

COASTAL RESOURCE MANAGEMENT IN THE PHILIPPINES

by

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ABSTRACT

Major problems that beset the Philippines fisheries sector are degradation of coastal habitats and environmental damage; depleting of marine resources; poverty among municipal fisherfolks; low productivity of aquaculture; and limited utilization of the offshore waters by Philippines commercial fishermen. The Government as well as the academe, NGOs/POs and the local government units (LGUs) is implementing integrated Coastal Resource Management (CRM) programs to address the problems of the sector. Policies related to resource management have been instituted to assist the different agencies and organizations in carrying out their roles and responsibilities in CRM. There is no straight rule in implementing an integrated CRM program. Its success depends upon the infractions between and among the stakeholders of the coastal area. CRM components such as credit for alternative/supplemental livelihood and law enforcement do not fare well in some coastal communities, while components such as public education, capability building, habitat enhancement/rehabilitation and people's participation are carried out successfully. Experiences of the government sector, LGU, NGO/PO and the academe show success stories that inspire them to continue with CRM initiatives while failures encountered serve as reminders of the pitfalls to avoid when implementing an integrated management of coastal resources.

1. Overview of the Philippines Fisheries Sector

The Philippines Archipelago is composed of about 7,100 islands with marine waters expanding up to about 2.2 million square kilometers. The Philippines ranked 12th world fish production and produced about 2.7 million metric tons in 1995. Foreign earnings in 1995 amounted to P15.6 billion. About 1 million people are employed by the fisheries sector. Through the years, however, a decline in fish production especially from the coastal areas have been observed. The per capita fish availability of 30.5 kg in 1987 dipped to 28.8 kg. in 1994.

An assessment of the Philippines fisheries sector identified resource depletion and environmental damage, poverty among municipal fisherfolks, low productivity in aquaculture, and limited utilization of the offshore waters by Philippine commercial fishermen, as the major problems. At present, there is no substantial increase from

the capture fisheries especially at the nearshore area because of overfishing and habitat degeneration. Increment is expected to come from the aquaculture sector.

2. Coastal Resources Management (CRM) as an Approach to Address the Fisheries Sector Problems

As early as 1970, resource management efforts have been initiated by the academe, NGOs/POs, local government units (LGUs) and the government sector. Some of these initiatives worked and became the basis for the development of more CRM projects at various levels and magnitude. The biggest CRM programs are the Fisheries Sector Program (FSP) of the Department of Agriculture that was launched in 1990 and the Coastal Environment Program of the Department of Environment and Natural Resources in 1993. Both programs consider coastal resource management the centerpiece component.

Coastal resource management (CRM) is based on holistic approach that considers the interactions between and among resource systems and populace in the sustainable management of the economically and ecologically valuable resources in the coastal area. There is a need, therefore, to integrate the various factors affecting the resources. An integrated CRM subscribes to the concept of community-based resource management that recognizes the capacity of the coastal community to implement resource management in their area. Since the fisherfolks are the direct beneficiaries, their understanding of the project spells its success or failure.

The approach in the implementation of CRM involves processes leading to the formulation of options to achieve CRM goals and objectives. These processes are cyclical but not necessarily sequential.

Evaluate (6)	Determine and assess problems and issues (1)
Implement plans (5)	Set goals for management (2)
Formulate plans (6)	Determine management options and strategies (3)

3. CRM Strategies and Actions

There are many management strategies in CRM implementation. However, these strategies are site specific and would depend upon the particular problem of the coastal area. Some of the strategies used are the following:

3.1 Information dissemination, education and communication

Raising the awareness of the coastal community on resource and environmental protection, conservation and management is a paramount concern when implementing CRM. Twelve partner NGOs were engaged to conduct community organizations and development in major bays and gulfs. Women's role in

community enhancement and development have been given emphasis in the course of CRM implementation.

3.2 Creation of resource management councils

An integrated CRM encourages the active participation of the local government and community-based organizations of the area. Bay management councils have been established in major bays and gulfs. These councils facilitate the implementation of CRM projects. The councils are also good fora for discussion concerns relevant to resource management. Corollary to the bay management councils, fisheries and aquatic resource management councils (FARMCs) are being established at the barangay level, the Philippines' lowest political unit.

3.3 Limitation of fishing effort

Arial and temporal closed season, ban of certain gears and restricted entries into municipal waters are some ways of limiting the fishing effort of overexploited fishing grounds. In one bay area, selective fishing gear like the shrimp gill net, was accepted by fishermen to replace shrimp trawlers. The strategy also relies on strict enforcement of fishery and environmental laws, rules and regulations.

3.4 Marine habitat protection and rehabilitation

There are 52 fish sanctuaries/marine reserves covering about 8,936 hectares. About 6,402 hectares of mangrove area were reforested through a community-based scheme. There are 2,941 artificial reef modules deployed. However, prudence has been taken when establishing ARs because of its misuse as a way to rehabilitate degraded coral reefs. Coral transplantation have also been done in coordination with the academe.

3.5 Shoreline habitat rehabilitation

Most coastal areas have been damaged due to reclamation, conversion to fishponds, urbanization and industrialization. Most mangrove forests have been cut in an unsustainable manner. The Government initiated mangrove reforestation programs through community-based scheme. A moratorium on mangrove conversion to fishponds is in place. Undeveloped fishponds (FLAs) are to be converted back to the original use and reforested.

3.6 Monitoring of water quality

Pollution is becoming a major problem in coastal areas. The quality of water affects mariculture activities as well as other water uses in the coastal area. There is also the annual occurrence of red tide in most shallow bays. This had affected the livelihood activities of fisherfolks as well as shellfish farmers. Oftentimes, crisis situations occur due to delayed response. To avoid such situation, inter-agency task forces have been created to monitor water quality.

3.7 Promotion of alternative/supplemental sources of income

Most of the municipal fisherfolks live below the poverty line. To alleviate the poverty, alternative/supplemental sources of livelihood were provided to fisherfolks and their families. Fisherfolks who are affected by the limitation of fishing effort are being provided with viable livelihood projects. Shellfish farmers who have been affected by shellfish ban due to red tide occurrence are also given other livelihood projects. Ideally, livelihood projects must be land-based to lessen stress to the marine waters. At present, however, fisherfolks can not be totally separated from the sea. Livelihood projects identified were livestock raising, cottage industry, retail store and mariculture.

3.8 Development of coastal zone plan

The coastal use plan is a useful tool when delineating the use of specific areas. The plan is also being used by the local government council in the enactment of municipal ordinances related to fisheries management. Most coastal municipalities have enacted coastal zone plan which helps when settling resource use conflicts.

4. Impacts of CRM of the Fisheries Sector Program (FSP) in Coastal Areas

CRM/FSP implementation was a big pioneering effort on the part of the Department of Agriculture. It was also a big learning experience for all organizations and institutions that participated in the implementation of the Program. Local NGOs/POs, the academe, research institutions and LGUs participated in undertaking the various activities of the Program.

The success or failure of any CRM project should be evaluated in terms of the impacts and benefits derived. Upon evaluation, CRM/FSP attained the following:

1. Policy directions provided the framework for sustainable fisheries development to guide and advice government policy makers, planners and legislators.
2. Organizational and institutional reforms within the agencies were brought forth to build capability and strengthen the various agencies to be able to perform the task under an integrated CRM.
3. Policy initiatives in regulating fishing effort within the limits of maximum sustainable yield (MSY) started to put to an end the open access policy in fishing.
4. The pre and post comprehensive resource and ecological assessments of the major bays and gulfs showed the return of economically important fish species, thus, a greater biodiversity of fish species.

5. There is an improvement in income levels of municipal fishermen by about 30-40% derived from increased catch supplemented through alternative/supplemental livelihood projects. As a consequence, there is a decreased incidence of poverty especially in areas where resource management efforts have been made.
6. The Program invested much on public information, education and communication. This resulted to a much higher awareness and better appreciation of the need for resource management and conservation. Individual fishermen have been formed into associations or cooperatives playing active role in resource management.
7. Fisherfolks were assisted in improving the quality of their fish catch by providing infrastructure (municipal and regional fish ports, refrigeration and individual quick-freezing facilities) and marketing support (market matching).
8. An information/database management system (PHILFIS) was established to store, analyze and consolidate all data and information relevant to the fisheries sector. Some information gathered were first time ever.
9. There was a defined and streamlined focus for research studies towards a unified direction of resource management. Funding was provided to research projects with impacts on CRM.
10. The design of a fisheries monitoring, control and surveillance (MCS) was established to improved law enforcement capability of enforcers. MCS system has been established in 4 strategic areas.
11. Scholarships were granted to implementors under degree and non-degree programs to enhance their research capabilities.

There were also negative effects which came with the implementation of the integrated resource management.

1. There was an alienation of fisherfolks who were not members of the association and cooperatives established under the Program.
2. Social problems spawned from the strict enforcement of fishery and environmental laws
3. Not all intended beneficiaries of the credit facility under the Program were able to avail of the assistance.

5. Conclusion

FSP made a significant achievement to initiate activities that would bring about the responsible management of coastal resources in the Philippines by using an integrated Coastal Resources Management as an approach for a more effective and efficient program implementation. It was also successful in laying the foundations for sector change and in initiating the long process of reforming the fisheries sector.

For the past five years, the Philippines Government has intensified its efforts towards the management of its marine resources. Local and international agencies and organizations have extended assistance in implementing CRM programs and projects. In the midst of the overwhelming support given to CRM, the gains of the initial efforts must be sustained and reinforced by continuing the efforts to educate the coastal communities, the LGUs, NGOs/POs, the academe and the government sector.