

A REVIEW AND EVALUATION OF COMMUNITY-BASED COASTAL RESOURCE MANAGEMENT PROGRAMS AND PROJECTS IN THE PHILIPPINES, 1984-1994

by

Robert S. Pomeroy and Melvin B. Carlos
International Center for Living Aquatic Resources Management (ICLARM)
Philippines

ABSTRACT

There is a growing realization in Southeast Asian of the need for increased participation by resource users in fisheries management and greater localized control over access to the resource. Community-based resource management has re-emerged as a way to involve resource users and to utilize indigenous institutional arrangements and knowledge in coastal fisheries management. In virtually all users, however, the future of community-based resource management seems to lie in a form of co-management, a sharing of responsibility and authority for resource management users of community. The Philippines is a world leader in community-based coastal resource management (CBCRM) between 1984-1994, 43 CBCRM programs and projects with over 105 project units or sites were implemented throughout the 12 regions of the Philippines. This paper will present the results of a review and evaluation of CBCRM programs and projects in the Philippines. Major interventions, Institutions and processes of CBCRM are discussed and general lessons learned are identified.

1. Introduction

During the ten-year period of 1984 to 1994, a large number of locally-and foreign-funded development programs and projects implemented community-based management schemes for various resource systems such as forestry, irrigation and upland areas in the Philippines. Over the same period, a lesser number of community-based coastal resource management (CBCRM) programs and projects were also initiated. Despite the comparative lack of emphasis on coastal resources, the Philippines has still recorded the most number of CBCRM experiences in comparison to other countries of the world.

Undoubtedly, the time, funds and collective efforts put into these programs and projects have allowed implementors and participants to accumulate valuable knowledge and experience in the area of community-based resource management (CBRM). Sad to say, however, there has been no comprehensive documentation and evaluation of the experiences and "lessons learned" from these past programs and

projects. As a consequence, an important source of information which could be used to rapidly improve new community-based management initiatives has been left untapped. This is especially true for fisheries where most CBCRM efforts are still in the developmental stage. Compared to community-based management activities in other resource systems, the number of completed and successful CBCRM efforts is still relatively small.

This paper presents the results of a review and evaluation of CBCRM programs and projects in the Philippines during the period of 1984 to 1994. Through this study, a systematic review of CBCRM programs and projects in the fisheries and coastal resources will allow for the: (1) description of characteristics of programs and projects; (2) analysis of programs and projects over time and space; (3) determination of the major processes, interventions and institutions in CBCRM; and (4) identification of lessons learned from the programs and projects. Policy recommendations are made for the improvement and refinement of CBCRM programs and projects in the future.

This study relied primarily on secondary data sources. The secondary data utilized for this study were gathered mainly from project reports, project evaluation documents, popular publications, scientific journal articles, seminar/workshop papers and proceedings, and other publications. In addition, information was collected through interviews with individuals associated with the program and /or project. All programs and projects that meet three main criteria: (1) fisheries-related, (2) coastal resource-related, and (3) community-based, were considered. This analysis assumes that "past" programs and projects are completed (as of December 1994), while the "total population" refers to the cumulative number of completed, on-going and discontinued or "pull-out" CBCRM programs and projects in the country.

The study has several limitations: (1) it excludes all relevant programs and projects prior to 1984; (2) it cannot claim to be an exhaustive or complete list of programs and projects from 1984-1994 since it is very difficult to accurately account for the number of CBCRM activities in the country. The actual number would be greater; and (3) the analysis was based solely on secondary source information and data were not verified in the field. Thus, results can only be as reliable as the source of information itself.

2. A Brief History of Fisheries Development and Management in the Philippines

The island settlers of what became the Philippines had a long history of traditional fisheries rights and allocation before the archipelago was first colonized by Spain in the seventeenth century. The *barangay* (village) had jurisdiction over coastal resources and fishery limits were defined by them. The traditional property rights of barangays over fishing grounds were steadily eroded during the long Spanish colonial period, with community authority and rights superseded by state government control (Kalagayan 1991). Lopez (1985) reports that under Spanish rule, the

barangays were eliminated as administrative entities and with them went the territorial fishing rights claimed by each village. Under Spanish law, the fisheries and other natural resources were declared to be held for the Crown. Under both the Spanish and the Americans, traditional authority and rights were superseded by municipal government control of local fishing grounds. This administrative structure of municipal authority remains in place in the country today. Despite the historical existence of traditional fishing rights and village-based management systems in the Philippines, for the most part these systems have disappeared in the country. This is not to say that community-based resource management systems and fisheries rights do not exist, for localized examples can be found throughout the country.

After the second world war and the Philippine independence in 1945, the country struggled to build its economy and the fishing industry started to develop more rapidly with an increase in the number of commercial fishing vessels. In the sixties, the Philippine government, aided by Japanese advisors, undertook intensive infrastructure, technology, extension and credit programs through the Fisheries Development Program to “develop” the industry (Heinan and Gonzales 1993). In the early seventies, the country fell under Martial Law and the centralized government control of fisheries was further reinforced through Presidential Decree (PD) 704, otherwise known as the Fisheries Decree of 1975. In the mid-1970’s, in response to decreasing unit catch of small-scale fishers, the government embarked on fishery policies and development programs concentrated on “use orientation”, that is, increasing production and exploitation of the resource base.

In the eighties, the government continued to support the needs of the sector through the Expanded Fish Production Program (EFPP) from 1983-1987. In the small-scale fisheries sector, the strategy of the program was geared towards enabling the small fishers to venture into deeper waters by equipping them with more efficient boats and fishing gears. The underlying assumption was that the fishery could support increased fishing effort despite expert opinion as early as 1980 that it could not. Ironically, it was during this period (1984-1988), that there was a decreased rate in coastal fish production of 1.3% a year, compared to the increasing rate of 6.1% in the preceding five years from 1979-1983 (Agbayani, 1993).

The problems in the fishery continued to worsen throughout the late 1980’s and early 1990’s. The management (mainly through regulatory instruments) and development (increased fishing effort) measures undertaken by the government have proven to be ineffective in promoting the sustainable management and development of the country’s fisheries. Despite the extent and productive potential of the Philippine coastal waters, the coastal fishery continues to decline due to overfishing, compounded by the destruction of critical coastal habitats (coral reefs, mangroves, sea grass), dilatation and pollution. Exacerbation of this condition is predicted to continue due to increasing population, weak administrative capacity, ineffective property rights arrangements, and poverty.

As discussed, for centuries natural resource management in the country has been strongly centrally-determined, top-down and non-participatory (Sajise 1995).

This applies to forestry, fisheries, mines and the irrigation sectors. However gradually, it was realized that with the increasing rate of deterioration of natural resource systems in the Philippines, there was no way the country could pursue a pathway of sustainable development. Starting in the sixties, alternative methods of resource use and management were explored in an attempt to reverse these negative trends. Consequently, there has been a shift to forward-looking policies and strategies that advocate “resource management” over a “use orientation” through community-based initiatives to rehabilitate, conserve and protect the resources based on use and enhancement of local knowledge, skills, responsibility and accountability (Sajise 1995). The irrigation sector was the first to evolve an institutional development scheme for mobilizing the active participation of water users in 1968. People-oriented programs in the forestry sector started in the early 1970’s (Serna 1993).

The current efforts in CBCRM in the Philippines emanate from both the government and the NGOs. The past administration provided some impetus when in 1989 President Aquino created a Presidential Commission on Anti-illegal Fishing and Marine Conservation or the Bantay Dagat Committee, which called for increased coordination among government agencies in enforcement of fisheries laws and increased participation of fishers in management (Kalagayan 1991). In 1991, the Government recognized the need to increase participation in management and to devolve control over resource access to local levels through policy and institutional reforms. Among these are the decentralization of the management of nearshore fisheries to municipalities and local fishing communities under the Local Government Code (LGC) of 1991. Through the LGC and several other initiatives, the government now actively promotes community-based resource management to conserve the coastal resources and diversify the income sources of the low income small-scale fishers under the Fisheries Sector Program (FSP) of the Department of Agriculture (DA). These initiatives for fisheries co-management are also embodied in the current 1993-1998 Medium-Term Philippine Development Plan (MTPDP).

3. General Overview of CBCRM Programs and Projects in the Philippines

Between 1984 and 1994, 15 CBCRM programs (defined as a large scale development activity with multiple objectives and sites to be achieved over a long time period) and 28 CBCRM projects (defined as a specific and time-bound set of activities to achieve a given objective within a designated geographic location) were implemented. The majority of programs and projects have two or more sites where similar CBCRM activities are conducted. In addition, there are programs and projects which are “community-based” but not all the sites are coastal or fisheries sites. Thus, programs and projects were accounted for using project units by site. The 15 programs can be converted into 68 project units, while the 28 projects would have an equivalent of 36 project units. Combining both programs and projects, a total of 104 project units were accounted for over the study period.

In determining the geographic scope of CBCRM activities, five classifications were used: national, regional, gulf-wide or bay-wide, local, and community. These are defined as follows:

- | | |
|--------------------|--|
| National | - refers to programs or projects implemented in two or more regions |
| Regional | - refers to projects implemented across several provincial sites within a specific region of the country |
| Gulf-wide/Bay-wide | - refers to programs/projects implemented in specific gulf or bay areas covering more than one municipality and/or province but not an entire region |
| Local | - refers to municipal-level or town-level projects having CBCRM activities in two or more barangays (coastal villages) |
| Community | - refers to village-level or single barangay-level projects/activities |

Of the 15 programs, 5 were national in scope with an equivalent of 56 project units. National-level programs alone therefore accounted for 54 percent, or more than half, of the total number of project units. Twenty-one (21) p.u. or 20 percent were community-level activities, 16 p.u. or 15 percent were local/municipal activities, and six p.u. or six percent were gulf-wide/bay-wide projects. There was only one regional project, the Central Visayas Regional Project or CVRP-1, which was composed of five project units, accounting for five percent of the total.

Completed programs and projects composed 45 percent of the total number in project units. On-going activities accounted for 54 percent, indicating that the majority of the CBCRM programs and projects are still in progress at the time of this study. In addition, one percent of the activities (1 p.u.) started, were discontinued due to various reasons, i.e. funding and implementation problems due to political and institutional support.

All 43 programs and projects had their own set of objectives. However, in order to get a good overview and comparison of these programs and projects, 14 general classifications of objectives were established. These general categories of objectives are listed in Table 1 below:

Table 1. CBCRM Program and Project Objectives, Philippines, 1984-1994.

Classification of Objective	ACRONYM
1. Resource Assessment and Monitoring	RAM
2. Resource Protection and Conservation	RPC
3. Resource Rehabilitation	RH
4. Increased Fish Production	IFP
5. Alternative Livelihood Opportunities and Poverty Alleviation	ALOPA
6. Strengthening Community Values on Cooperativism	SCVOC
7. Education, Training and Skills Development	ETSD
8. Policy Development and Advocacy	PDA
9. Research and Extension	RE
10. Integrated Area Development Planning	IADP
11. Sustainable Resource Management	SRM
12. Institutional Capability Development	ICD
13. Promotion & Development of CBCRM	PDCBC
14. Improving Equity in Access and Use of Resources	ICR

Table 2. summarizes the distribution of programs and projects according to the relevant classification of objectives. When ranked, the three most common CBCRM objectives are Resource Protection and Conservation; Resource Assessment and Monitoring; and Resource Rehabilitation. Alternative Livelihood Opportunities and Poverty Alleviation is the fourth most common objective. This is critical since fisherfolks need other sources of income if they are to rely less on the fishery. Such a trend provides a major redirection from the objectives of fisheries development programs and projects in the sixties, seventies and early eighties. During that time period, Increased Fish Production was the main objective of fisheries development in the country. In the past decade, however, this thrust has been relegated to fifth priority. This clearly shows the increased attention given by the country to the resource conservation and environmental aspects of fisheries development. Whereas in the past, the priority was on increasing over-all fishing effort, the recent CBCRM activities have shifted their attention to non-extractive approaches that enable fisherfolks to utilize and manage coastal resources in a more sustainable manner. Further proof of this is that the sixth most common objective is Sustainable Resource Management.

The shortest duration for both programs and projects is 2 years while the longest is 7 years. The mean average duration for all project units is 4.2 years. This reflects the relatively long time period required to implement the various interventions and effectuate change through CBCRM.

The majority of both programs and projects had fishers as the target beneficiary group. Of the 54 project units for programs for which information was available, 38 or 70 percent had fishers as target beneficiaries. Of the 36 project units for projects for which information was available, 26 or 72 percent had fishers as target beneficiaries. Eight programs and two projects targeted fishers and fishing

households. Three programs and five projects targeted coastal communities (including all community residents) in general. Only one project specifically targeted women.

Table 2. Distribution of CBCRM Programs and Projects by Objectives, Philippines, 1984-1994

Objective	Programs	Projects	Total	Rank
Classification	(All in project units)			
RPC	60	22	82	1
RAM	47	22	69	2
RH	42	22	64	3
ALOPA	39	19	58	4
IFP	41	14	55	5
SRM	31	19	50	6
ETSD	28	21	49	7
PDCBC	30	8	38	8
ICR	26	5	31	9
SCVOC	16	10	26	10
PDA	17	7	24	11
ICD	15	7	22	12
RE	12	8	20	13
IADP	12	7	19	14

4. Temporal and Spatial Analysis of CBCRM Programs and projects

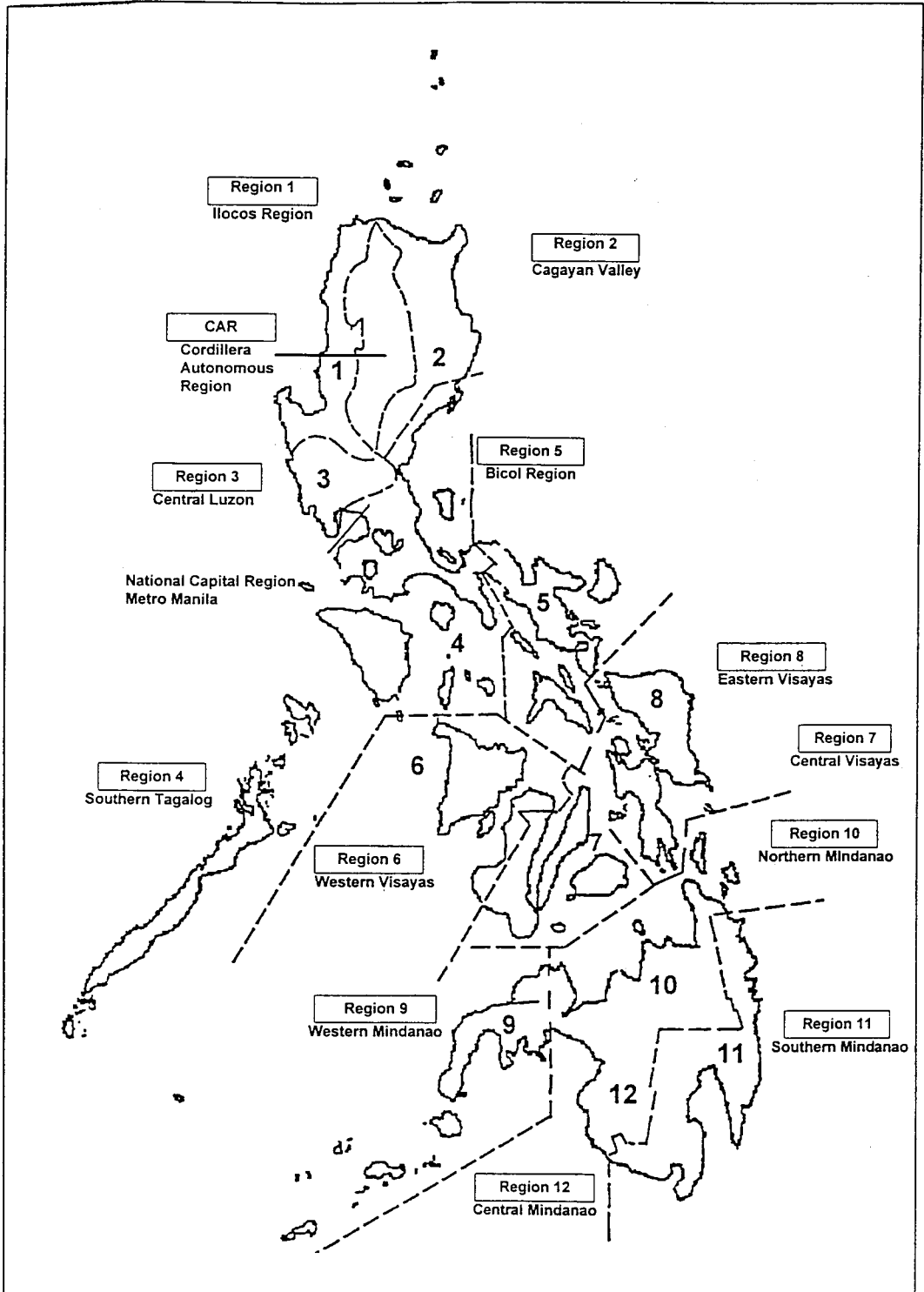
The time line in Figure 1 shows the historical sequence and regional location of the programs and projects from 1984 to 1994 (Figure 2). The first CBCRM initiative was the Central Visayas Regional Project-1 (CVRP-1) in 1984, which had 5 project units under its nearshore Fisheries Component (Figure 2).

Figure 1. Time Line of CBCRM Activities, Philippines, 1984-1994

YEAR	CBCRM PROGRAM/ PROJECT	NO. OF PROJECT UNITS	REGIONAL AREA
1984	CVRP	5	VII
1985	MCDP	3	VII
1986	LG-CAMP	1	I
1987	-	-	-
1988	FIRMED	1	VIII
	CCMP	1	I
1989	SSIMCP	1	III
	CRCMP	2	VI
	FSP-CRM	12	IV,V,VIII,X
	SFDP	3	III,V
	CBMMP	1	VII
	ENMPP	1	IV
	CB-CRM/HBRMP	1	IV
	CBMRP	1	IV
1990	ERMP-BBB	1	VII
	CRCMP	22	I,II,IV,VII,VIII,IX,X,XI
	CB-CRM PAGBICOL	1	V
1991	RMC	1	V
	CBCRM/MSDP	1	IV
	ISSP-CFRM	1	VI
1992	CBZM	1	I
	SIERLP	1	VIII
	LG-CRM	1	VI
1993	MBSIADP	1	VIII
	SCAD	2	V,VII
	CEP	9	I,II,III,IV,V,VI,VII,VIII
	CEP	5	IX,X,XI,XII
	IARCP	1	I
	NIPAS-CRM	5	III,IV,V,VI,X
	ECAN-CAMP	1	IV
1994	MFFDP	1	XI
	CARMP	1	VIII
	TRIMARRD	1	VIII

Note: Highlighted regional areas denote year of first CBCRM program or project in region

Figure 2. Map of the Philippines



Only 11 project units were initiated from 1984 to 1988, while 78 p.u. were initiated from 1989 to 1993. This increase in CBCRM activity can be explained by the experience that had been gained from previous projects to stimulate new activities; government policies in support of CBCRM, such as the Philippine Constitution of 1987 and the Local Government Code of 1991; more non-governmental organizations were established with the skills to do CBCRM; the need to take more community-level action to manage coastal resources became more critical; and the increased availability of foreign donor funds for CBCRM. The total number of project units reached 33 in 1989. This further increased to 57 in 1990 and reached 60 in 1991. From 1991 to 1992, the total number of p.u. decreased to 53, due to the completion of 5 p.u. from 3 projects.

The first region to implement a CBCRM program or project was Region VII or Central Visayas. From 1984 to 1985, only Region VII had a CBCRM program or project. One important reason for this is that the terrestrial and coastal resources in Region VII were already in an advanced state of resource degradation at that time. In 1989, the biggest wave of new programs and projects were initiated in Regions II, III, IV, V, VIII and X. By 1990-1992, all regions except Region XII-Central Mindanao had an on-going CBCRM program or project.

From 1984-1994, CBCRM programs and projects were implemented in all regions of the Philippines. However, more than 47 percent of programs and projects were concentrated in only three regions - Region IV, VII, and VIII. Region IV-Southern Tagalog, had the largest share of programs and projects, 20 project units, accounting for 19 percent of the total. Region IV had the most number of CBCRM programs and projects for three reasons: (1) it has the most number of provinces and towns in the country; (2) it is nearest the National Capital Region where government, non-government and other organizations are headquartered; and (3) Palawan province alone, which is part of Region IV, had 8 projects. Region VII and VIII in the Visayas regions are equally important since coastal fisheries is a major sector in the local economy.

However, for Mindanao, CBCRM programs and projects have not been widely implemented despite the fact that municipal fisheries in its four regions is a major industry. This is apparently one of the areas overlooked by previous projects. This may be due in part, to the peace and order situation in many areas of Mindanao.

5. Process and Institutional Analysis

Institutional Analysis

During the ten year period from 1984-1994, more than seventy institutions implemented or co-implemented CBCRM programs and projects all over the country. These institutions fall under three main classifications - government institutions (GLA), non-government organizations (NGOs), and academic (ACA) and research (RES) institutions (Table 3). Local NGOs outnumbered all other types of institutions in the implementation of projects. Based on the secondary data gathered, there were 36 local NGOs, 14 government line agencies, 10 academic institutions, 7 local government units, 2 foreign NGOs (OISCA and GDS) and 2 international research institutions (ICLARM and SEAFDEC) involved in CBCRM. Although there were more NGOs (53%) involved in CBCRM project implementation compared to government (30%), the actual number of project units implemented by all government agencies far exceed the number of project units conducted by all NGOs. One hundred and three project units or 61 percent of the total number of project units were initiated by government institutions. Forty eight or 28% were lead by NGOs. The remaining 18 project units (11%) were implemented by academic and research organizations. This is not surprising because government line agencies usually have regional and/or provincial offices which could carry-out activities. The Department of Environment and Natural Resources (DENR) is the most active government line agency in the implementation of CBCRM activities. DENR's projects are scattered throughout the 12 regions of the Philippines, with an accumulated total of 36 project units. Following DENR is Philippine Council for Agricultural and Marine Resources Development with 24 project units in 11 regions.

Table 3. Summary table of types of institutions involved in CBCRM and Project Implementation Philippines, 1984-1994.

Type of Institution	Number	Percentage
A. Government	21	30
1. Line Agencies	14	20
2. LGUs	7	10
B. NGOs	38	53
1. Local	36	51
2. Foreign	2	2
C. Academe/Research Institutions	12	17
1. Government	9	13
2. Private	1	1
3. International	2	3
Total	71	100

CBCRM activities in the Philippines were first conducted by government line agencies in 1984. Academic institutions initiated projects starting in 1986. However, it was not until 1988 that an NGO undertook CBCRM. This can be traced to the fact that the number of NGOs involved in fisheries grew in number starting in 1987, just after the new Aquino Administration ratified the constitution to allow for more people empowerment and poverty alleviation. In the Marcos regime, NGOs did not flourish because community development initiatives by NGOs were suspected by the military of being communistic and anti-government.

It was found that at least 25 foreign development agencies and seven donor countries (Australia, Canada, Denmark, Japan, Netherlands, UK, USA) provided funds to support various types of CBCRM activities in the Philippines. Region IV has been the most favored area for foreign assisted CBCRM programs and projects. The Overseas Economic Fund funded the most number of CBCRM projects (13 p.u.), followed by World Bank-International Bank for Rural Development (5 p.u.) and World Bank-Global Environment Fund (5 p.u.). United States Agency for International Development and Asia Foundation supported at least 3 project units each, while Canadian International Development Agency and OXFAM each funded 2 project units.

It was noted that many programs and projects were actually funded by foreign donors with counterpart funding from the Philippine government. A number of funding arrangements were noted: (1) foreign funded - government led programs or projects, (2) foreign funded - NGO led programs or projects, (3) foreign funded - academe led programs or projects, (4) government funded - government led programs or projects, and (5) government funded - NGO led programs or projects. All these schemes highlight the critical role of institutional financial support from sources outside the community in the conduct of CBCRM programs and projects.

Process and Component Analysis

Community-based coastal resource management involves numerous types of interventions. These interventions are specific activities introduced through the program and project are intended to operationalize the objectives of CBCRM. Table 4 lists the important types of interventions recorded in various forms as components to CBCRM programs and projects in the Philippines during the study period. It is not easy to make clear distinctions between all the interventions since overlaps with related or linked interventions are sometimes unavoidable. In other instances, overlaps between component activities are necessary to effectively achieve project objectives. However, it is useful to identify types of interventions so that comparisons could be made across CBCRM programs and projects.

Table 4. List of CBCRM Interventions, Philippines, 1984-1994

Type of Intervention/Activity	ACRONYM	No. of Projects	Rank
Community Organizing	CO	52	1
Education, Training and Skills Development	ETSD	48	2
Technology for Increased Fish Production	TIFP	43	3
Alternative Livelihood Development/Credit Support	ALDCS	42	4
Artificial Reefs	AR	40	5
Mangrove Reforestation	MR	34	6
Protected Area Management/Marine Sanctuaries	PAMMS	26	7
Resource Assessment and Monitoring	RAM	22	8
Resource Management Planning	RMP	14	9
Legislation/Policy Formulation	LPF	13	10

Community organizing was a component of 52 CBCRM projects, or 50% of the total number (105). The second most common intervention is Education, Training and Skills Development, which was a component of 48 projects (47%). As mentioned earlier, this intervention is also one of the basic and more pervasive of CBCRM components because of its importance in preparing the participant-beneficiaries for their active involvement in CBCRM. The third most popular intervention is Increased Fish Production, which was part of 43 projects (42%). Alternative Livelihood Development and Credit Support was part to 42 projects, accounting for 41% of the total. Artificial Reefs were part of 40 CBCRM projects (ranked 5th), while Mangrove Reforestation was an intervention of 34 projects (ranked 6th). The seventh most common intervention was Marine Sanctuary Establishment and Protected Area Management with 26 projects. The eighth and ninth ranked interventions are Resource Management Planning and Resource Assessment and Monitoring, respectively. The least common CBCRM intervention is Policy Formulation.

Reviewing the 15 programs and 28 projects, one will discover the wide range of approaches and patterns in the sequencing of CBCRM project interventions. In fact, and initial impression is that there could be as many approaches to CBCRM, as there are programs and projects. However, it is possible to compare various approaches and attempt to trace the similarities by depicting the intervention flows of selected program and projects (Figure 3). Six classifications of CBCRM interventions are used in the analysis: Community Organizing (CO), Education, Training and Skills Development (ETSD), Resource Assessment and Monitoring (RAM), Research and Publication (RES), Resource Management Planning (RMP) and Resource Management Implementation (RMI). RMP includes bench mark surveys, feasibility studies, etc. RMI pertains to the cluster of activities which includes PAMMS, TIFP, AR, MR and LPF.

Figure 3. Sequencing of Selected CBCRM Program and Project Interventions, Philippines, 1984-1994

Component Sequencing	Lead Agency Type
CO--ETSD--RES	NGO (TDC)
CO--RMP--RMI--RAM	NGO (HARIBON)
CO--RMP--ETSD--RMI	NGO (CERD)
CO--RMI--RMP	NGO
CO--RMI--RAM--ETSD	GLA (CVRPO)
CO/RES--RAM--RMI	ACA (UPLB/SU)
CO/RES--ETSD--RMI--RAM	ACA (SU)
CO/RES--ETSD--RAM--RMP--RMI	ACA (VISCA)
CO/RES/RAM--ETSD--RMP--RMI	GLA (DA/DENR)
RES/RAM--CO--ETSD--RMI	RES (SEAFDEC)
RES/RMP--CO--RAM--RMI	GLA/FDO (OISCA)
RES/RMP--RMI--ETSD--RAM--RMP	GLA (PIADPO)

The most common pre-implementation intervention for CBCRM is community organizing. This was noted for at least 44 projects. Thirty-two projects started with research interventions, i.e. benchmark surveys, feasibility studies. Twenty-seven started with resource assessment and monitoring. It may be worthwhile to note that preliminary socio-economic research and bio-physical resource assessment work is the common initial action of academic and research institutions while community organization and advocacy was the typical starting point of NGOs. Most of the pre-implementation activities mentioned above are closely related to one another. For example, community organizing often requires training and advocacy work. In a like manner, research often includes resource assessment and management planning activities. Thus, in many cases, it may be easier to just lump these interventions as pre-implementation activities.

In the majority of CBCRM programs and projects, the implementation phase typically involves one or a combination of the following interventions that are in line with the coastal resource management plans and are participated in by the local fisherfolk themselves.

Technologies for Increased Fish Production (TIFP)

Artificial Reefs (AR)

Mangrove Reforestation (MR)

Policy Formulation on Environmental Protection and Resource Management(LPF)

Alternative Livelihood Development and Credit Support (ALDCS)

Establishment and operation of Protected Areas and Marine Sanctuaries (PAMMS)

Institutional Capability Development (ICD)

Post-implementation of CBCRM interventions usually include with one or a combination of the following activities:

Project Monitoring and Evaluation

Preparation of Area Management Plan

Communication and Information Dissemination, Research Publication

Replication and Extension

Evaluation and Adjustment

Provision of Support Services for Environmental Protection

All CBCRM activities entailed some form of partnership or collaboration between the project initiators, stakeholders and other interest groups. In fact, one observation from the literature review is that linking and networking are an indispensable and pervasive activity in the over-all process. As discussed, there are three main types of institutions involved in CBCRM, in addition to the community, these are government (GLA and LGU), NGOs, and academe and research institutions.

During the implementation phase there was a great deal of inter-institution collaboration and joint activities. In fact, for every specific component of a single program or project there can be a separate form of institutional arrangement. Table 5 provides a listing of 13 specific types of institutional role sharing arrangements derived from actual CBCRM program and project files.

Table 5. Typology of Institutional Role-Sharing Arrangements for CBCRM Programs and Projects, Philippines 1984-1994

Institutional Arrangements	AR	MR	ETSD	TIFP	PAMMS	ALDCS	LPF	RMP
LGU-COM					1			1
ACA-COM			1		1			
NGO-COM	5	3	5	4	3	4	2	
GLA-COM		1	2		3	1		
GLA-LGU-COM	1	1		1	2	2	1	
GLA-ACA-COM				1	1			
GLA-NGO-COM	1	1	1	2	3			
LGU-NGO-COM					3			1
LGU-ACA-COM					3			
NGO-ACA-COM			1		2			
LGU-ACA-GLA-COM								1
LGU-ACA-NGO-COM								3
LGU-GLA-NGO-COM								5
	7	6	10	8	22	7	3	11

GLA-gov't line agency; LGU-local gov't unit; ACA-academe; COM-community; NGO-non government organization

Protected Area Management and Marine Sanctuaries (PAMMS), as an intervention, provided the greatest opportunity for inter-institution collaboration in CBCRM programs and projects. This was followed by Resource Management Planning (RMP) and Education, Training and Skills Development (ETSD).

Regarding specific types of institutional arrangements, the most common was the NGO-COM type of partnership. NGOs and community organizations were partners in seven kinds of interventions including AR, MR, ETSD, TIFP, PAMMS, ALD and LPF. Moreover, the NGO-COM type of partnership was the most frequently used institutional arrangement for AR, MR, ETSD, TIFP, PAMMS, ALDCS and LPF. This shows how much the NGOs have been able to link directly with local communities in a wide range of CBCRM activities on their own. The second most common type of institutional arrangement was that between GLA-LGU-COM.

6. Lessons Learned from Past CBCRM Programs and Projects

Considerations in the Design and Implementation of CBCRM Programs and Projects

Designing and implementing CBCRM is a complex process which requires several phases of interdependent activities and interventions. These include planning and preparation, ensuring the involvement of community residents, funding, government support, inter-institution collaboration and co-management, monitoring and evaluation, and staffing. Programs and projects that are weak in any one or several of the above mentioned requirements may fail because CBCRM is a process which has yet to be perfected. There is no standard blueprint for CBCRM.

Planning of all phases of the programs and projects, i.e. program or project preparation, implementation and pull-out, should be thorough. Good project management starts with well thought-out short and long term plans, clear objectives and a realistic budget (Agbayani and Siar 1994). The base status of the coastal resources have to be determined before undertaking any type of CBCRM intervention. An important aspect of planning is 'project scoping' which involves identifying the "community" boundaries, beneficiaries, interventions, and recognizing the obstacles and limits to CBCRM so that clear and realistic objectives can be set for the project. Coastal community issues and problems are multi-faceted such that needs have to be addressed holistically and in an integrated manner (Magpayo 1995). In terms of beneficiaries, the observation that a small group is more manageable than a bigger one holds true across all programs and projects. In projects where a great number of beneficiaries and participants are involved, it is wise to divide them into smaller groups to facilitate and enhance supervision, control and management (Cimagala 1995).

It is imperative to ensure close partnership between the community and outside institutions in the implementation of project activities. According to many authors, early involvement of community members facilitates the development of this partnership (Calumpong 1995; Cimagala 1995). Community members may not take responsibility for resource management if it is not clear to them how they can benefit from management and be effective in their roles as managers (Bissdorf 1995). Social preparation should always precede technical intervention (Cimagala 1995) and this is accomplished through community integration, education and training, leadership development (Ablong and Waltermath 1995), and organization and formation of core management groups. It was also observed that the more successful programs and projects were those where organizing is not a prerequisite, rather, the community organization evolves after the people themselves recognize the need for it (Sandalo 1994).

Constant feedback and continuous dialogue between community and project implementors is required so that community members are well-informed and updated on all project developments (Magpayo 1995).

Sufficient, timely and sustained funding of project activities is critical to the realization of project objectives (Regal 1993; Agbayani and Siar 1994). A significant number of programs and projects suffered due to various funding problems (Baritua 1995; Cimagala 1995). The accomplishment of planned activities depends a lot on the timely release of project funds (Bolos 1994).

CBCRM programs and projects are more likely to be successfully implemented when government support for local institutions is strong and movement policies and regulations support local needs and initiatives. Community property rights and tenure needs to be supported and enforced with backing from the government.

Strong institutional support is critical for the smooth implementation of CBCRM. The joint undertaking of CBCRM by a combination of institutions has obvious advantages in increasing the financial, logistical and technical (expertise) resources necessary for effective implementation. In addition, inter-institution linkages promotes co-management in the coastal zone. There is a downside to having too many institutions involved; that is, coordination can become very problematic at the project management level.

Clear and measurable indicators of progress should be established and a monitoring system for the project should be put in place as part of regular program and project activities (Bissdorf 1995). A monitoring system will ensure constant feedback not only for project staff but for the community members as well. Regular meetings, sharing sessions and consultations among project team members and collaborators allow all concerned to be updated on project status and problems encountered (Agbayani and Siar 1994).

Adequate technical and social 'inter-personal' skills of project implementors is critical to the successful implementation of CBCRM programs and projects. Heinan and Gonzales (1994) observed that there is a clear relationship between the quality of the program or project and the technical background of the staff.

Considerations in the Design and Implementation of CBCRM Interventions

There are also certain factors that affect the implementation and sustainability of each specific intervention. The factors that promote effective implementation of community organizing activities often pertain to the personal qualities of community organizers or their relationship and manner of dealing with the different members of the community. Community organizers should spend a lot of time with the people in order to win their confidence and respect. It has been noted that the most effective way of organizing is to allow the 'self-evolution' of community organizations or fishers associations (Sandalo and Dygico 1993). However, it is important to start with information dissemination, education, contact building and the identification of potential leaders (Alix 1989; Bojos 1994). According to Calumpong (1992), core group formation should be strategic and start with active, educated and respected community members so that other residents will also be motivated to participate in

project activities. Another strategy in organizing is allowing for continuous dialogue, both formal and informal, between project beneficiaries and implementors.

In developing and promoting alternative livelihood options for the community, there are two prerequisites: (1) consultation with the community members on their preferred types of projects; and (2) training of fishers and household members on cooperatives and entrepreneurship for alternative livelihood. It is important to remember that different sources of livelihood may be suggested but the choice should be left to the people (Hancock 1993). During the implementation of livelihood projects, some of the critical factors of success identified were the following: (1) extension of technical assistance to guide and/or supervise the projects (Agbayani and Siar 1994); and (2) continuous provision of skills enhancement and capability building trainings and educational programs for beneficiaries and project implementors (Regal 1993; Bojos 1994).

Documentation of experiences shows that it is very effective to train fishers using other fishers (Bojos 1994; Carlos 1993). Locally recruited and trained extension/change agents should be tapped because of their knowledge and acceptance by the community. Cross visits to actual fishing villages and CBCRM sited help greatly in accelerating the appreciation, comprehension and adoption process (Carlos 1993). Community education was also enhanced through information drives, community assemblies and group orientations, as well as, publications and radio.

Several important factors affecting the success of interventions in artificial reef establishment and management have been identified. The planning and implementation of the ARs should be a joint undertaking with the fishers in the community. In the operation and management of the AR areas, there should be restrictions on the types of fishing gears used (de los Angeles and Pelayo 1993). Territorial use rights to the ARs should be granted to the community. The sustainability of benefits from artificial reefs is strongly dependent on their being protected to some extent, ideally as part of sanctuaries or reserves. One major drawback of ARs is that the structures serve very effectively as fish attracting devices which easily result in recruitment overfishing (de los Angeles and Pelayo 1993).

For technologies for increased fish production to be successfully adopted in the CBCRM context, the technology should be well tested and proven to work under actual field settings. Another requirement is the use of indigenous materials whenever possible. Likewise, newly introduced technologies should be simple and complementary to those used by the fishers. The introduction of new technology must be accompanied by training in its use. Any new technology or intervention must produce short-term benefits and serve as an incentive for the community to continue their active involvement and contribution to both the intervention and the objectives of CBCRM. Traditionally, research has been carried out only by project staff or 'specialists', who are non-community members. In more recent CBCRM programs and projects, however, there has been a trend towards involving the community members in the conduct of various research activities (Ybanez 1995). Documentation of such experiences shows that research conducted with fisherfolks provides real and

effective participation from problem and need identification to the evaluation phase. Community members can support program and project staff with their indigenous knowledge of local conditions (Bojos 1994).

Towards the end of the program or project, CBCRM objectives can best be achieved and sustained if: (1) there is a definite and well-prepared phase-out plan to turn-over interventions to local institutions; and (2) local institutions are prepared and ready to take-over the interventions. In the long run, sustainability can be enhanced by providing limited post-program or project institutional support and technical backstopping by non-community institutions in various aspects of CBCRM.

7. Literature Cited

- Ablong, W. and M. Waltemath. 1995. "Establishment of Marine Reserves in Negros Oriental as An Example for Rehabilitation and Protection Work". Paper presented during the Visayas-wide CBCRM and Fisheries Co-Management Conference ECOTECH Center, Lahug, Cebu City, 04-07 July 1995.
- Agbayani, R.F. 1993. "An Integrated Approach to Community-Based Fishery Resource Management: SEAFDEC/AQD Experience in Multi-Disciplinary Research". *Out of the Shell: Coastal Resource Research Network Newsletter*, Vol. 3, no. 3, June 1993.
- Agbayani, R. F. and S. V. Siar. 1994. "Problems Encountered in the Implementation of a Community-Based Fishery Resource Management Project". In R. S. Pomeroy (ed.), *Community management and common property of coastal fisheries in Asia and the Pacific: concepts, methods and experiences*. ICLARM Conf. Proc. 45, 189 p., Manila, Philippines.
- Alix, J. C. 1989. "Community-based resources management: the experience of the Central Visayas Regional-1". In Chua, T. E. and D. Pauly (eds.), *Coastal Area Management in Southeast Asia: policies management strategies and case studies*. ICLARM Conference Proceedings no. 19, 254 p., Manila, Philippines.
- Baritua, J. 1995. "Resource Management Council Formation in Northern Samar (A Case Study)". Paper presented during the Visayas-wide CBCRM and Fisheries Co-Management Conference, ECOTECH Center, Lahug, Cebu City, 04-07 July 1995.
- Bissdorf, H. G. 1995. "The Banica River Watershed Development Project: NGO-PO-GO Partnership". Paper presented during the Visayas-wide CBCRM and Fisheries Co-Management Conference, ECOTECH Center, Lahug, Cebu City, 4-7 July 1995.

- Bojos Jr., R. M..1994. "The Central Visayas Regional Project: experience in community-based coastal resources management". In R. S. Pomeroy (ed.), *Community management and common property of coastal fisheries in Asia and the Pacific: concepts, methods and experiences*. ICLARM Conf. Proc. 45, 189 p., Manila, Philippines
- Calumpang, H. P.. 1995. "Landscape Approach to Coastal Management. A contribution of the Environment and Resource Management Project-Bais Bay Basin". Silliman University, Dumaguete City.
- Carlos, M. B. 1993. "An assessment of the effectiveness of the training and manpower development component of CVRP-1". Terminal Report. UPLB Foundation, Inc., College, Laguna, November 1993.
- Cimagala, C. 1995. "Community-based Coastal Resources Management and Wildlife Protection and Conservation: The Tahong-Tahong Experience, Tahong-Tahong Islet, Talibon, Bohol". Paper presented during the Visayas-wide CB-CRM and Fisheries Co-Management Conference, ECOTECH Center, Lahug, Cebu City, 4-7 July 1995.
- de los Angeles, M. S. and Pelayo, R. 1993. "The Nearshore Fisheries in Central Visayas, Philippines: An Impact Evaluation Report on CVRP-1". Paper presented at the Fourth Annual Common Property Conference of the International Association for the Study of Common Property (IASCP), Manila, Philippines.
- Hancock, J.. 1993. "Fishery Sector Program-Coastal Resource Management (FSP-CRM) Phase 1 in Carigara Bay: The Organizing and Collaboration Experience of LABRADOR, Inc.". In. L. P. de la Cruz (ed.) *Our Sea, Our Life: Proceedings of the Seminar Workshop on Community-Based Coastal Resource Management*, Silliman University, Dumaguete City, 7-12 February 1993.
- Heinan, A. and N. Gonzales. 1993. "Fisheries Management and development in the Philippines: Constraints and Possibilities". Unpublished paper, Quezon City, Philippines: Community Extension and Research for Development.
- Kalagayan, N. V. 1991. "Philippine Initiatives on marine coastal conservation". Paper presented during the International Conference on Exploitation of Resources in the Pacific, November 1987. Port Moresby, Papua New Guinea and published in *Lundayan Magazine*, Jan.-Mar. 1991 vol. 2, no.1, Quezon City.

- Lopez, M. D. 1985. "Notes on traditional fisheries in the Philippines". In Ruddle, K. and R. E. Johannes (eds.). *The traditional knowledge and management of the coastal systems in Asia and the Pacific*. UNESCO-ROSTEA Regional Seminar on Traditional Knowledge and Management of Coastal Systems in Asia and the Pacific, Jakarta, Indonesia, 05-09 December 1983.
- Magpayo, N. 1995. "Integrated Approach to Community-Based Coastal Resources Management". Paper presented during the Visayas-wide CB-CRM and Fisheries Co-Management Conference, ECOTECH Center, Lahug, Cebu City, 4-7 July 1995.
- Regal, J. 1993. "Grassroots Initiatives in CRM: Piloting a Resource Management Council in Pasacao, Camarines Norte". In dela Cruz, L. P. (ed.). *Our Sea, Our Life Proceedings of the Seminar-Workshop on Community-Based Coastal Resources Management*, Silliman University, Dumaguete City, 7-12 February 1993. Volunteer Services Overseas, Quezon City, Philippines.
- Sajise, P. G. 1995. "Community-Based Resource Management in the Philippines: Perspectives and Experiences". Paper presented during the training course on Co-Management of Living Coastal Resource in ASEAN: Theory, Practice and Implications for Vietnam. Ministry of Fisheries, Hanoi, Vietnam 15-17 May 1995.
- Sandalo, R. M.. 1994. "Community-based Coastal Resource Management: the Palawan Experience". In R. S. Pomeroy (ed.). *Community management and common property of coastal fisheries in Asia and the Pacific: concepts, methods and experiences*. ICLARM Conf. Proc. 45, 189 p.. Manila, Philippines: ICLARM
- Sandalo, R. M. and M. P. Dygico. 1993. *Community-based Resources Management Perspectives and Policy Issues: The PIADPO Experience*. Palawan, Philippines: Palawan Integrated Area Development Office.
- Serna, C. B. 1993. "Community-Based Resources Management: Perspectives, Experiences and Policy Issues". In Fellizar, F. (ed.), *Community-Based Resource Management: Perspectives, Experiences and Policy Issues*. College, Laguna, Philippines; Halifax, Nova Scotia; Environment and Resource Management Project (ERMP) Philippines.