Community-Based Coastal Resources Management in the Philippines: Key Concepts, Methods and Lessons Learned

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1. Introduction

In the mid 1970s, Philippine biologist and conservationists began to see unmistakable signs of degradation of coastal environments and depletion of fishery stocks (Alcala, 1996). In a nationwide study by Gomez et al(1981) on the state of Philippine coral reefs only 5% of those areas surveyed were in excellent condition and 75% were in poor to fair condition. Then in early 80s social scientists joined in calling attention to the seeds of ecological disaster that have been shown in the Philippine marine environment and called for the undertaking of a community-based coastal resources management, "...a community initiated, run and controlled social organisation as essential instrument in giving meaningful expressions to the views, interests and demands of the rural poor"(Ferrer, 1992).

After almost two decades, the marine environment of the Philippines continues to be degraded and the resources are depleted. However, a ray of hopes beacons in the horizon as more and more coastal resources management initiatives are undertaken by non-government organisation (NGOs), people's organisations (POs), local government units (LGUs) and national government agencies either singly or in cooperation with each other.

There are probably over a hundred projects or programs on coastal resources management today and in the recent past. The FSP is funded through a soft loan from the Asian Development Bank while the CEP is funded from the DENR budget.

2. Philippine Coastal Areas Continue to be at Risk

The 34,000 km of coastline that surround the Philippines' more than 7,000 islands continue to be at risk. Coastal habitats are degraded and the resources therein depleted both directly (i.e. through destructive fishing practices) and indirectly by massive siltation from deforested upland areas and poor agricultural practices and inappropriate land use activities in coastal watersheds.

Most near shore fisheries are over fished with extraction rates two to three times above sustainable levels. Of the three to four million hectares of coral reefs, about 70% are in poor to fair condition due to destructive fishing practices and siltation. Mangroves have been reduced to about 450,000 ha representing about forty percent of the original cover, as a result of conversion to aquaculture ponds and other uses. This situation is of grave concern to coastal communities and coastal managers as the coasts is where the majority of the people live and work. More than 80% of the country's population resides within 50 km. of the coast of the aim islands.

The fisheries sector contributes significantly to the Philippine economy. It employs over one

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

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

Over exploitation of the coastal areas is aggravated by rapid population increase. In 1990, the Philippines had a population of 60.7 M, the ninth highest in Asia and the thirteenth highest in the world. The current population is around 70 million. It is generally believed that a disproportionate population growth is happening in coastal areas. Many of them are landless agricultural workers who migrate to the coast because access to coastal resources is open and at least guarantees survival.

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

3. The Rise of Participatory Approaches in Development Programs

Participatory approaches have become increasingly widespread in development programs in the past decades. In the Philippines, primary health care, communal irrigation development, integrated rural development, marketing cooperatives and communal farming systems, social forestry and until recently coastal resources management are all examples of government and non-government programs that are based on participatory approaches. The increasing concern for participation in development is the result of the failure of previous development paradigms, that generally assigned a passive role to the people they were intended to benefit, to alleviate conditions of poverty and inequality.

In the 1960s, development paradigms tended to focus on capital formation and technology transfer. Most development approaches adopted during the 1950s and 1960s involved a passive role of the majority of the people concerned whose "participation" was limited to adoption of the new technology. On the other hand, decision and policy making were vested

in highly trained technocrats and were implemented by nationally organised bureaucracies.

The 1970s was a period of large scale development projects generated from centralised sources, such as central government or international foundations and aid donors. The emphasis was on integrated development packages. The international research centers such as International Institute of Rural Reconstruction (IIRR) are a legacy of this period when information and technology was generated at specialist institutions for application worldwide, while the "Green Revolution" is the best example of an integrated development package. The "Green Revolution" was based on technology developed in laboratory conditions but information, credit, seeds and other production inputs was provided from a central source such as the central government or aid agency, external to the recipients own community. While such programs resulted in significant increases in GNP in some countries, it also resulted in wider gaps between the rich and the poor. By the late 70s, it was evident that the top-down approaches were not were not delivering the results they claimed they would.

In the late 1970s and early 1980s there was a growing awareness that the problems in development were not simply technological but were also social, political and economic and that these could not only be addressed by using different approaches. Equity and participation reasserted themselves as basic principles in development programs. Thus, there appears to be widespread agreement on the significance of people's participation in attaining development objectives. The "state of the art" literature review by the Cornell Rural Development Committee reported that, "Our overall conclusion is that participation is possible and, under many conditions, desirable to achieve the development goals set by LDC governments and development agencies" (Uphoff et. al. 1979). They also concluded that participation is necessary although not sufficient condition for achieving project success. Uphoff upheld this finding in a World Bank study in 1991.

Several international agencies, including the World Bank, USAID and United Nations agencies such as the WHO, ILO, FAO, UNCRD and UNESCO have issued similar mandates for popular participation in their development programs. From these awareness and development skills emerged new methodologies and approaches such as rapid rural appraisal (RRA), participatory rural appraisal (PRA) methods, farming systems research, and agro-ecosystem analysis and community-based resource management.

4. Search for Participatory Approaches to Resource Management

The past three decades of development in Asia have been seen the growing role of central government on the management of local resources (Korten, 1986). Where once the management of small irrigation systems, forest areas, grazing lands, or coastal fisheries was primarily determined by local custom and control i.e. by the people using the resources, today we see a variety of national laws, policies and programs directly affecting communal resources.

However, the past three decades have also seen a growing awareness of the limits of development models that look to government bureaucracies to assume the leadership in doing development work for the people. Governments, in it efforts for modernising and rationalising resource management has underestimated the extent and capacity of the systems by which people have learned through long and often difficult experience to manage locally available resources to meet their own self-defined needs. At the same time the

government has often overestimated its own ability to manage these same resources. Government programs have undermined the capacity of people to meet their own needs through local initiative and participation and often times have exacerbated inequities by transferring resources and power from local to national elites while doing little to increase productivity.

One result of this growing awareness has been a search for new and more participatory approaches to resource management. Out of this search has emerged to growing interest in the concept of community-based resource management. Community-based resource management takes as its point of departure, not the bureaucracy and its centrally-mandated development projects and programs, but rather the community itself: its needs, its capabilities, and ultimately its own control over both its resources and its destiny.

5. Government and Non-Government Initiatives in Coastal Resources Management

The increasing concern in coastal resource management is also a result realisations that rural development can not be land biased. This is particularly true for small islands and coastal communities. Rural development through the years have based their paradigms on land based activities such as agriculture and forestry. For example, even in the delivery of basic services such as health, existing statistics do not distinguish inland and coastal communities therefore information used such as morbidity patterns based on coastal waters are not known. The difference of coastal ecosystems and coastal communities from forests and cropland ecosystems and corresponding communities has made the emergence of specific initiatives directed at coastal communities necessary. The above mentioned history of rural development paradigms is still largely based on agriculture based rural development.

Currently, as mentioned earlier, quite a number of coastal resources management initiatives have been started in the Philippines. Following are brief descriptions of the programs.

5.1 The fishery sector program. This is a five year program intended to reach 12000 fishers in 112 bay areas all over the country. It has six components including: resource ecological assessments; coastal resources management; research monitoring and extension; law enforcement; credit; and infrastructure. Each of this component is handled by a separate agency of the Department of Agriculture. The funds are jointly from the ADB, the Overseas Economic Cooperation Fund (OECF); and the Philippine Government. The coastal resources management component requires the creation of Bay Management Councils as the management body for the area. These councils have multi-sectoral representation. The project also contracts out to NGOs some of the implementation functions such as community organising.

5.2 The coastal environment program. This is the only government program without external support. it is funded from appropriations from the government budget and institutionalised within the DENR bureaucracy. This was created through DENR Administrative order No. 19 in April 1993 in the attempt to place equal emphasis to the protection of marine resources. Its key strategies according to the DENR is community organising; involvement of communities in the protection and management of coastal ecosystems; mobilisation of financial and administrative resources from public and private sectors; and use of contingent approaches in identifying issues, problems and opportunities for human and environmental

welfare.

5.3 The GEF-CPPAP and EU-NIPAP. In 1992, the National Integrated Protected Areas System (NIPAS) Act was passed. It institutionalizes a protected areas system that will encompass outstanding remarkable areas and biologically important public lands "to maintain essential ecological processes and life support system...". Each protected area is supposed to be managed by a protected area management board composed of DENR representatives, local government officials, representatives of NGOs, peoples' organisation, including indigenous peoples.

5.4 NGO initiatives in CRM. The map earlier showed around 50 sites of 28 NGOs where CRM is initiated. Most of these efforts are relatively small in terms of area covering from one village to whole small islands. An unpublished study by Buhat, Pajaro and Arciaga summarizes the objectives of CRM efforts of about 40 NGOs and POs in 1995 in the Philippines as follows:

1. Building support institutions or groups to promote municipal fishers' rights; they are the most affected sector in the coastal areas and in the belief that the users themselves can best manage their resources;
2. Management of the coastal environment for sustainable use;
3. Economic upliftment and equitable distribution of benefits;
4. Forging partnerships among institutions (GO, PO, academe and with fellow NGOs to improve capabilities and expand services; and
5. Linkaging and advocacy for policy reforms.

5.5 Other initiatives. Academic and research institutions also have had separate initiatives such as the efforts of the University of San Carlos in Bantayan Island, Cebu and the joint efforts of VISCA/ESC/UP Visayas in Tacloban for Western Samar. Other joint efforts are underway such as partnerships of research institutions and NGOs; tripartite collaboration-government, NGOs and Pos.

6. The Nature of Community-Based Coastal Resources Management (CB-CRM) Program in the Philippines

The last two decades have been marked by an increasing number of institutions, agencies and organisations which have focused attention on the coastal zone. Acting individually or cooperatively, these groups have evolved unique strategies for addressing the numerous management issues affecting the coastal areas in the Philippines. The various strategies and efforts may be woven into a unified approach often referred to as Community-Based Coastal Resources Management (CB-CRM). This participatory, integrated and multi-sectoral approach is fast becoming an accepted and viable approach to coastal zone management.

CB-CRM is people-centered, community-oriented and resource-based. It starts from the basic premise that people have the innate capacity to understand and act on their own problems. It begins where the people are i.e. what the people already know, and build on this knowledge to develop further their knowledge and create an new consciousness. It strives for more active people's participation in the planning, implementation and evaluation of coastal resource management programs. It involves an iterative process where the community takes responsibility for the assessment and monitoring of environmental conditions and resources and the enforcement of agreements and laws. Since the community is involved in the

formulation and implementation of management measures a higher degree of acceptability and compliance can be expected. CB-CRM allows each community to develop a management strategy which meets its own particular needs and conditions, thus enabling greater degree of flexibility and modification.

People's participation in the management of resources also provides a sense of ownership over the resource which makes the community far more responsible for long-term sustainability of resources. With community-shared responsibility for providing adequate resource base for future generations, CB-CRM has greater potential for effectiveness and equity. It can be more economical in terms of administration and enforcement that national centralized systems.

The CB-CRM approach also enhances recognition of and respect for cultural differences on the local and regional levels and among nations. It strives to make maximum use of indigenous knowledge and experiences in developing management strategies and in institutionalising mechanisms. A central theme in CB-CRM is empowerment, specifically the control over and ability to manage productive resources in the interest of one's own family and community. It envokes a basic principle of control and accountability which maintains, "the control over an action should rest with the people who will bear its consequences."

7. Key Concepts in CB-CRM (Components, Methods and Tools)

Approximately three decades of experience in setting up community-based coastal resources management in the Philippines have given rise to key concepts (i.e. components, methods and tools) that guided its development. Like an iterative process it continues to evolve and ground itself in the crucible of experience.

CB-CRM involves an iterative and interactive research process of conceptualisation, implementation, documentation and evaluation involving both the community and development workers/researchers in a dynamic partnership to realize coastal resource management. Throughout this process, the community and the researchers teach and learn from one another. The key concepts revolve around seven major components, namely: community organising and leadership formation, enhancement of cultural integrity participatory research, education and training, resource management, livelihood development, and networking and advocacy.

7.1 Community Organising (C.O.) and Leadership Formation

C.O. and leadership formation is necessary in order to ensure that participation is fostered on a collective basis so that majority of the members of the community if not all, have equal access to decision-making and project benefits. Organisation building is also essential in mobilizing and coordinating the human and material resources of the community in pursuit of their common interests. Community Organising is the basic method for empowering communities to collectively address their needs including the management of their bio-cultural resources. It is problem-solving process whereby the community is empowered with the knowledge and skills to identify and prioritize its needs and problems, harness and mobilize its human and material resources to deal with these problems and take action collectively. It stresses leadership formation and capability-building hence it has also been

reffered to as a "learning process" approach.

Community organizing lays the foundation for building communities. Through the C.O. process, potential leaders are identified and core groups are formed and later expanded into peoples' organisations. Awareness is further enhanced by environmental education where communities are enabled to think about their economic, political and social needs and problems within a natural resource management framework. Thus, throughout the process of C.O. and leadership formation, the community grows in capability and confidence in building organisations and in institutionalising participatory governance mechanisms in managing its natural resources, in developing environment friendly systems and in networking with other communities, groups and partners to advance its vision and goals.

7.2 Participatory research

Participatory research is the process of empowering the community to re-search its bio-physical and socio-cultural environment to generate new knowledge and understanding which will serve as bases for the formulation of strategy, resource management and livelihood and building confidence in sustaining its efforts towards CB-CRM.

The conduct of participatory research allows the community and researchers to interact in systematically gathering and analyzing data about the former's environment and resources. Together they identify critical problems and begin to formulate solutions. In this way, the community begins to focus on CRM issues and potential solutions as a collective body, gaining insights from their research partners about natural and social processes which they themselves have knowledge and experience on. The researches, through this close interaction with the community, obtain objective benchmark to determine how best to initiate community organising, to prioritize concepts that need to be introduced in environmental education seminars, and to identify what resources and skills are important to livelihood development that community members have or need.

Based on priority problems, the community then identifies initial activities for implementation. The researchers use this as basis for developing their workplans, which also address strategies that better enable the community to undertake the identified activities.

An evaluation of its activity is done as a learning step and as an occasion for consolidation of the community. Assessing both the emerging strengths and remaining weaknesses of the group to implement collective action allows for redefining initial perceptions about goals and strategies to realize them. For communities, a meaningful assessment of their status as managers of their coastal resources determines the degree of commitment and level of decisive participation in subsequent activities.

7.3 Education and training

Education and training is a tool for building consensus on the nature of the problem and the method for addressing it. The educational process begins where the people are. It begins with an appreciation of their given and potential human and material resources including their cultural wisdom. In other words, it begins with the strength and not the weaknesses of the people. The community based approach in education and training is cognizant of the long

years of experience of the people and is also appreciative of the values, knowledge, skills and attitudes that the farmers of the land and sea have imbibed in their struggle and unity with humankind, nature and spirits.

Education and training activities are channels through which information and knowledge generated by research are passed on to end users. It is the main tool for capacity building and it can take the form of leadership seminars, environmental awareness, livelihood seminars, and cultural presentations and celebrations. Education and training are aimed at deepening the consciousness and building confidence in order that the people in the communities will actively involve themselves in the resource management efforts. Simple and concrete educational methods like role playing and cross visits often give better results. The main principle is to begin with what the people already know, and build on this knowledge to generate new knowledge and greater confidence.

7.4 Resource management

The resource management component is responsible for evaluating resource use and developing management options which have been identified through participatory research. The component brings together available information on the resources and the areas to determine from a biological and ecological perspective what the best resource management options are. It then brings it back to the community for their validation. This component works closely with the livelihood development component in the evaluation of options. The livelihood development component examines the value of the resources involved, in terms of both market value and family food impact. Resource management may include (but are not limited to):

1. Resource inventory and assessment,
2. Habitat rehabilitation,
3. Resource enhancement,
4. Coastal aquaculture, and
5. Land and coastal development plans.

The management of the coastal resources maybe done through the formation of resource management councils (RMCs) at the village level which are represented in the municipal councils as provided by the Local Government Code. The RMCs can assist in designing the scope of the management areas and the management plans for the specific areas or resources. The RMCs can take on responsibility for the formulation and/or amendment of municipal ordinances that may regulate entry into the fishery, implement resource-specific management schemes and in general, formulate coastal zone development plan together with the other stakeholders compatible with the principles of sustainable development.

7.5 Livelihood development

The purpose of livelihood development is to reduce harvest pressure while the resource base is being allowed to generate. It is also aimed at cushioning the impact of poverty and responding to the immediate needs of the people. In relation to artisanal and subsistence fishers who are often unfairly blamed for the tremendous pressure on the sea, "reducing extractive pressure" means lessening their total dependence on marine resources and on particular productive activities. This is attained by 1) diversifying the livelihood options of marginalized families so that their basic needs are met through varied sources of income;

and 2) facilitating their access to basic social services that can widen the range of socio-economic opportunities available to them. Livelihood development or sustainable livelihood development as would like to call is still in its infancy and would benefit from more experiments. One question that has been raised is, whether CB-CRM livelihood development should be land-based or marine-based or both. Another question is the timing of the intervention i.e. whether livelihood development should be undertaken before resource management measures are in place.

7.6 Enhancement of cultural integrity and diversity

Degradation is not only occurring in the environment. Culture is equally being degraded. Globalization processes in communication and mass media has infused a homogenized, commercialized and materialistic culture. Humankind, nature and relationships are no longer sacred but commodified.

CB-CRM processes can be enriched and enhanced if the cultural wisdom and spirituality of nurturing, caring and sharing relationships among humans and nature and among human beings themselves are reaffirmed and celebrated.

The increasing interests among coastal management practitioners in traditional knowledge and management systems is a good beginning in enhancing cultural integrity. Given the potential of traditional knowledge and management systems to assists in the prevention of environmental and social degradation more research should be encouraged along this line. Gender and ethnic issues should be emphasized to place greater value on their valuable and unique role in resource management. Perhaps, only when cultural integrity and diversity is enhanced can biodiversity and resource management be secured.

7.7 Networking and advocacy

It is not enough that communities set up their community organisations and undertake resource management activities. They must go beyond the small confines of their villages and forge links with local governments and even with national government, other sectoral organisations and academic, research and financial institutions to bolster their efforts at bringing about a community-based coastal resource management. Networking is a method for building support groups. It is a way of bringing together the scattered expertise of individuals and institutions to help resolve particular problems.

Advocacy is a mechanism through which organized groups and communities institutionalize their goals in policies and laws of other groups and higher levels of governance such as the national government. Networking is therefore a prerequisite of advocacy. In both phases, an organized community reaches beyond its confines to help and learn from other communities and groups and together effect significant policy changes.

8. Lessons Learned

8.1 For community organizing and leadership formation

(i) **Community participation is crucial to CBCRM:**

Direct participation of community partners in program planning and implementation has

been lacking in most government projects. CB-CRM experiences in the country has shown that without community participation, a program is bound to fail. But participation is not enough, for CB-CRM program(s) to be successful, a community must be organized and its social and environmental consciousness heightened by leadership training and environmental education.

(ii) **CB-CRM must show results and concrete benefits to the community early in the program:**

Accomplishing concrete gains in a project is the most effective mechanism to convince people about the relevance of a CB-CRM program. It is a key factor in mobilizing commitment and participation thus, the sustainability of a project. Volunteerism and community participation should sustain activities at the loan level.

(iii) **Empowerment of local communities is critical to CB-CRM:**

In the few recorded successful initiatives in the Philippines, the ability of communities to decide on how they manage their resources was critical in ensuring that this communities interest and participation continued beyond the project's lifetime. Are government agencies effective in community organizing? Can government who basically holds the power facilitate effectively a process that will in effect result in government sharing or relinquishing its powers directly to local communities? This may be the underlying reason why most of the government programs are characterized by weak implementation; lack of credibility, capability and commitment; and non-priority of CB-CRM by local government units.

8.2 For research

(i) **No component of CB-CRM can work in isolation:**

Coastal management should be integrated and community based. The core unit of program implementation is the community. Reliable information from research must be used for community planning, program or project implementation, monitoring and evaluation. In CB-CRM, research can not be for research sake. Research becomes part of a whole process. By undertaking research, expectations are raised and this can not be avoided only minimized.

(ii) **Knowledge production must genuinely involve the members of the community/ the stakeholders:**

In government programs, information gathering has been weak, untimely and in an unpopular form. Information generation must be sustained and can in themselves contribute to ensuring the sustainability of the project's impact.

8.3 For education and training

(i) **Leadership formation and environmental awareness are crucial elements in CB-CRM:**

By building more local capacity, the tendency towards dependency on the intervening institution is lessened and prospects for sustainability of CB-CRM is greatly increased.

Leadership not based on personality and political favors is important to reflect the type of leadership that is responsible and accountable to the local community first and foremost.

(ii) **Value reorientation of local government units is critical and urgently needed to redirect their political will in favor of community based coastal resources management:**

If empowerment is important to CB-CRM and sustainability is to be attained, local government officials have to have longer term perspectives in development. In the Philippines, local government officials have maximum of two 3-year terms. Currently local development is only now being realized with the enactment of a local government code in 1992 and development planning is still new for local governments. CB-CRM may be seen as a threat to this newly acquired power.

8.4 For resource management

(i) **There is a need to review or evaluate the effectiveness of habitat enhancement technologies as coastal management tools**:

This is particularly true for the use of artificial reef, mangrove aforestation and marine sanctuary formation. The use of artificial reef is so widespread that it is now being used as a means of disposing off "garbage or junk" such as used cars and equipment. The interaction between artificial reefs and marine sanctuaries also need to be evaluated. Evaluation should not only cover the biophysical but also its interaction with socio-economic, political and cultural concerns of the community.

8.5 For livelihood development

(i) **CB-CRM should contribute to improving livelihood:**

Livelihood is not just confined to production activities. It is also a means to provide sustenance, shelter, education, health, spiritual and aesthetic satisfaction. A stable livelihood at a certain level at which basic need is met is significant in contributing to the project success.

(ii) **Livelihood activities must not be used as come on for community participation:**

Generating community participation on the basis of prospects for involvement in livelihood initiatives is a weak basis for sustainability. This concept must also learn from past development debacles and avoid resulting into dole outs for the community. Dangling the prospect of credit, financial benefit is contradictory to organizational development and building the self-confidence of local communities. Dependency on the so-called source of the alternative lielihood is built.

8.6 For networking and advocacy

(i) **Community-based initiatives need outside linkages and support:**

National development agenda such as national energy plans or national mining policies may have great implications to the continued implementation of CB-CRM. Any achievement at the local level can be adversely affected by one single national decision. Issues at different

levels of society (national, regional and local) should be considered by CR-CRM. Vertical and lateral linkages including those with academe, NGOs and Pos is important to ensure integration and non-duplication of efforts.

(ii) **Law enforcement is vital to coastal resource management:**

Policies may be in place but require collaborative and credible efforts for effective enforcement. Local political favors play a major deterrent in the enforcement of environmental policies.

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Publisher : University of the Philippines at Diliman