kilometers – longer than the United States coastline.

The country has a marine water area of 1.7 million square kilometers (sq km), which expanded to 2.5 million sq km when the country declared its Exclusive Economic Zone (EEZ) in 1978. Around 290,000 sq km or 11.6% of its total marine water area is the coastal shelf, the most productive portion of the EEZ. This coastal shelf area is almost the same size as the country's total land area, and most of it is found in municipal waters that extend up to 15 kilometers from the shoreline.

The area generally considered as within the "coastal zone" includes coastal marine resources and those dependent on marine influence. This includes areas that are affected by or have a significant influence on marine resources within the practical limits of a coastal resource management plan. Coastal resources include all living and non-living (biotic and anti-biotic) components in the coastal area or zone that have economic and ecological importance.¹ These living and non-living things are found in coastal habitats, such as coral reefs, mangrove forests, seagrass and seaweed beds, estuaries or brackishwater areas, beaches, tidal mudflats, and other shorelands, and coastal forests.

Although the Philippines has 34,000 square kilometers (sq km) of coral reefs, this natural endowment is rapidly disappearing. Of the 500 coral species found in the Indo-Pacific region, a total of 488 coral species representing 78 genera have been identified in the country. Majority of reef fishing occurs within the 10 to 20 fathoms area. However, it was reported in 1985 that up to 80% to 85% of these have been damaged by destructive fishing activities like dynamite fishing, cyanide, "muro-ami" fishing, coral gathering and mining and siltation coming from watersheds. Recent estimates reveal that the damage to corals has reached 90% and may take 50 years to recover or rehabilitate.²

Mangrove forests, estimated at 400,000 to 500,000 hectares in the 1920s, have dwindled to 139,100 hectares in 1988. Of this remaining mangrove forests, 78,593

¹ The living components include human beings, fishes, crustaceans, mollusks, marine invertebrates, marine plants coastal birds, mammals, reptiles, coastal forest trees and other plants. The non-living things are water, soil, sand, sandstone, gravel, pebbles, corral rocks and boulders, fossil fuel and other minerals.

² Alfredo Isidro. "The State of Coastal Resource Management in the Philippines and the Role of Local Governments," a paper commissioned by the Asian Institute of Management (AIM) for the research project, "Strengthening National-Local Government Relations" funded by the Ford Foundation. The portion on the national coastal resource conditions of this case study relies on data from Dr. Isidro's paper.

hectares or 30% are found in Palawan, 20% in Surigao del Norte, and portions of these reserves are scattered throughout other provinces, such as Quezon, Camarines Norte, Camarines Sur, Albay, Marinduque, Zamboanga del Sur and others. The destruction of the mangroves is due primarily to reckless conversions into aquaculture ponds, saltbeds, reclamation areas, and extensive logging operations for fuel wood and timber.

Seagrasses, which perform a wide range of biological and physical functions, are also threatened with extinction. In the Philippines, 16 species of seagrasses could be found in Palawan, the Cebu-Bohol-Siquijor areas, Zamboanga, and Davao. Discharge of mine tailings, coastal aquaculture, deforestation causing siltation, and blast fishing threaten the existence of seagrass communities.

Finally, the country's fish resource is in critical condition. Ranked 12th among the 80 top fish producing countries in the world, the Philippines fisheries sector was a net earner of foreign exchange in 1994, with exports exceeding imports by about five times. Fish remains the principal source of protein for Filipinos, and the sector directly and indirectly employs over a million people. The major source of fish is the coastal waters, which has an estimated maximum sustainable yield (MSY) of 500,000 to 1,000,000 metric tons of pelagic or surface-dwelling fishes and 500,000 to 700,000 metric tons of demersal or bottom-dwelling fishes. Municipal fish landings decreased to its lowest level, from 1.15 million metric tons in 1991 to 1.01 million metric tons in 1994. The decline in municipal fish production can be attributed to resource depletion in the coastal waters, overfishing, destructive fishing, siltation, and pollution.

The destruction of the country's coastal resources for the past decades has reached critical levels. Unless the factors that cause these problems are addressed, the country may lose totally one of its most vital natural resources. Against this backdrop, the concept of Coastal Resource Management was introduced and evolved in the Philippines.

COASTAL RESOURCE MANAGEMENT IN THE PHILIPPINES

A relatively new concept, Coastal Resource Management (CRM), is still an evolving discipline. Its growing acceptance as a concept and strategy is attributable to its "integrated and multi-sectoral" approach in resolving resource issues related to, and in the sustainable management of, coastal areas.

CRM concept combines several approaches, namely: community participation, government intervention, non-governmental organization (NGO) intervention, and institution building. The components (sometimes called "tools") for implementation are the following: legislation and law enforcement, research, public education, establishment of protected areas, zoning schemes, resource generation and enhancement, and income diversification or alternative livelihood.

A. CRM in the Philippines.

The Philippines was first exposed to CRM in 1986 when the ASEAN-US Coastal Resource Management Project developed CRM Plans for particular sites in the six ASEAN countries. From 1986-1990, the World Bank (WB) funded a similar project in the Western Visayas. However, the first systematic attempt of the Philippine government to address the most critical problems in the fisheries sector is the Fisheries Sector Program (FSP) launched in 1990.³

The FSP was to address two fundamental problems: the depletion of fisheries resource in municipal waters, and the persistent poverty among municipal fisherfolk. Both problems feed on each other in a vicious cycle. Resource depletion is attributable mainly to illegal fishing, overfishing, and destruction of fish habitat. The FSP goals were the following: to rehabilitate the coastal zone, reduce extensive poverty, and improve the productivity of the sector. The program was implemented in selected bays in the country.

Building upon the foundation and the gains of the FSP and other initiatives in CRM, the Fisheries Resource Management Program (FRMP) was launched by the national government in 1998. Learning from the FSP and other programs, the FRMP's main attraction is *shifting the focus* on the fisheries sector: from increasing capture fisheries production to *fisheries resource protection, conservation, and sustainable development*. The main components of the FRMP are the following: fisheries resource management, income diversification, and capacity building.

The components of fisheries resource management includes the following: legislation and regulation; community-based law enforcement; and monitoring, con-

³ Funding assistance was provided by the Asian Development Bank (ADB) and the Overseas Economic Cooperation Fund of Japan.

trol, and surveillance. Income diversification involves community organizing with the assistance of NGOs, promoting micro-enterprises, and support for maritime-culture development. The capacity building component refers to all levels of government through training of program implementors and on-site coaching in actual project implementation.

B. Devolution and CRM.

The passage of Republic Act No. 7160, known as the Local Government Code, devolved substantial powers to local government units (LGUs). Among these powers and functions was jurisdiction over municipal waters. For the municipality and city, the Code granted “the exclusive authority to grant fishery privileges in the municipal waters and impose rentals, fees, or charges thereof.” The Sangguniang Bayan or Municipal Council had the authority to do the following within its municipal waters:

- To grant fishery privileges to erect fish corrals, oysters, mussel, or other aquatic beds or bangus fry areas within a definite zone of the municipal waters as determined by it;
- To grant the privilege to gather, take, or catch bangus fry, prawn fry, kawag-kawag, or fry of other species and fish from the municipal waters by nets, traps, or other fishing gear to marginal fishermen free of any rental, fee, charge, or any other imposition whatsoever;
- To issue licenses for the operation of fishing vessels of three gross tons or less, for which purpose the Sangguniang Bayan shall promulgate rules and regulations regarding the issuance of such licenses to qualified applicants under existing laws.
- By appropriate ordinance to penalize the use of explosives, noxious or poisonous substances, electricity, muro-ami, and other deleterious methods of fishing; and
- To prescribe a criminal penalty thereof in accordance with the LGC provisions.

The 1998 Philippine Fisheries Code (R.A. 8550) strengthens the jurisdiction of the municipal and city governments over municipal waters. The Code states that municipalities and cities shall be responsible for the "management, conservation, development, protection, utilization, and disposition of all fish and fishery/aquatic resources within their respective municipal waters." They shall also "enforce all fishery rules and regulations as well as valid fishery ordinances enacted by their respective legislative councils." The Code also encourages an integrated approach to managing contiguous fishery resources, with LGUs grouping themselves and coordinating with each other to facilitate their management as a single resource system and achieve the objectives of integrated fishery resource management.

COASTAL RESOURCE MANAGEMENT IN QUEZON PROVINCE

A. Quezon Province: A Profile.

Quezon, formerly known as Tayabas province, is a narrow strip of landmass with a girth of about 30 kilometers and approximately 195 kilometers in length. In the far south is the common boundary of Quezon and Bicol provinces, and in the southwest is the Bondoc Peninsula, bounded by the Mogpog Pass, which separates the province from Marinduque Island. Up north, the province adjoins the southern slopes of the Sierra Madre Mountains of Aurora province. Toward the center is the imposing Quezon National Park and the mountains of Banahaw and Cristobal.

The province has a total land area of 870,660 hectares and an estimated population of 1,537,742 (NCSO, 1995). Forty municipalities and a secondary city, the capital Lucena, make up the province of Quezon. Thirty-four municipalities are located along the province's coastline.

(1) *Coastal Resources of Quezon*.⁴ The biggest natural endowment of Quezon in terms of coverage is its coastal and marine environment. A few scattered places in the coast are still serenely and ecologically healthy, although a very large segment is showing signs of serious decay.

⁴ Most of the data on coastal resources of Quezon were drawn from the "Strategic Environmental Plan of Quezon Province," a document prepared by the Department of Environment and Natural Resources (DENR), National Economic Development Authority (NEDA), and the United Nations Development Programme (UNDP) under the UNDP's Integrated Environmental Management for Sustainable Development Programme. October, 1998.

Aside from Palawan, Quezon Province has one of the richest coral reef grounds in the Southern Tagalog region. These are found in Tayabas Bay, Mogpog Pass, Lamon Bay and its nearby islands. Thirty-three coral genera and 60 reef species belonging to 18 families in Pagbilao Bay show a high habitat and species diversity. The same general condition of corals exists (with the benthic life form covering 25% to 50% of the reef) in Ragay Gulf, especially in the municipalities of Tagkawayan, Tanbao and Arena Point, the northern and southern parts of Alibijaban Island. Relatively poor live corals (i.e., with less than 25% coral cover) are reported in San Narciso side of Ragay Gulf.

Good mangrove cover is reportedly concentrated in District IV (Municipalities of Lopez, Tagkawayan, and in the northern tip of Alabat Island) and District III (Mulanay, San Andres and San Narciso). The biggest contiguous mangrove area in the province can be found in the Municipality of Pagbilao in District I.

Fisheries is the biggest revenue earner in the agriculture sector. There are three fishing "regions" in Quezon: the northeast (District 1), southeast (District 4) and south central west (District 2 and 3). Most of these fishing sites are bays, covers, fjords, and covered beachheads. In 1995, the 119.2 metric tons produced were valued at 4.8 billion pesos representing 40% of the total value of fish production in the Southern Tagalog region.

In terms of endowment in commercial and municipal fisheries, the province has a comparative advantage over its neighbors. In municipal fisheries, Quezon had a higher unit per value (pesos per metric ton) than the top three fish producing provinces in the region in 1995.

Municipal and commercial fisheries are increasingly providing substantive amounts of fish for the province, making it a net exporter of fish to other provinces. Overall marine fish production has increased from 73,897 tons in 1988 to 97,985 tons in 1993.

(2) *CRM and Devolution in Quezon.* Quezon's experience with CRM is limited to the coastal municipalities in Tayabas Bay and the Ragay Gulf, two of the selected areas for FSP in 1990. The CRM program is supported by the Asian Development Bank and the Department of Agriculture (DA), which serves as the implementing agency. This was the first systematic attempt to address the issues and concerns related to coastal resource management in the province.

Under this program, several institutions were envisioned to take part in CRM: the Department of Agriculture as the lead agency; research institutions, mainly the Enverga University; NGOs and POs, and the local government units (LGUs).

After the Local Government Code took effect, the DA devolved most of its personnel to the provincial and municipal government. The Provincial government now has the Office of the Provincial Agriculturist (OPA), which has a total personnel complement of 126 employees formerly belonging to the national government. The head of the OPA reports directly to the Governor.

The DA, however, retained 10 employees for its Regional Field Unit (RFU). Seven of them actually move around the province and engage in the implementation of DA programs while the other three play some kind of coordinative role, reporting directly to the BFAR Regional Director. These three personnel perform mainly regulatory functions, such as licensing, animal quarantine, seed certification, among others.

The provincial government caught on with the goals and objectives of the program and has since then supported these goals mainly through legislation and budgetary appropriations. The Sangguniang Panlalawigan of Quezon passed an ordinance against illegal fishing. As for funding, from 1996 to 1998, the province appropriated funds for projects like watershed reforestation and coastal mangrove development. More emphasis has been given to income diversification or alternative livelihood projects, such as seaweed production, oyster production, tilapia nursery, and bangus fingerling production. In 1996, the province provided P1,000,000 and in 1997 P1,515,000.00 for these livelihood projects.

CRM IN THE MUNICIPALITY OF PADRE BURGOS

The Municipality of Padre Burgos was chosen for this case study after consulting with the provincial government of Quezon and initial research on the area. The municipality is located along the coast of Tayabas Bay, one of the priority bays of the national government's CRM related program, the FSP. Padre Burgos has shown relatively more activity in CRM than other municipalities in Quezon. There is a significant presence of non-governmental and people's organizations in the municipality. The municipal government has shown support for CRM activities through its budgetary allocations.

The findings of the research are based on primary data and information gathered through interviews, focused-group discussions, and consultation workshops with and among local officials, NGO and PO representatives, and national government field officers. Secondary data for the research include official public documents and field reports, environmental studies, and other related literature.

A. Padre Burgos: A Profile.

The Municipality of Padre Burgos is located in the 3rd District of Quezon. It has a total land area of about 7,156 hectares and an estimated population of 17,494. About 15% of the people live in the town center (bayan) while the rest live in the rural outskirts. Padre Burgos has 22 barangays. There are 9 barangays with inland fisheries and 13 barangays along the coast with municipal fisheries. Data from the Tayabas Bay Resource Ecological Assessment (REA), undertaken as part of the FSP project of the DA, reveal that there are 1055 municipal fishermen, 50 fry gatherers, 344 fishpond workers, 54 fishpond operators and 57 fish traders in Padre Burgos.

An inter-connected fault and massive forms of coral reefs cover the coastal communities along Tayabas Bay. These reef areas extend up to 3-4 km. The DA estimates that about 10% to 20% of coral reef resources and major seagrass areas of these communities are heavily silted. The degradation of the coral reefs is attributed mainly to illegal fishing practices such as the use of blast and cyanide fishing and the rapid denudation of the upland and mangrove forests. The remaining mangrove forests in the towns of Padre Burgos and Pagbilao, Quezon are of secondary growth. Many of the primary mangroves in these towns had already been cut and converted into fishponds. According to the REA of Tayabas Bay, around 2000-2,500 hectares of mangrove areas along the bay have been converted into fishponds.

The primary source of income in Padre Burgos is coconut farming, and fishing is a secondary source. Based on the production period from November 1996 to May 1997, the average fish catch per unit effort of municipal fisherfolk in Padre Burgos is 3.51 kgs. For commercial fishers, their catch per unit effort is 10 boxes using "buli-buli" and *basnig*, 2 boxes for baby trawl, 5 to 8 boxes for commercial trawl, and 1.2 metric tons for *taksay* and *pangulong*.

The most common municipal fishing gears used along Tayabas Bay are gill net, fish corral, beach seine, hook and line, long line, jigget, crab net, push net, filter

net (shrimp), fish pot, spear, bottom sea net, set gill net, and hook-and-line and troll lines.

B. Findings of the Research: CRM in Padre Burgos.

The Department of Agriculture spearheaded the implementation of the FSP in Padre Burgos, one of the coastal municipalities in the program's priority bay, Tayabas Bay. Since 1990, when the program was launched, the DA was the key agency for CRM in Padre Burgos. The DA, in cooperation with the DENR, subcontracted some of the program components, such as the mangrove reforestation, to an NGO. The DA also facilitated the research on the data base for the bay, a Resource Ecological Assessment (REA), which was subcontracted to the Enverga University.

CRM was given a boost when the Bondoc Development Program (BDP) was launched. Funded by the German government, among the goals of the BDP, is to address the problems and issues related to coastal resources and poverty alleviation. As years passed, the BDP has proven to be a major influence on, and contributor to, CRM related projects in the municipality.

C. General Perceptions on CRM.

Among those consulted from the local government and the NGOs and POs, there appears to be a high level of awareness of the significance of CRM in Padre Burgos. However, the understanding of the problems is still general and very few people (officials and citizens), especially in the barangays, know of the new Fisheries Code. It is generally accepted that it is important to protect the coastal resources in order to preserve the livelihood of fisherfolk, especially the poor. After several years, however, of CRM related projects, the marginalized poor fisherfolk see little impact on the community, at least, in the most high profile components: law enforcement and fish catch. The respondents unanimously observe that illegal fishing is still rampant in Padre Burgos. Problems in law enforcement range from the registration of fish boats to actual apprehension of illegal fishers. They also emphasized that the fish catch continues to decline rapidly.

There is always a problem with money for CRM related projects, from equipment and technology to enforce the laws in municipal waters to alternative livelihood projects. It is also not clear to many of the respondents on how mangrove

reforestation itself can improve their incomes. In other words, they are not certain if CRM, particularly its resource regeneration component, can bring direct income benefits in the near future.

In terms of the key players and institutions, the respondents share a common perception that the programs related to CRM are initiatives of the national government through the Departments of Agriculture and, to a certain extent, Environment and Natural Resources. Prominent among the perceptions of the respondents is the dominant role of the DA in the implementation of CRM related projects. Devolution is almost meaningless. True, over a hundred DA personnel were devolved, but the programs and financial resources for these were not devolved to the province. What devolution of agriculture gave the provincial government is a longer payroll. The absence of any participation of the provincial government in CRM and coordination with the DA offices is a consistent complaint from the respondents.

But, there is a strong recognition that when it comes to law enforcement, the municipal government is at the forefront with the assistance of the Philippine National Police although the latter's participation should be increased. A special role in the scheme of CRM in Padre Burgos is played by the Bondoc Development Program, funded by the German government. As for the provincial government, the respondents were unanimous in their observation that it has an important role to play in CRM.

Another concern raised was the uncertainty of CRM policies and programs being implemented beyond the terms of incumbent officials. The experience under devolution, wherein there was no proper transition, was that the people did not feel the effect of the CRM program.

The specific findings are enumerated below classified under the major components of CRM.

D. Legislation and Law Enforcement.

The municipal government has done its share in legislation. The Sangguniang Bayan has approved ordinances delineating its municipal waters and imposing penalties on illegal fishing, particularly the use of trawls in municipal waters in accordance with Presidential Decree No. 704 (PD 704). The ordinance has been in force since 1982 and is being implemented.

The SB has also allocated some funds from each annual budget for the maintenance of two patrol boats and the operations of its Bantay Dagat program. One of the patrol boats was donated by the BDP, which also organized some para-legal training seminars for the Bantay Dagat personnel and volunteers. The project, which is under the direct supervision of the mayor, has generated community support in patrolling and apprehending violators of local fishing ordinances and national laws.

There is still room, however, for more substantive fishing ordinances that regulate the allowable fish catch in municipal waters, preferential licensing for marginal fisherfolks, regulation of fishing vessels and a comprehensive CRM plan. But this will require technical and financial assistance.

Despite these efforts of the municipal government and the community, illegal fishing remains rampant in Padre Burgos' municipal waters. There is continuous encroachment of municipal waters by commercial fishing trawlers, buli-buli, and dynamite fishing. Several problems in law enforcement were identified, particularly the confusing and lax regulation of fishing vessels and the lack of law enforcement capability.

E. Regulation of Fishing Vessels.

Regulation of fishing vessels, i.e. the granting and revoking of licenses, is one source of confusion among the respondents. It is not uncommon to find commercial fishing vessels weighing more than three gross tons registered as municipal fishing vessels. Based on the records of the Coast Guard there were more or less 292 commercial fishing boats registered as having a capacity of 3 gross tons operating in Tayabas Bay. There were also other fishing boats registered in other areas, but fish in Tayabas Bay.

Owners of some fishing vessels, the licenses of which have been revoked due to illegal fishing activities, have managed to renew their licenses or simply obtained new ones. There were a few instances when the owner of a vessel, after its license was cancelled by one agency, would just go to the Maritime Command of the PNP and have his license approved or renewed.

Ambiguity in the jurisdictions and roles of different agencies in the registration and licensing of fishing vessels is a source of confusion and frustration at the local level. The agencies that are somehow involved in this are the BFAR of DA, the Coast

Guard, the PNP's Maritime Command, and the DOTC. A clear delineation of authorities and procedures for the registration and licensing of fishing vessels is needed.

F. Campaign against Illegal Fishing.

Bantay Dagat activities in both Quezon Province and Padre Burgos started in 1988. The province and the Departments of National Defense and Local Government executed a Memorandum of Agreement in support of the Bantay Dagat activities.

The municipality and the coastal community in Padre Burgos have shown their commitment to fight illegal fishing activities in their municipal waters. The municipal government has been maintaining two patrol boats and the operations of the Bantay Dagat program with the assistance of the BDP. Community based law enforcement has taken root in the municipality, with volunteers and some barangay officials willing to be deputized as fish wardens. However, the main source of funds for the operations against illegal fishing activities has been the municipal government coffers. This is hardly adequate for the area that has to be patrolled and protected. Community based enforcement also has its psychological and physical costs to the volunteers: the fear of reprisal from the violators.

Although acknowledging that they have a role in this aspect of CRM, the respondents emphasize that it is the duty of the law enforcement agencies, particularly the PNP, to assist them in apprehending violators of the law. Not enough attention is being given to them in this regard. Others have even suggested having the municipal government and the DA declare Padre Burgos as a "hot spot" for illegal fishing if only to gain the attention and support of the national government.

In addition to the lack of capabilities to enforce laws and ordinances against illegal fishing practices, there is also the aspect of prosecution in the courts of law against offenders of the law and the penalties that can be imposed. Some respondents have even suggested destroying the fishing equipment of recidivists or persistent violators of the law.

G. Income Diversification/ Livelihood Alternatives.

Since 1995 the Municipal Agriculture Office (MAO) has been implementing the "seaweeds culture" project in five barangays: San Vicente, Danlagan, Basyao Cove,

Punta and Tulay Buhangin. The project was funded by the Metro Pacific Corporation through the provincial government.

The Provincial government has also been allocating funds for alternative livelihood projects for fisherfolk. From 1996 to 1998, the province appropriated funds for projects like watershed reforestation and coastal mangrove development. More emphasis has been given to income diversification or alternative livelihood projects, such as seaweed production, oyster production, tilapia nursery, and bangus fingerling production. In 1996, the province provided P1,000,000 and in 1997 P1,515,000.00 for these livelihood projects.

Other alternative livelihood projects are the "Bubo-making," being implemented by beneficiaries of the Comprehensive Agrarian Reform Program (CARP) in Barangay Dingalan. The project received funding assistance from the municipal government through a "soft loan" of P12,000. There is also a "talaba culture" project being undertaken in Cabuyao Norte.

The DENR also initiated a livelihood project in 1998, which introduced the use of "amatong" or rockmound fishing. This fishing method uses man-made mounds of rocks to trap fish. Eight POs in the two barangays of Padre Burgos benefited from this project. The PO's counterpart is their labor in constructing these rockmounds. For catching fish, DENR provided one fish net each for the two barangays. So far, 10 units of "amatong" have been constructed in the two barangays. Although the LGUs have made efforts to increase funding assistance for alternative livelihood projects the glaring fact is that it is never enough. Sourcing funds for income generating projects remains a crucial task if municipal fishers are to be discouraged from fishing in municipal waters.

H. Resource Regeneration and Enhancement.

In the Resource Regeneration and Enhancement component of CRM, Padre Burgos has benefited from funds from the national and provincial government. In 1998, there was a mangrove reforestation in Barangay Rizal. The funds came from the Social Reform Agenda component of the provincial government's budget. The amount allocated for this was P242,570.

Concrete artificial reefs were constructed in 1997. There were 15 modules built in barangays San Vicente, Cabuyao Norte, Danlagan, Marao, Walay, and Kinagunan.

I. Institutional Arrangements.

(1) *The DA and DENR.* When discussing the role of the NGAs in CRM, what is often mentioned is the overlapping of policy and services between the DENR and the DA. In one instance, the DA and DENR personnel were organizing the same communities for mangrove reforestation. This lack of coordination between the two key NGAs causes confusion in the community and is considered a waste of resources. Moreover, the perception is that the fundamental problem is the perennial tendency of NGAs to plan and implement programs without consulting local governments.

(2) *The DA and the LGUs.* The absence of any meaningful role for the community, the municipal government, and the provincial government is a common observation. The DA has been, and remains, the dominant player in CRM in Quezon. Devolution did take place in the form of the transferring of personnel and some equipment, but that's where it ended. There are also issues of competence and capabilities with the devolved personnel. For example, the MAO in the municipality of Padre Burgos and a few other municipalities do not have any background on fisheries or CRM. Hence, training of key players is needed.

The DA, for instance, communicates directly with the MAO, without coordinating with the municipal or provincial government. The Provincial Agriculturist, who reports directly to the governor, provides the DA regional office with copies of the provincial accomplishment reports. But, the DA-RFU and central offices do not even provide this courtesy to the province. There is a perception that the regional office of the DA merely duplicates the functions of the Office of the Provincial Agriculturist of Quezon, or usurps the functions of the latter.

Consultations concerning the FSP or the FRMP are hardly initiated or conducted by the DA. The few times they conducted consultations with the local governments were, according to many of the respondents, occasions for presenting their own plans. For instance, the selection of the sites for FSP or FRMP were done by the DA without consulting the local governments or the community.

Another source of confusion and frustration is the delay in the release of policy guidelines from the DA regarding different aspects of CRM.

(3) *The Province and the Municipality.* Since the provincial government was not drawn into CRM, there is also hardly any coordination between it and the Municipality of Padre Burgos in the implementation of the CRM. The provincial government has been effectively isolated from implementation because of the direct

and dominant role of the DA in the program and the lack of a well defined role for the province.

(4) *Other Institutions.* One of the institutions tapped for the FSP program was the Enverga University to conduct a Resource Ecological Assessment (REA) of the selected bays for the program. A budget of about P11,000,000 was reportedly given for the study. However, none of the local respondents have seen the document. Although a copy of the REA is available at the BFAR central office, the provincial government does not have one. The Provincial Agriculturist himself has not seen the document. Apparently, no serious attempt has been made to make the data and information in the REA available to all the key players in CRM.

RECOMMENDATIONS

A. Public Education and Advocacy.

Although there is a relatively high awareness of coastal resource issues in Padre Burgos due to the focus given to it by the national government, the presence of NGOs and POs, the support of the municipal government, and the assistance of the BDP, there is still much to do in public education and advocacy. Communities need to be informed about the coastal resource situation in general, about CRM, and the new Fisheries Code. Very few people know about the Fisheries Code, and the local officials – elective and appointed – are no exception. The BDP has made its own initiatives in this regard, publishing a Tagalog translation of the Fisheries Code and distributing these to some barangays.

The Resource Ecological Assessment (REA) must be disseminated to the other key players in CRM. The importance of sharing resource data cannot be overemphasized. Here, the local governments can play a more substantial and effective role in “popularizing” the study, with the technical assistance of the DA.

B. Policies.

(1) *CRM Strategy.* The CRM is a policy initiative to contain and reverse the alarming state of the country's coastal resources. Although there appears to be little choice other than projecting CRM as a desperate measure to protect and conserve existing resources, an attempt must be made to “package” CRM also as an *income*

generating venture that would motivate the local community and encourage private sector participation.

Some of the respondents interviewed observed that they see no direct income benefit, for instance, in mangrove reforestation. Mangroves, although useful for its nutrients to the ecosystem, have very limited uses for the fisherfolk. In fact, other than firewood, nothing else can come out from mangrove trees. Alternative plants that can provide the same nutrients for the ecosystem, but that can also generate income if harvested in a sustainable manner ought to be explored and promoted.

The Fisheries Code calls for the review and the release of new guidelines pertaining to different aspects of CRM, particularly on the regulatory functions. The Code provides deadlines from 6 months to 1 year after the effectivity of the Implementing Rules and Regulations for the release of important policy guidelines. Among these are the rates for fees and rentals, the licensing fees, and others. An audit of these policies is recommended.

(2) *Regulatory Functions.* Clarify and simplify the procedures for the registration and licensing of fishing vessels. This would entail delineating the jurisdictions of the municipal/city government, DA-BFAR, Maritime Command of the PNP, and other agencies. Devolving more authority to issue fishing licenses to the municipal or city government is also recommended to improve their ability to regulate fishing vessels beyond three gross tons in their municipal waters. Along with devolution, a coordinating mechanism is needed between and among the LGU, BFAR and other law enforcement and regulatory agencies that allows regular monitoring and information sharing concerning the registration and licensing of fishing vessels.

In addition, BFAR's policies on fishing licenses should be reviewed to consider imposing territorial limits upon a fishing boat's license to fish. At present, a fishing license entitles its owner to fish anywhere in the Philippines at any time of the year. Clear delineation of fishing grounds in a fishing license would make it easier for LGUs to monitor encroachments upon its municipal waters. Under the Fisheries Code, these new guidelines should have been released a year after the Code took effect.

Package the "protected area" status as a basket of incentives, privileges and services that the LGUs can benefit from. The basket should include specific technical assistance, funding for livelihood projects, etc.

C. Law Enforcement.

There ought to be a review of the penalties that can be imposed on violators of illegal fishing laws. At present, the fines are negligible for commercial fishers. In addition, a sharing scheme should be established wherein the fines collected from violators of national illegal fishing laws are shared with the municipal/ city government to support its Bantay Dagat program.

Although community based law enforcement is a novel concept borne out of necessity, the state should not abdicate or slacken its obligation to enforce the laws. Vigilante type of law enforcement has its limits and unnecessarily puts at risk the lives and property of citizens. Monitoring and information sharing by deputized volunteers or barangay officials are very useful; but, arresting and prosecuting offenders is the obligation of the State. Hence, the PNP and other law enforcement agencies should increase its participation in the Bantay Dagat program.

D. Institutional.

The FARMC's have to be institutionalized. It must be active and directly accountable to the mayor. The reporting of the MAO must be through the mayor and not directly to the provincial office of the DA. From the mayor, reports go to the provincial DA office then to the regional office.

Clarify and assert the role of the provincial government in exercising its power of general supervision over municipalities and component cities within its jurisdiction on the implementation of CRM. Specifically in these areas:

- Motivate coastal municipalities and cities within its jurisdiction to actively facilitate the organization of the FARMCs and the IFARMCs as part of its general power of supervision to ensure that laws are being implemented.
- Monitor and ensure that the provisions of the law on fisheries are being implemented by the municipalities and cities within its jurisdiction, including the formulation of CRM plans.

Consolidate the CRM plans of the municipalities and cities and market this as a unified strategy of the province to raise funds from the

private sector, international institutions, and the national government for CRM.

CONCLUSION

CRM in Padre Burgos has gained some headway over the past several years; but, much more needs to be done in improving its different components and instruments. Although the concept and strategy of CRM is projected more as a resource conservation or protection measure, providing a more “market-oriented” approach will attract more adherents and support from the key players.

Nevertheless, the fact remains that the state of coastal resources in the country demands a sincere concern and extensive effort to save rapidly declining resources. In such a situation, relying on the “market-orientation,” “market tools,” or the “profit motive” will not sustain CRM. The participation of the private sector must be tapped, but the active intervention and dominant role of the State from establishing a data base on these resources to law enforcement and regulation is inevitable – both as a necessity and an obligation.



■ COASTAL RESOURCE MANAGEMENT IN ■ TOBOSO, NEGROS OCCIDENTAL

QUIDAN-KAISAHAN OF NEGROS OCCIDENTAL, INC.

Sustainable development largely depends on the utilization of basic resources. The development of a bio-diverse municipality like Toboso, in Negros Occidental, requires a thorough understanding of its physical characteristics as well as its carrying and productive capacity. It also requires an understanding of the dynamics of the community and its residents who are the primary resource users. Moreover, it should be recognized that Toboso's rapid rate of population growth demands an increasingly more efficient management of food resources. The belief that seas have infinite resources is a myth. Although marine resources are renewable, marine production is finite. No amount of aquaculture development can resolve the problem of resource depletion.

The municipality of Toboso has two vital resources – land and marine resources – that could provide employment opportunities and ensure food security for its population. At present, however, these resources are incapable of producing maximum yields because of overexploitation and exhaustion. Over the years, both land and marine resources have been greatly depleted because of unscrupulous practices. If the situation continues, Toboso will experience food insufficiency in the next decade.

Cognizant of its dwindling environment and as a response to a research undertaken by a Peace Corps volunteer, the municipality of Toboso formulated and launched a coastal resource management (CRM) plan. This report describes Toboso's CRM initiatives and the constraints it confronted. It includes a municipal profile and a discussion of the state of its marine resources.

PROFILE OF TOBOSO

A. Land Use.

Located in the northeastern part of Negros Occidental, Toboso is 115 kilometers (km) away from the provincial capital of Bacolod City. It is bounded in the southwest by the municipality of Calatrava, in the northwest by Sagay City, in the north by the municipality of Escalante, and in the east, by Tañon Strait. The 10.20-km shoreline of Toboso runs east along Tañon Strait.

Toboso has a total land area of 11,328 hectares (ha) or 113.28 square kilometers (sq km). Agricultural land comprises 79% of the total land area. The remaining 21% are occupied by social structures, commercial centers, and industrial sites. Sixty percent of the agricultural land is planted to sugarcane and 14% to corn. Some 3% of the land are devoted to crops like banana, cassava, and other root crops. Fruit trees and forest trees constitute the remaining 23%.

B. Land and Water Resources.

The terrain of Toboso is slightly rolling along the national highway and mountainous to very mountainous in its interior barangays. The coastal barangays (Brgys. Gen. Luna, Poblacion, and Salamanca) are relatively flat to steep. The Odiong mountain range represents its maximum elevation at 366 meters above sea level, while the minimum elevation is in the Poblacion at 2.50 meters above sea level. Toboso has no pronounced season. The wet season is from June to January. The rest of the year is dry.

Toboso has abundant deposits of limestone, rock phosphate, silica sand, silica stones, and guano. Its soil is classified as clay loam and hydrosol.

There are five major river systems that can provide the irrigation needs of most of the town's agricultural lands. These are the Manara, Dalinson, Himoga-an, Sagahan, and Salamanca rivers. Toboso's marine resource covers 48 sq km.

C. Demographic Data.

Toboso had a 1996 population of 36,152 people distributed across 7,411 households. There are slightly more males (52%) than females (48%). Eighty-two per-

cent of households depend on agriculture while 5% depend on fishing. Some 13% of household members work as all-around laborers, private or government employees, or small traders.

D. Infrastructure and other Basic Services.

Toboso has relatively adequate basic infrastructure and social services, although most are in poor condition. Features include the following:

- Eight of Toboso's nine barangays are accessible by public transportation. Access to the five barangays, however, is difficult because the road becomes dusty during the dry season and muddy during the wet season.
- All barangays have at least one day care center and an elementary school but these are not accessible to all the different sitios that are located some half to five kilometers away.
- Communication facilities are extremely lacking in the municipality. Only the municipal building has telephone lines.
- The municipality has one main market found in Barangay Poblacion and two secondary markets in Barangays San Isidro and Bug-ang.

ROLE OF LOCAL GOVERNMENT UNITS IN COASTAL RESOURCE MANAGEMENT

As defined by R.A. 7160 (the Local Government Code of 1991), municipal LGUs are mandated to protect, conserve, and regulate their municipal waters. Local governments have "the exclusive authority to grant fishery privileges in the municipal waters and impose rentals, fees, or charges thereof." The powers of the *Sangguniang Bayan* (Municipal Board) concerning fishery privileges include the following:

- To grant fishery privileges to erect fish corrals, oyster, mussel, or other aquatic beds or *bangus* fry areas, within a definite zone of the municipal waters, as determined by it;

- To grant the privilege to gather, take, or catch bangus fry, prawn fry or *kawag-kawag*, or fry of other species, and fish from the municipal waters by nets, traps, or other fishing gears to marginal fishermen free of any rental, fee, charge, or any imposition whatsoever;
- To issue licenses for the operation of fishing vessels of three gross tons or less for which purpose the Sangguniang Bayan shall promulgate rules and regulations regarding the issuance of such licenses to qualified applicants under existing laws;
- By appropriate ordinance, to penalize the use of explosives, noxious or poisonous substances, electricity, *muro-ami*, and other deleterious methods of fishing; and,
- To prescribe a criminal penalty thereof in accordance with provisions of the Local Government Code.

Republic Act 8550, otherwise known as the Philippine Fisheries Code of 1998, further strengthened the jurisdiction of municipal and city governments over municipal waters and specified the duties and responsibilities of the LGUs. They are responsible for the “management, conservation, development, protection, utilization, and disposition of all fish and fishery/aquatic resources within their respective municipal waters.”

They may enact appropriate ordinances for this purpose, subject to the review and approval of the provincial council and in accordance with national fishery policies. They shall also enforce all fishery laws, rules and regulations and valid fishery ordinances enacted by their respective councils. The Code also provided for the integrated management of contiguous fishery resources, with LGUs coordinating with each other to facilitate their management as a single resource system and to achieve the objectives of an integrated fishery resource management.

ROLES IN COASTAL RESOURCE MANAGEMENT OF THE DEPARTMENT
OF ENVIRONMENT AND NATURAL RESOURCES (DENR) AND THE BUREAU
OF FISHERIES AND AQUATIC RESOURCES (BFAR)

Under RA 7160 and RA 8550, the DENR and the BFAR are mandated to actively participate in coastal resource management. The scope of their jurisdiction is as follows:

A. Functions of the BFAR.

- Prepare and implement projects and programs based on the comprehensive National Fisheries Industry Development Plan:
 - * Formulate and implement a comprehensive fishery and research development program; and,
 - * Establish and maintain comprehensive fishery information system.
- Conduct public hearings and consultations prior to project implementation.
- Provide assistance in the organization of fishermen's cooperatives and collective organizations and in the transfer of appropriate technology:
 - * Implement necessary livelihood programs for coastal communities;
- Advice and coordinate with LGUs regarding the establishment of fish sanctuaries and reserves and declaration of closed seasons.
- Provide extensive development support services in all aspects of fisheries production, processing and marketing:
 - * Provide advisory services and technological services;
 - * Assist LGUs in improving technical capabilities to develop, manage, regulate, conserve, and protect fishery resources;
 - * Recommend measures for the protection and enhancement of fishery industries; and,

- * Perform such other related functions that shall promote the development, conservation, management, protection and utilization of aquatic resources.
- Protect the environment and impose appropriate penalties for acts that endanger the environment such as dynamite fishing and other forms of destructive fishing:
 - * Protect endangered aquatic species;
 - * Regulate aquatic pollution; and,
 - * Enforce applicable environmental laws.
- Formulate and enforce all rules and regulations governing the conservation and management of fishery resources except in municipal waters:
 - * Enforce quarantine regulations;
 - * Issue licenses for commercial fishing vessels; and,
 - * Issue identification cards for commercial fish workers.
- Issue and cancel Fishpond Lease Agreements.
- Provide extensive logistics and other support services:
 - * Provide advisory and technical services to LGUs; and,
 - * Assist LGUs in developing their technical capabilities (training, seminars, and law enforcement).

B. Functions of the DENR.

- Conduct public hearings and consultations prior to the implementation of projects.
- Assist in the organization of fishermen's cooperatives and collective organizations and in the transfer of appropriate technology.
- Implement necessary livelihood programs for coastal communities.

- Protect the environment and impose appropriate penalties for acts that endanger the environment, such as dynamite fishing and other forms of destructive fishing:
 - * Protect endangered aquatic species;
 - * Regulate aquatic pollution; and,
 - * Enforce applicable environmental laws.
- Establish and manage the National Integrated Protected Areas (NIPAS; RA 7586).
- Continue to manage municipal water areas that fall under it through special laws.
- Classify areas as available and suitable for fishpond development.
- Issue Environmental Compliance Certificates (ECCs) for coastal development projects.
- Provide extensive logistics and other support services:
 - * Provide advisory and technical services to LGUs; and,
 - * Assist LGUs in developing their technical capabilities (training, seminars, and law enforcement).

THE STATE OF TOBOSO'S MARINE AND COASTAL ZONE

The municipality of Toboso is one of Negros Occidental's 19 coastal municipalities. Its coastline stretches 10.20 km east of Tañon Strait and encompasses the three barangays of Gen. Luna, Poblacion, and Salamanca. From the shoreline, the municipal water measures 48 sq km. Of this, about 65% (31sq km) form part of the fishing ground of local fisherfolk. Although the remaining 17-sq km area also has a rich marine life, marginal fishers seldom fish here because their fishing equipment is inappropriate for its depth. The water in this portion is more than 200 meters deep from the salt bed. The landward zone that comprises 1.0 km from the same shoreline totals about 15 sq km or 1,500 ha. A big portion of the landward section is

devoted to agriculture. Houses and commercial centers located along the shore pose a high pollution risk because the occupants tend to dispose their garbage into the sea.

As in other parts of the province, the Toboso coast has been depleted of marine resources. It used to have a rich marine life where different kinds of fish, shrimps and other crustaceans abounded along the seashore. In 1960, fishers who used hook-and-line caught about 3 to 5 kg of fish after an average of two hours of fishing. Today, the fishers' average catch is only 2 kg after 8 to 11 hours of fishing. Primarily because of limited employment opportunities in the municipality, many households still depend on fishing despite the relatively lower catch.

TOBOSO'S FISHERFOLK

Although they comprise only 5% of total households in the three barangays, fishing households are considered important to the economy of Toboso. They contribute an annual catch value of about P6 million. However, the fishers remain poor. Fishers with motorized boats earn more than P1,000 per month while those whose boats are not motorized have incomes that range from P649.50 to P813.00 per month.

A. Fishing Equipment and Technology.

Fishers in the three barangays use at least three fishing methods: net fishing, hook-and-line, and shrimp/fish-fry gathering. Only 5% of the fisherfolk have motorized boats. Three percent are fishpen owners. The majority (88%) have no motorized boats. The remaining 4% work as laborers of those who have motorized boats.

B. Fish Catch.

The lunar cycle and changes in weather conditions influence the quantity of fish catch. A maximum of 10 kg of fish are caught during the new moon, while only 3 to 4 kg are caught during the first and last quarter moons.

As regards weather condition, a good catch is often experienced when the wind blows from the northeast (*Kanaway*), usually between September and November. During this period, fishers can catch fish as far as 7 km from the shoreline. The

fishers who use hook-and-line and net earn about P100 a day after 6 hours of fishing. Fish catch becomes scarce from June to August, which is the period of *babagat* (southeast monsoon wind) and *lubang* (northwest monsoon wind).

C. Market Flow.

Generally, the fishers have three market options. When catch is low, their wives sell fish within the barangay. When the catch is good, the fishers either sell the fish to the market or to the merchants who provide them with loans during emergencies. Generally, 36% of the catch are sold to merchants and traders. Some 34% are directly sold to the market while the remaining 30% are sold within the barangay. In most cases, fish of good quality is sold to traders at P70 to P80 per kilo while fish of low quality is sold at P30 to P40 within the barangay.

D. Fishers' other Sources of Income.

Primarily because they earn a meager income from fishing, fishers in the three barangays resort to various economic activities. In Gen. Luna, 95% of fishers have other sources of income, as follows: 40% work as construction laborers, 20% engage in small business, 20% raise livestock, and 10% get financial support from their children. The remaining 5% are engaged in slash-and-burn (*kaingin*) farming.

In the Poblacion, the majority (76%) of fishers have no alternate source of income. As for the remaining 24%, their other sources of income are as follows: 10% do carpentry work, 5% work as laborers, 5% engage in vending, and 4% engage in various activities like driving, harvesting, cane cutting, and wood gathering.

Fifty percent of the fishers in Salamanca have small parcels of land. Some 20% raise livestock, while 5% work as hacienda laborers. The remaining 25% work as all-around laborers.

E. Socioeconomic Status of Fishers.

As expected, the fishers in Poblacion who have access to the market are relatively better off than fishers in the two other barangays. The fishers in Salamanca are the most depressed. Eighty percent of them are classified as "poor" and "very poor." In general, only 5% of fishers are "better off." Some 23% have subsistence

income while 72% are poor (see Table 1). The "better off" fishing households are those found owning a motor boat with complete fishing equipment and whose children have gone to college or are professionals. They live in concrete houses and own home appliances.

The "just enough" have no motorized boats. Their children have attended high school and their houses are made of mixed materials. They own small appliances and their income is just enough to meet the basic needs of the family.

The "poor households" are those who fish using hook-and-line. They can hardly send their children to high school and their houses are made of light materials. Their catch is just enough to buy food for the family. The "very poor," in turn, are those who can barely eat three meals a day, use hook-and-line, and do not own a boat. More often, their catch is insufficient to buy food for the family and they can hardly send their children even to elementary school.

Table 1
Socioeconomic status of fishers in the three coastal barangays

Name of Barangay and # of Fishing Households	Better-off	Just Enough	Poor	Very Poor
Gen. Luna (57)	5%	20%	75%	—
Poblacion (155)	5%	35%	60%	—
Salamanca (143)	5%	15%	30%	50%
Total	5%	23%	55%	17%

RESOURCE-RELATED ISSUES AND PROBLEMS

The decline of Toboso's marine resources is largely attributed to an imbalance in its ecosystem. Both upland and foreshore areas are denuded of forest. Upland dwellers have resorted to charcoal making and kaingin farming because of poverty. Deforestation in the uplands have resulted in soil erosion. Eroded topsoil is carried by floods in the estuaries and subsequently covers the coral reefs. About 6 inches of sedimentation accumulates at the estuaries every year. Compounding the destruction of coral reefs is the use of destructive fishing gears like hulbot-hulbot or muro-ami by commercial fishers.

Mangrove deforestation has exposed the shoreline to storm damage and erosion. It has also disrupted the production cycle of various marine creatures that spawn and breed in the area. By January 1999, only 9.5 ha out of the 200-ha foreshore area were covered by mangroves. Chemical spills from agricultural lands and industries have further depleted the municipality's coastal resources. Use of toxic substances such as cyanide in catching fish has also been blamed for the problem. All these point to a lack of control over the municipality's marine resources.

Although Toboso has passed some ordinances to protect its coastal resources, it still lacks the capacity to strictly enforce these ordinances. Only the cutting of mangroves has been regulated. The table below summarizes the issues and problems identified by the fisherfolk in the three barangays during a two-day workshop conducted between 13 and 28 January 1999 as part of this case study.

Table 2
Coastal resource-related issues and problems identified by fishers and barangay officials in the three coastal barangays

Barangay Gen. Luna	
•	Depleted marine life due to the following:
*	Destruction of coral reefs
*	Mangrove deforestation
*	Use of hulbot-hulbot or compressor by big fishers
*	Soil erosion from denuded upland areas
*	Quarrying of coral stones for construction
•	Low income of fishers due to lack of motorized boat and depleted marine resources
•	Lack of control over municipal water because of the following:
*	DENR does not respond to complaints regarding cutting of mangroves on privately-owned lands
*	Bantay Dagat lacks equipment and necessary support to enforce municipal ordinances
*	Low enforcement of national municipal fisheries laws
*	The fishers are not organized
*	Limited support from the provincial and municipal LGUs

Continued

Table 2 – Continued
Coastal resource-related issues and problems identified by fishers and barangay officials in the three coastal barangays

Barangay Poblacion

- Lack of control over marine resources (marine resources are extracted by big fishers who own advanced fishing equipment like hulbot-hulbot, purse seiner, baling, and trawl)
 - Rapid mangrove deforestation
 - Damaged corral reefs
 - Human and industrial waste
 - Chemical spill from agricultural lands that kill fish fries
 - Low enforcement of municipal and national fishery laws
 - Limited employment opportunities
 - Poor drainage system
 - Poor management of cemetery (in some cases dead bodies are eaten by dogs or carried by sea water during high tide)
-

Barangay Salamanca

- Damaged corral reefs
 - Deforested mangroves
 - Lack of fishing equipment due to lack of capital
 - Cemetery is reached by sea water during high tide (dead bodies and coffin are sometimes carried by high tide)
 - Heavy siltation brought about by denuded upland areas
 - Low income from fishing
 - Less catch is experienced for eight months
 - 25% of the fishers have no access to government financing institutions
 - Lack of value-added activities to improve fishers' income
 - Bantay Dagat lacks equipment to enforce the fishery laws
 - Presence of illegal fishers in the municipal water
 - Coastal users lack education to protect the resources
 - The fishers are not organized
 - Only few government agencies are providing assistance to the fishers
 - The fishers lack cooperation in the installation of artificial reefs
-

COASTAL RESOURCES MANAGEMENT STRATEGIES AND PROJECTS

The CRM strategies and projects that Toboso has implemented are based on the results of the study undertaken by a Peace Corps volunteer in 1989. This volunteer interviewed 100 fishers and identified their key issues and problems, as well as their recommendations.

Among the problems the fishers identified were the deterioration of marine and coastal resources, presence of commercial fishers in the municipal waters, lack of capital to purchase fishing gear and equipment, and lack of fishing education. To resolve these problems, the fishers recommended the removal of commercial fishers in the municipal waters, prevention of illegal fishing, provision of capital for fishery education, installation of artificial reefs, and mangrove reforestation. These recommendations aim to stabilize and gradually increase the fish stock of the municipality. They also aim to reduce losses by the marginal fisherfolk, regulate illegal fishing, and improve the fish catch of local fishers.

These recommendations were to be carried out in four phases, as formulated in the municipality's CRM plan. Phase I would cover the passage of municipal fisheries ordinances, acquisition of a small patrol boat (a 30 to 32-foot vessel with a 16 Hp engine) for Bantay Dagat, with a two-way transmitter radio, the removal of coral predators, and the installation of concrete artificial reefs.

Phase II would focus on the development of a marine life sanctuary, the design and construction of an offshore watch tower, completion of Phase I, and acquisition of a larger vessel to patrol the marine reserve. The smaller vessel, acquired during Phase I, would be used as a support vessel. The development of a marine life sanctuary would require the holding of a public hearing to discuss the importance of this sanctuary.

Phase III would entail additional methods to control fly-by-night fish pirates, reintroduce various species of fish and shellfish that have been lost due to overharvest, develop a scientific management system for the sanctuary, and reforestation of mangrove areas. During this phase, a small radar and generator for the watchtower would also be installed. A radar reflector in the patrol boat also would be installed to help those assigned in the watchtower to ascertain the coordinates of offending vessels.

Phase IV would include the provision of new fishing techniques and financial assistance for alternative livelihood so that the fishers would not resort to destructive fishing methods to increase their fish catch.

By January 1999, Toboso had undertaken various activities to protect and rehabilitate its coastal and marine resources. These include the passage of municipal fishery ordinances, an information and education campaign, formation of Bantay Dagat, acquisition of a patrol boat, installation of artificial reefs, and mangrove reforestation activities. The municipality also coordinated with the Office of the Provincial Agriculturist (OPA) for the provision of livelihood activities to fishers. Below are the details of these accomplishments:

A. Municipal Laws on Coastal Resource Protection, Rehabilitation, and Conservation.

The Sangguniang Bayan passed several measures for the protection, rehabilitation, and conservation of coastal and marine resources on 13 October 1993. These measures became effective upon the approval of the Sangguniang Panlalawigan (Provincial Board) on 2 March 1994 or two months after they were submitted to the Provincial Board for approval. Person or persons found violating any of the above regulations would be subjected to a fine of P500 to P5,000 and/or an imprisonment of 30 days to six months. The regulating measures cover the following points:

(1) *Utilization and Conservation of Coral Resources.* Gathering, collecting, harvesting, transporting any coral, either for sale or for use for man-made structures like houses, piers, dams, and dikes, are prohibited. Collection of coral shall be allowed for research purposes through issuance of special permits.

(2) *Conservation of Marine Turtles.* Prohibits the collection, gathering, utilization, processing, transporting, and/or disposing of marine turtles, soft-shelled or fresh water turtles, turtles eggs, and by-products.

(3) *Ban on the Taking or Catching of Full Grown Bangus (Milk Fish) Measuring more than 60 cm in Length from the Tip of the Mouth to the Extreme End of the Caudal Fin or Tail.* Catching of bangus shall be allowed only upon issuance of a special permit for research purposes by the DENR, upon the recommendation of the BFAR.

(4) *Conservation of Mangroves.* Prohibits the gathering, harvesting, collecting, transporting, possessing, and selling of mangroves and any of its parts. Permits for collecting mangrove cuttings shall be issued only for purposes of propagation.

(5) *On Illegal Fishing and Dealing in Illegally Caught Fish or Fishery/Aquatic Products.* This prohibits fishing with the use of electricity (generated by dry cell batteries, electric generators, or other sources of electric power), explosives (e.g., dynamite or any chemical compound that contains combustible elements or ingredients), and noxious or poisonous substances.

(6) *Fishing with Fine-meshed Nets.* Use of fine nets with a mesh size of less than 3 cm measured between two opposite knots of a full mesh when stretched is prohibited. This provision is not applicable for catching *padas* (Family Siganidae), bangus fry, *sugpo* fry (family peneaidae), *banak* fry (family mugiladae), glass eels and elvers (family anquilidae), and *ipon* (family gobiidae).

(7) *Trawl Fishing in the Municipal Waters.* The operation of a commercial trawl, purse seine, and hulbot-hulbot is prohibited within the 15-km limit of the municipal water.

(8) *Gathering of Seaweeds.* Prohibits the gathering of seaweeds at identified restricted areas.

(9) *Closed Season for the Conservation of Sardines, Herrings, and Mackerels in the Municipal Waters.* Prohibits the catching of sardines, herrings, and mackerels during the declared off-season from 15 November to 15 March of the following year when these species are sexually mature.

(10) *Declaration of the Two (2) Arcolon Reefs as Marine Life Sanctuaries and Breeding Areas.* About 516 ha of submerged coral reefs in the Arcolon Point located at Tañon Strait is declared as a marine life sanctuary of Toboso municipality. The marine habitat outside the two submerged but within 50 meters around the circumferences of both reefs are designated as traditional fishing areas. All destructive fishing methods are prohibited in the area.

(11) *Pollution of Municipal Waters.* The discharge, or causing to be discharged or deposited, or to pass or place where it can pass into the municipal waters, of petroleum, acid, coal, oil tar, asphalt, bitumen or residuary products of petroleum or carbonaceous materials or substances, molasses, mining and mine tailings, or any refuse, liquid or sugar central, mill or factory of any kind, or any saw dust, shavings slab edging, or any factory refuse or any substance or material detrimental to fish or fishery/aquatic life is prohibited.

(12) *Registration and Color Coding of Fishing Boats Operating within the Municipal Waters.* Prohibits the operation of any fishing boat within the municipi-

pal waters if it is not registered with the respective coastal barangay. The colors are as follows: Salamanca (green or orange), Poblacion (green or yellow), and Gen. Luna (green or red).

B. Formation of Bantay Dagat.

Efforts to organize the fishers into a Bantay Dagat Task Force (municipal sea warden) started as early as 1991. The Provincial Aquamarine Coordinating Council (PAC) initiated its formation. About 30 fishers, together with municipal and barangay officials, were initially provided with lectures on the present state of the coast and the roles and functions of the Bantay Dagat. This group was active only for a while. It ceased to function when the rice subsidy from the province for the Bantay Dagat members was discontinued in 1996.

Some fishers said they were discouraged from preventing illegal fishing because some of the wardens accepted bribes from commercial fishers. They also did not get the necessary equipment (patrol boat, two-way transceiver radio, fuel) to enforce fishery laws. They also could not apprehend illegal fishers without the assistance of the Philippine National Police (PNP). In some cases, police officers on duty did not immediately come to aid them. The fishers observed that their responsibilities entailed more risks than *barangay tanods* (village peace officers). Barangay tanods received incentives. Bantay Dagat members did not.

Bantay Dagat was reactivated in 1998. This time, the municipal mayor promised to seek approval from the Sangguniang Bayan for the provision of incentives to Bantay Dagat members. The incentives would be obtained from the penalty collected from illegal fishers. The municipal mayor also agreed to regularly provide Bantay Dagat with the necessary fuel for a pump boat provided by the Negros Aqua Agri-Development Institute (NAADI). NAADI is a local NGO based in Negros Occidental, which aims to provide support services and facilities to both aquaculture and agricultural sectors. It works closely with the provincial government. As of March 1999, however, the Sangguniang Bayan had still not approved the mayor's proposal.

(1) *Acquisition of Patrol Boat.* With help from the provincial government, Toboso bought a second-hand pump boat in 1991 for Bantay Dagat. However, because it was made of light material, the boat lasted only for five years. Since then,

the boat has not yet been replaced. At present, the fishers use their own pump boats to drive away illegal fishers. Toboso plans to acquire an aluminum pump boat as soon as the provincial government releases its promised counterpart of P150,000.

(2) *Installation of Artificial Reefs.* This is one of Toboso's strategies in rehabilitating the habitat of its marine resources. Through the assistance of the provincial government and UNICEF, Toboso has installed concrete artificial reefs in five strategic places in 1990. With this project, some lost specie like yellow fin tuna has been regenerated. Some 20 kg of fish can easily be gathered around the artificial reefs after two to three hours of fishing.

(3) *Mangrove Reforestation.* Toboso carried out mangrove reforestation through an annual allocation by the Municipal Development Council (MDC) starting in 1996. The council allocated P30,000 to reforest 1.0 ha of foreshore area. By 1999, about 2.0 ha of the foreshore area have been reforested. The plan to reforest another 1.0 ha of foreshore area in 1998 did not push through because the municipality's IRA decreased by 10%.

C. Livelihood Support to Fishers.

In line with the provincial thrust on food security, the Office of the Provincial Agriculturist (OPA) is mandated to provide assistance to sustain fishery resources and aquaculture development. Five major interventions are planned, as follows:

- Aquaculture development, which includes an input-assisted bangus project, tilapia production, sea farming, and a hatchery project;
- Marine fisheries development through a fishing support program, provision of a cooperative fishing boat, a livelihood fund for fishers, and a dry-docking project;
- Provision of post-harvest facilities like mini-ice plant project, fish dryer, and technical assistance on fish processing/preservation;
- Marine protection and coastal development such as the Bantay Dagat program, red tide and fish watch, artificial reef project, fish sanctuary program, and the Negros reef and rainforest project; and,

- Research and support services such as technical assistance for prawn and other aqua-culture and market linkaging.

Some 24 fishers in Barangay Poblacion who formed the Toboso Small Fishermen Multi-purpose Cooperative (TOSFIMCO) are among the recipients of the OPA's program. By January 1999, the OPA had provided four units of 5.5Hp engine and three sets of fishing nets to TOSFIMCO. The engines and fishing nets are to be paid free of interest. They claim, however, that the equipment does not suit the specifications they asked for. They suggest that the OPA staff should first consult them before purchasing any equipment.

D. External Support.

In response to the fishers' identified needs, the NAADI provided TOSFIMCO with fishing equipment, consisting of a motorized fishing boat and fishing gears worth P55,000 in December 1997. The fishing equipment is made available to all TOSFIMCO members. Each member is allowed to use the equipment for at least three days. The user will give 10% of his income to the cooperative so that it could generate funds for other projects. The fund also would be used to cover maintenance costs. The boat is currently functional and is often used by Bantay Dagat in patrolling the municipal waters.

CONSTRAINTS AND DIFFICULTIES OF TOBOSO IN CARRYING OUT ITS MANDATE

The problems of Toboso in coastal resource management may be divided into four key issues, namely: financial capability to fund its coastal resource program, prioritization of resource utilization, low enforcement of municipal ordinance and fishery laws, and lack of integration and coordination of the national agencies and different local government units. These problems and issues are discussed below:

A. Financial Capability to Fund the Coastal Resource Program.

Between 1992 and 1999, Toboso's Internal Revenue Allotment ranged from more than P2 million to P18 million. About 20% of this amount is allotted to develop-

ment projects, which means that the Municipal Development Council has to limit its program to only about P1 million to P4 million. Due to the poor state of its infrastructure and other basic services, most of Toboso's development fund is allocated to basic infrastructure projects like farm-to-market roads and water systems. Only 3% of the development fund has been allocated to coastal protection between 1996 and 1999 (see Tables 3 and 4).

The three coastal barangays of Toboso do not allocate any of their development funds for the protection and rehabilitation of marine and coastal resources. Generally, the development fund of the three barangays is allocated to infrastructure development projects (see Tables 5 to 7).

Table 3
Internal Revenue Allotment & tax collection of Toboso, 1992 to 1999 (PhP)

Year	IRA	Other Sources	Total Annual Fund	20% Devt. Fund
1992	2,163,139	3,093,996.53	5,257,135.53	1,051,427.11
1993	4,468,187	1,803,212.47	6,271,399.47	1,254,279.89
1994	7,918,583	3,086,083.44	11,004,666.44	2,200,933.29
1995	10,467,582	3,746,490	14,214,072	2,842,814.40
1996	11,669,952	2,490,709	14,160,661	2,832,132.20
1997	12,472,478	2,788,858	15,261,336	3,052,267.20
1998	18,408,107	2,342,755	20,750,862	4,150,172.40
1999	18,567,041	2,643,182	21,210,223	4,242,044.60

Table 4
Percentage allocation of development fund in Toboso, 1994 to 1999 (PhP)

Year	Social	Economic	Infrastructure	Environment/ Macro/	GDF	Total
1994	25%	19%	30%	0%	25%	100%
1995	10%	62%	17%	0%	0	100%
1996	6%	38%	23%	3%	10%	100%
1997	8%	15%	24%	24%	29%	100%
1998	11%	13%	34%	3%	36%	100%
1999	9%	36%	41%	3%	12%	100%

Table 5
Allocation of development fund (PhP) by Bgy. Gen. Luna, 1995 to 1999

Category	1996	%	1997	%	1998	%	1999	%
Infrastructure	24,000	23	41,000	37	68,000	50		
Health and Sanitation	63,720	73	4,701	4	38,000	28	70,000	61
Beautification			11,925	11	12,683	9		
Human Resource Devt.			10,000	9	12,683	9		
Equipment			42,000	38	5,467	4	23,000	20
Economic/Livelihood							20,000	19
Total	87,720	100	109,626	100	136,833	100	113,000	100

Table 6
Allocation of development fund (PhP) by Bgy. Poblacion, 1995 to 1999

Category	1996	%	1997	%	1998	%	1999	%
Infrastructure	40,000	38	69,340	46	30,000	15	40,000	22
Health and Sanitation	64,979	62	50,000	33	31,185	23	50,000	28
Beautification	0		0		15,000	11	0	
Human Resource Devt.	0		28,113	19	26,796	20	0	
Transportation	0		0		0		0	
Environmental Protection	0		0		0		0	
Economic/Livelihood	0		1,722	1	0		90,000	50
Total	104,979	100	149,175	100	155,310	100	180,000	

Table 7
Allocation of development fund (PhP) by Bgy. Salamanca, 1995 to 1999

Category	1996	%	1997	%	1998	%	1999	%
Infrastructure	88,832	100	95,091	86	20,000	15	72,000	67
Health and Sanitation	0		10,388	9	31,185	23	0	
Beautification	0		0		15,000	11	0	
Human Resource Devt.	0		0		26,796	20	0	
Equipment	0		5,600	5	41,000	31	0	
Economic/Livelihood	0		0		0		35,000	33
Total	88,832	100	111,079	100	133,981	100	107,000	100

B. Low Enforcement of Municipal Ordinance and Fishery Laws.

Basic to the enforcement of fishery laws is the acquisition of patrol boats and the organization of Bantay Dagat. With the help of the provincial government, Toboso acquired a motor boat in 1991. Bantay Dagat initially consisted of 30 fishers formed by the Provincial Aquamarine Coordinating Council in 1991. Owing to lack of equipment, Bantay Dagat became inactive in 1996. It was reactivated in 1998.

C. Lack of Integration and Coordination Between the National Agencies and the Different Local Government Units.

As of March 1999, the DENR and the BFAR have not initiated any visible intervention in CRM in Toboso. Only the provincial government and the OPA have provided some assistance to Toboso. Assistance directly obtained from the Office of the Governor is coursed through the municipal LGU while that from the OPA is carried out either through the OPA staff or through the Municipal Agricultural Office. The OPA staff generally implements livelihood projects. They also facilitate institutional strengthening activities. The projects that are implemented by MAO include installation of artificial reefs and mangrove reforestation.

Unfortunately, this relationship between the OPA and the MAO involving livelihood projects does not build the capability of the MAO staff. The MAO staff tends to leave all the responsibilities to the OPA staff for fear that their interventions might contradict the OPA's strategies. Only one OPA staff is assigned to Toboso. This severely limits the OPA's involvement in the municipality.

There is also a lack of coordination between the barangay and the municipal LGUs. The barangays, which do not have police powers to enforce municipal fishery ordinances, feel that the task of protecting marine and coastal resources is primarily the job of the municipal LGU. Nonetheless, they have expressed a willingness to participate in activities for the protection of Toboso's marine resources. Also, there are strong indications that the three coastal barangays do not share the municipality's vision for coastal resource management.

RECOMMENDATIONS

Sustainable and viable development requires thorough planning and substantial resources. The case of Toboso in coastal resource management shows that it urgently needs key interventions and assistance. Following are some recommendations for improving the municipality's CRM program. These recommendations resulted from consultations with fishers, barangay and municipal government leaders, the DENR, and the OPA on February 24, 1999.

A. Increase the Resources of Municipal and Barangay LGUs.

Given the scope of Toboso's CRM program, the funds it has at its disposal are definitely insufficient. Devolution of functions should go hand-in-hand with adequate resources since 4th class municipalities like Toboso receive only a very small share from the national Internal Revenue Allotment. The allowable 20% development fund of the municipality between 1992 and 1999 shows that the municipality could hardly support its various community improvement projects.

There are three possible sources to improve the financial capability of the LGU. One is to transfer responsibilities and resources from the national government to the municipal and barangay LGUs that have formulated a comprehensive plan responsive to the needs of their constituents. Two is to increase the shares of municipal and barangay LGUs in the real property tax. At present, the provincial LGU obtains 35% of the collected taxes from real property; the municipal LGU retains 40%, while the barangay gets only 25%.

Municipal and barangay LGUs should retain the biggest share as they are the immediate absorber of problems relating to environmental hazards. Moreover, they are the primary stakeholders in the protection and conservation of coastal resources. Finally, the collection of fees handled by national agencies should be transferred to municipal LGUs. This transfer will improve the municipality's financial capability as well as provide it with enough power to regulate the exploitation of municipal resources. There is one suggestion that the provincial government should collect taxes from dealers of fish in Bacolod City. This is not feasible since these dealers are already paying taxes to the Bacolod city government.

B. Clarify Roles of Implementing Agencies and Strengthen their Cooperation and Coordination.

RA 7160 and RA 8550 specify the roles and responsibilities of the DENR, the BFAR, and the provincial, municipal and barangay LGUs in protecting and managing coastal resources. It can be noted that most of the critical activities are still being assigned to national agencies like the DENR and the BFAR. Since the offices of the DENR and the BFAR are generally located at the provincial centers and therefore quite far from the different LGUs, access to their services is difficult. Considering also that the DENR and the BFAR have not yet initiated a visible program in Toboso, their effectiveness to carry out their CRM mandate throughout the province appears quite limited.

Toboso's numerous CRM initiatives indicate the presence of strong political will. Toboso also appears to have the capability to manage its coastal resources. It is recommended that the interventions of the DENR, the BFAR, and the provincial government be limited to the provision of technical and financial assistance. The DENR and the BFAR should provide the necessary training to LGUs in order to enhance their capability in coastal resource protection and management. They should also guide local governments in the installation of needed systems and mechanisms that will enhance LGU understanding of their aquatic and marine resources.

These agencies also could assist LGUs in conducting an inventory of sea grasses and other marine life. This inventory can then be used as a basis for planning the sustainable production of fish, sea shells, and crustaceans. Specifically, the BFAR should continue to undertake research activities that will improve fisheries and aquatic production. It should subsequently transfer to the LGUs the technologies it has developed.

C. Refocusing of Interventions at Priority Areas.

To create program impact, the different stakeholders need to pool their efforts and resources to effectively manage Toboso's marine resources. The municipality has to share the burden of managing its marine resources with the barangay LGUs and the fishers themselves. A participatory assessment and planning for coastal resource management is an initial step to draw the active participation of all stakeholders.

D. Hasten Approval of the Proposed Transfer of Control and Supervision of the Philippine National Police to the LGU.

A major factor that weakens Bantay Dagat is the relatively poor cooperation given by the local PNP when it is called on to apprehend illegal fishers during night time. Bantay Dagat patrols have even alleged that some members of the PNP are being bribed by illegal fishers. To avoid this problem, the municipality supports the early passage of a law transferring the control and supervision of the PNP to local governments.

E. Provision of Incentives to Bantay Dagat patrol members.

Apprehension of illegal fishers is a risky activity. It is riskier than the job given to barangay tanod members. However, as of March 1999, only barangay tanods receive honoraria from the barangay. Although the fishers recognize that protection of marine resources is to their advantage, they are reluctant to strictly enforce fishery laws since nobody will take care of their families in case something untoward happens to them. They also can not provide enough food for their families if they continuously patrol the municipal waters. A life insurance scheme may encourage fishers to continue assuming the risky task of Bantay Dagat patrolling.

Toboso currently does not have enough resources to provide incentives to Bantay Dagat members. It may need to explore the possibility of privatizing the protection of municipal waters. Some fishers are enthusiastic about this idea. However, it has certain social and economic implications. At present, only 22 fishers are organized. Hence, the issue of who will be first in line to "receive" portions of the municipal water should be resolved. The powers and responsibilities of the recipient organization also should be clearly defined. Moreover, for the scheme to succeed, the organization must have proven management capabilities.

F. Revision of Municipal Ordinance.

The passage of RA 8550 requires Toboso to modify its fishery ordinances. This is because the prescribed fees are very minimal, compared to the volume of fish

being extracted from Toboso's municipal waters. As of March 1999, the ordinances were still being reviewed by the Sangguniang Bayan.

G. Transfer of Technology to Municipal and Barangay LGUs.

The OPA technician assigned to Toboso has maintained a good working relationship with the Municipal Agriculturist Office (MAO) staff. However, the existing coordination between the OPA and the MAO is limited to exchanges of information on the status of project implementation. Projects initiated by the OPA are primarily implemented by the OPA staff. At present only one OPA staff covers the nine barangays of Toboso. This staff member assists in the formation and registration of peoples organizations (POs) by helping POs to come up with project proposals for OPA assistance. Given this scope of work, it will probably be difficult to sustain this staff member's various initiatives for the next two years.

The MAO has six staff members and can definitely assume these initiatives. However, they still need enhancement training to effectively perform the complex functions that the OPA now performs.

H. Strengthening the Participation of Resource Users and Provision of Alternative Livelihood.

Basic to the successful enforcement of regulatory measures is the active participation of stakeholders. Clearly, the progress of coastal resource management in Toboso will be determined by how far affected resource users and the community are prepared to go. This means that CRM does not start and end with the enforcement of ordinances. It requires building the economic and socio-political capabilities of communities to protect the very coastal resources upon which their livelihood and survival depend. The presence of TOSFIMCO and the high awareness of its members on the need to regenerate marine resources are vital for the attainment of Toboso's vision. Barangay officials also have declared a strong desire to share the burden of reviving their coastal resources.

The municipality needs to involve the barangays in enforcing its fishery laws as well as regulating the use of marine and coastal resources. Barangay officials must show the same level of political will to protect marine resources. There is a need to create local structures (such as FARMC and CRM councils) to bring this about. Also

required is an appropriate legislation that authorizes barangay officials to prosecute illegal fishers. As envisioned, the CRM council would be a federation of FARMCs. With implementing national agencies and other interest groups as ex-officio members, it will be responsible for managing local marine resources and addressing urgent coastal issues and problems.



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QUIDAN-KAISAHAN OF NEGROS OCCIDENTAL, INC. is a nongovernment social development organization that works in the areas of agrarian reform, local governance, sustainable development, urban development and gender equity. Quidan-Kaisahan is translated in English as "Solidarity of the Nameless Ones".

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