

# **MYTHS AND REALITIES OF PARTICIPATION IN PHILIPPINE CBCRM: LESSONS FROM AN ANALYSIS OF WHO PARTICIPATES IN WHAT<sup>1</sup>**

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## **Community-based Coastal Resources Management**

There is serious concern that the long-term sustainability of coastal ecosystems and its resources as sources for healthy economies is diminishing worldwide (e.g. Hammer et al. 1993, Sherman 1994). The continued degradation of coastal habitats (i.e. coral reefs, mangrove forest, seagrass beds) and overfishing in the Philippines and in Southeast Asia in general, (e.g. Pauly and Chua Thia-Eng 1988, Gomez et al. 1994, Chou 2000) are well documented. These have resulted in the decline of fisheries productivity that threatens the livelihood of coastal communities. In the Philippines, the economic losses of the destruction of coral reefs in terms of decreased fishery production and tourism potential alone are estimated to be over US \$ 1.0 B annually (White et al. 2000).

There have been significant coastal resources management (CRM) efforts in the Philippines in the past twenty five years. Among these efforts, community-based coastal resources management (CBCRM) is a popular approach to address both human and natural resources issues in the coastal areas. It has been viewed as a means to expedite the management of coastal resources for the long-term benefit of present and future generations given the inefficiency of state management. CBCRM is also a means to address equity, poverty alleviation and more importantly, empowerment of marginalized coastal dwellers, particularly small fishers. In general, the immediate objective of many community-based coastal resources management in the Philippines is to organize small fishers in order to empower them to develop socially, and integrate management interventions as part of the development process (Uychiaoco et al. 2000). Notably, because of the political roots of organizing in the fishery sector, majority of the earlier CBCRM efforts shunned cooperation with the government. However, new paradigms in CBCRM have evolved with the devolution of responsibility to manage municipal waters and resources to the local government (i.e. R.A 7160 –The Philippine Local Government Code of 1991 and R.A. 8550 – The Fishery Code of 1998) and the realization of the need for an integrated approach to CRM. While the local government has the legal mandate to manage coastal resources, avenues for the active participation of local communities in various aspects of resources management have grown in the past two decades.

Case studies of various community-based coastal resources management projects in the Philippines attest to positive outcomes of various community-based coastal

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resources management projects that were initiated and/or facilitated by NGOs, academe or national and local governments (reviewed in State of the Field of CBNRM – Coastal Component 2001). It is widely accepted that an essential element of successful coastal management is active participation of direct resource users and other stakeholders. Many synthesis and case studies invariably conclude that involvement of the local community in resources management and high levels of participation in decision making are crucial (Polotan-de la Cruz 1993, Aliño and Juinio-Meñez 1995, Ferrer et al. 1996, Rivera and Newkirk 1997, Alcala 1998, White and Vogt 2000, Pollnac et al. 2001). It is also commonly accepted that active community participation should be encouraged from inception through the implementation phase. As experience grew, it became apparent that local participation in monitoring and evaluation is also an important factor for the sustainability of initiatives (Uychiaoco et al. 1999, White and Vogt 2000).

This paper focuses on who among the local community members participate in community-based coastal resources management activities and the nature of their participation based on 47 projects reviewed for the State of the Field of CBNRM Project. The strategies employed by projects to enable and enjoin community participation are reviewed in relation to the costs and benefits of participation to local community members. The factors affecting the sustainability of community participation and community-based coastal resources management interventions are discussed.

### **Local Community Participation in Resources Management**

The most common reported CRM interventions involving local community participation are the management of fish sanctuaries/marine protected areas (MPAs), fisheries regulation and mangrove reforestation. In addition, local community members participate in integrated coastal management planning and some aspects of environmental protection. The commonly reported local active participants are members of people/fisher organizations, local community leaders (including elected village officials), resident volunteers, and deputized enforcement groups (e.g. Bantay Dagat). The reported planning, implementation, monitoring and evaluation activities in relation to coastal resource management activities in 47 CBCRM projects are summarized in Table 1.

Local participation in resource management activities is diverse and the nature of participation varies among local participants and project sites. Notably, the activities involving the participation of local community members are most diverse and common in the establishment and management of fish sanctuaries compared to all other CRM interventions. In fact, the establishment of marine/fish sanctuaries is the common entry point of CBCRM projects. In particular, local participation is common in resource and socio-economic assessment, drafting of the management plan and advocacy in the passage of local resolutions or ordinances for the establishment of the marine sanctuaries. In a few areas local community members actively participate in the monitoring and evaluation of biophysical impacts. In these cases, active participation of local communities has been realized in all phases of the management process.

For fishery regulation, some local community members are involved in advocacy for the enactment of fishery ordinances (e.g. regulation of particular fishing gear) and the enforcement of laws against illegal fishing. For the latter, local volunteers are trained and supported by either the local chief executive of the municipality or by external agencies. Local communities are also involved in collection and planting of mangrove seedlings and coastal clean-up activities. Both of these are commonly undertaken as part of environmental awareness programs. However, only in very few community-based mangrove projects maintained and monitored mangrove reforestation areas on a voluntary basis.

At a larger resource level such as a municipality or bay-wide level, activities related to broader concerns such as ICM planning, water pollution or protection of endangered species are addressed. In general, community participation is largely tied to community representatives from different sectors that are either appointed by local government officials or accredited local community organizations. For example, participatory development of a municipal coastal development plan was pioneered in Bolinao, Pangasinan (Talaue-McManus et al. 1999). In this process, the working draft emanated from the plans developed by local people's organizations. Subsequently, the LGU appointed a multi-sectoral technical working group to facilitate consultations in all villages and come up with the draft integrated municipal coastal development plan. Fisher representatives are members of the technical working group. Similar multi-sectoral councils including representatives of small fishers are commonly created in baywide/ regional CRM initiatives (Aliño and Junio-Meñez, 1995). Fisherfolk representatives are often chosen from members of registered people's organizations. However the nature of participation of local community representatives in such multisectoral management councils as well as in other mandated councils ( i.e FARMCs as provided for the R.A. 8550 the Fisheries Code; and local development councils (LDCs) as provided for by RA 7160 the Local Government Code) is often only through consultation. The function of these multisectoral bodies is largely recommendatory and subject to adoption or rejection of the local legislative council ( i.e. *Sangguniang Bayan* or *Sangguniang Panlalawigan*).

### **Nature of Local “Community” Participation**

Through the facilitation of the projects, some members of local organizations have been involved in data gathering and participatory resources surveys to generate baseline information for planning purposes. A considerable number also participate by providing information as respondents to questions related to resources or socio-economic assessment studies or through consultation particularly during the planning phase. Consultative meetings are common between project initiators and the local partner organization, the government and local stakeholders and among members of multi-sectoral groups/councils. However, most of the members of the local community are passive participants who are informed about plans and or updates of ongoing activities through information campaigns or meetings (e.g. general assemblies of local organizations). As discussed earlier, participation of the community in policy formation and adoption, at higher levels ( i.e. municipal, provincial and baywide/regional) is

through representation. On the ground, only a small group of people is actually involved in joint analysis and decision-making process which is indicative of interactive participation as defined by Pretty et al. (1995). This group is often comprised of village elected officials or officers of the project's local partner organization who together with the project staff spearhead the development of the plans. Project local partners also undertake the advocacy activities (e.g. information dissemination campaigns) with the assistance of project personnel.

Implementation activities bring in a broader base of participants, in terms of numbers, and community members other than the project's local partner organization. Some participate by providing services in return for material incentives (e.g. allowance for patrolling, food for helping in the construction of guardhouses). However, the most common type of participation is functional participation. In this case, people participate by forming groups to meet the predetermined objectives related to the project. This is evident in the structuring of local organizations into committees (e.g. livelihood development, resources management, membership etc.).

The type of participants and the nature of participation during implementation are also dependent on the nature of the activity. If it is simple and does not require specific skills (patrolling, collection and planting of mangrove seedlings, coastal clean up), then participation is more likely to be broad-based. In contrast, if the activity involves particular skills (e.g. enforcement of fishery regulations, landed catch monitoring) then participation is limited to those who have been trained by for these particular tasks. The number of participants is likewise dependent on the level of physical effort and time needed in specific implementation activities in coastal resource management. For example, many in the project reports noted broad participation in short-term and periodic resource management activities such as coastal clean-up campaigns, building of guardhouses and planting of mangrove seedlings. This is also true for members of the project's partner organizations. There are often only a handful of active members especially after the project phases out. It follows from these factors that generally few participate in monitoring and evaluation activities since these require both specialized skills (e.g. water quality monitoring, coral and fish monitoring) and considerable time and effort.

The highest level of participation is self-mobilization, where people take initiatives independent of external institutions to effect change (Pretty et al.1995). They develop linkages with external institutions for resources and technical advice but retain control over how resources are used. Efforts of some people's organizations to access funding sources on their own to replicate or expand initiatives for MPAs and mangrove reforestation projects are indicative of self-mobilization. However, this type of participation was not common in CBCRM in part because the process of empowerment is long-term and because many initiatives are not sustained beyond the lifetime of the project.

Community participation in CBCRM is largely not self-initiated. Local communities particularly the small fisherfolk are considered “disempowered” and hence lack the

capacity to initiate change themselves. Thus external agents facilitate the active and meaningful participation of local communities. Project personnel invariably consider themselves to be mere facilitators and the local community as the actual project implementers and/or decision-makers. However, the process (e.g. selection and training of core members, community organizing) and subsequent outcomes, including the nature of participation are inevitably influenced by the project objectives and goals. In addition, while the role of the external agent is generally to help build capacity of the local people for continued self-directed development, different external agents (both donors and project implementers) have different biases. In practice, CBCRM projects facilitated by NGOs focus on formation of local organizations with the primary goal of empowering marginalized sectors. On the other hand, the academe focuses on environmental education to enable local communities to make informed decisions and take concrete resources management actions. Thus the types of activities and nature of the participation of local communities vary among project sites.

Overall, relatively few individuals are significantly involved in decision-making in project-initiated CBCRM. These are commonly leaders of designated local management institutions and local project partners (i.e. people/fisher organizations). The actual planning and implementation, even in the case of marine fish sanctuaries, involve a small group of local leaders (including the elected village council) and members of the local management committee. Where key decision-making activities related to resource allocation, fishery policies and policy formulation, participation by primary resource users such as fishers groups and organizations, are largely related to lobbying and advocacy's for the passage of fishing ordinances and establishment of marine protected areas. Thus, contrary to expectations, it appears that community organizing efforts in CBCRM projects initially result in the formation of leader-centered local institutions such that there is limited meaningful collective participation by a significant portion of local stakeholders, especially among the primary resource users in the fishers sector.

### **Small Fishers as Resource Managers**

Underlying the term "community-based" is the principle that the primary resource users should be the rightful managers of their resources or more specifically, gain greater control over coastal resources. This stems from the belief that resource users are in the best position to manage these resources since this is the source of their livelihood. An implicit assumption of this thinking is that fishing communities have sufficient knowledge and capability to properly manage the resources they utilize. However, in most cases, while fishers are knowledgeable about fishing, they have insufficient skills in the management of these resources. Transmission of local/indigenous ecological knowledge is limited and/or insufficient with the advent of dramatic changes in modern fishing practices and technology development. Moreover, most accessible and highly populated coastal communities are very heterogeneous in terms of ethnicity, cultural beliefs and practices due to high migration and immigration fluxes.

In most CBCRM projects, the intended primary beneficiaries are the small fishers. It is important to note that political organizing in the fishery sector was borne out of conflicts

between small and commercial fishers. In San Miguel Bay for example, organized fishers groups exercised the power of citizen's arrest against commercial trawlers (Sunderlin, 1994). However, the primary concern was not the management of fishery resources but rather the protection of the interest of small fishers versus commercial fishers. A major rallying point is the contention that nearshore fisheries will not be overexploited if only small fishers use these resources. However, other leaders of people's organizations readily concede that overfishing and degradation of habitats occur in many areas where there are no commercial fishers. This indicates recognition that fishing practices of small fishers are part of the problem. However, this fact is often overlooked in CBCRM initiatives that focus on issue-based advocacy.

What is also not often taken into consideration is that most coastal communities are very heterogeneous in resource use practices even if one were to consider only the small fishery sector. Because of the multi-species and multi-gear fishery in coastal waters, there are many conflicting interests within this sector particularly among small fishers who use different types of fishing gear. In these cases, user groups who believe that particular gears reduce their catch (e.g. triply or triplet in Prieto Diaz and Bolinao) support initiatives to pass legislation to regulate those gears. In contrast to legislation, fishers in Malalison have non-formal arrangements with fishers from other villages about gear use and fishing areas. However, arrangements are less tenable in more complex coastal villages where the resource users are more diverse and there is great overlap in fishing grounds of adjacent villages. Interestingly, in some cases the establishment of marine sanctuaries has been proposed as a strategy to "resolve" gear use conflicts. For example, in the absence of legislation regulating triplet, other gear users in Bolinao support the establishment of a sanctuary in a particular reef area where triplet is used. Conversely, fishers using a gear type that is likely to be banned by a proposed regulation or establishment of a sanctuary will likely not participate in formulating such regulation or establishment of the sanctuary.

What is clear from these examples is that even within and among fisherfolk members, resource management activities or policies aimed at addressing perceived resource management issues do not necessarily result to a 'win-win' solution for all members of the communities. Many present day fishers are poor migrants with short-term economic interests in the utilization of coastal resources. *De facto* "exclusivity" of coastal resource use by local communities is realized only in small, remote and isolated islands that are not readily accessible and not economically cost effective to be utilized by outsiders. The concept of direct resource users being resource managers while attractive, is difficult to realize given the inherent constraints in resources and skills, the complexities of resource use, and heterogeneity of coastal communities.

### **Costs of Participation**

As illustrated earlier, participation depends on whether the activity has a positive or negative impact on the individual's interests. Reduction of fishing grounds in the case of marine reserves and curtailment of use of particular gears that are regulated are the most immediate costs of resources management. These costs are borne differentially by

various resources user groups depending on the degree of dependence on the fishing ground or fishing gear. Moreover, social and economic status has a bearing on the relative costs to participants and non-participants. In general, the most marginalized among the fisher groups (e.g. landless migrant fishers) are least able to participate in coastal resources management initiatives. They are unable to forego opportunities to fish or spend time attending meetings instead of earning a living. They are also not likely to join organizations if more prominent individuals and/or families dominate these. Thus, where membership in a local organization is necessary to obtain project benefits as discussed below, they are effectively excluded from these opportunities.

In terms of participation in project initiatives, active project local partners bear a greater cost. The greatest cost to project cooperators are time and effort spent for various activities (e.g. training's, meetings, conducting research, monitoring, etc.) which would have been otherwise been spent making a living (i.e. opportunity costs). Likewise, participants also bear the grunt in cases of conflicts (e.g. threats from illegal fishers). In Prieto Diaz, there have been potentially violent confrontations between members of the people's organizations and families of arrested dynamite fishers. These social conflicts lead to disruption of normally peaceful familial and communal relations and are high costs to CRM participants (e.g. Graham 1998).

### **Enabling and Enjoining Community Participation**

Because participation is crucial and there are considerable costs to participation in resources management, projects allot considerable time, effort and financial resources to enable and enjoin active participation of local communities. The two most common project strategies are local capability building (including the formation of people's organizations) and development of alternative livelihoods. These have also been identified as the most critical project intervention variables (State of the Field in CBNRM 2000; Crawford et al. 2000). In general, capability-building activities are means to enable participation. On the other hand, livelihood development is one of the incentives provided by projects to enjoin participation in CRM.

#### Local Capability Building

Local community partners of various CRM projects are recipients of different knowledge and skills training that are necessary to undertake project activities in the intermediate term. These interventions are part of the empowering process to enable local communities to take an active role in making decisions and taking action on matters that affect their welfare.

The types of capability building activities can be broadly categorized into environmental education, livelihood training, community organizing, participatory research and monitoring. In particular, enterprise technology trials, leadership training, organizational development and community environmental education (including environmental and fishery laws) are most common. For the most part, all these are conducted in conjunction with the formation or strengthening of fisher/people's organizations which has been

adopted by majority of CBCRM projects. Formation of fisher/people's organizations is considered essential in providing a venue for the collective action of rural local communities to address their problems (Ferrer 1992, Rivera and Newkirk 1997).

Of the capability building activities, environmental education is clearly a fundamental requirement to initiate active local participation but only actual involvement in resources management activities and the realization of concrete results sustain active participation (White et al. 1994, cited in White and Vogt 2000, Juinio-Meñez et al. 2000). It is interesting to note that participation in CRM activities has led to positive behavioral changes. For example, fishers in Orion, Bataan have remained positive despite the lack of tangible benefits at the household level (i.e. increase in fish catch). Moreover, support for and participation in the co-management system are reported to be widespread in the community. There were also indications that emphasis on resource protection has led to adoption of other sources of income by fishers active in the program. These changes in behavior indicate sufficient satisfaction with perceived non-tangible improvements (Roy et al. 1999). These positive behavioral changes are important contributory factors towards sustainability. Likewise, results of the impact evaluation study of Pomeroy et al (1996) clearly suggest that capability-building efforts enhance the perception of empowerment and confidence of project cooperators to undertake new tasks and meet challenges.

#### Incentives for Participation

While local communities and project partners appreciate the importance of managing the resource base on which they depend on for food and income, and the liberating experience of empowerment, the primary motivation for participation is personal socio-economic gain. This is true even for the most ardent local CRM advocates and leaders of people's organizations. The inherent expectations for personal economic gains can lead to conflicts within organization in terms of prioritization of economic activities. For example, in Prieto Diaz, Sorsogon there was dissatisfaction with prioritization of communal projects (e.g. fishponds) versus those that directly benefit individual members (e.g. credit and loan) (Graham 1998). Projects provide various incentives to individuals and groups to address some personal needs and enjoin participation in CRM activities.

#### *Livelihood Development*

Given that the fisheries are overexploited, the incorporation of livelihood development in CRM projects is commonly rationalized with the premise that provision of alternative or supplemental livelihoods to fishers can contribute to coastal resources management by reducing fishing pressure. Conceptually, reduced fishing pressure will then allow recovery of depleted fishery resources. Alternatively, it is viewed primarily as a means to address poverty. For the most part, initiatives in livelihood development involve some form of enterprise development that is facilitated and funded by the project. Livelihood development activities that have been implemented are basically limited to land-based micro enterprises and aquaculture trials (State of the Field of CBNRM 2000). It is important to note that Pomeroy et al (1996) found that fishers like their occupation



and would not necessarily change to another job. Thus the development of supplemental rather than alternative occupations may be a more realistic goal. This builds on the existing occupational multiplicity of fisher households.

In practice, livelihood projects are enticements for local community members (i.e. organized or not) to participate in resources management or other project activities. In some projects (e.g. Macaracas, Puerto Princesa; Panukulan, Quezon), livelihood activities were used specifically to attract women to participate in CRM activities, conservation or development efforts of the project. Along the same line, people organization leaders reported that opportunities for involvement in livelihood projects are made exclusive for members. This is a strategy used to increase the membership of the organization. However, in some sites, priority is given to those whose sources of income are directly affected by management interventions as some form of compensation to reduce fishing activities.

#### *Other Economic Incentives and Entitlements*

In addition to providing livelihood opportunities, some projects also provide assistance to upgrade fishing gears (e.g. nets, boat engines) with the condition that recipients of “livelihood support assistance” participate in conservation activities. For example in the Turtle Island, KKP loaned boat engines for fishing. In return, recipients are required to participate in monitoring and patrolling activities. In Orion, Bataan, credit–extension for household-scale livelihood projects were provided with the intention of minimizing the impacts of marine sanctuaries and enjoin more fishers to participate in CRM activities. In Danao Bay, fishers who operated fish corals in the area proposed as a sanctuary agreed to move their corals with the condition that they be paid for the work and hired as guards of the sanctuary (Heinen & Laranjo, 1996). Those who are tasked to do full time community organizing benefit from employment by the project more commonly in the form of honoraria or allowances (e.g. local community organizers of Haribon). In Bolinao, Pangasinan, the federation of local people’s organizations was granted an interest free loan by the U.P. Marine Science Institute to defray part of the payment of the concession fee for the milkfish fry concession. The loan was given in support of the plan of the federation to implement a closed season in fry collection and provide an opportunity for the federation of local people’s organizations to learn how to manage and gain greater economic benefits from the concession.

Aside from entitlements of membership in local organizations (e.g. access to credit, patronage refund, low price consumer goods, participation in livelihood project), members are also the primary recipients of various capability building activities. These provide opportunities for personal growth. Leaders (e.g. officers of people’s organizations, members of the local management committee) are provided additional opportunities such as cross-site visits and attendance of conferences in various places, which facilitates the establishment of personal networks. Because project resources are limited, these are provided to only a select few. The non-monetary rewards also include greater prestige and influence in the community, which in turn open new possibilities for personal advancement particularly for the leaders. Notably, in San Salvador, Zambales

members of the core management group became elected officials in the community. In this respect, personal benefits are proportionate to the degree of involvement in project activities.

### **Government Support**

In many CBCRM projects, local communities worked in partnership with the local government units at the village level and the municipal level (LGUs). Local government support for community initiatives have been mainly through allocation of funds for the implementation of various CRM activities and the passing of legislation for marine sanctuaries and gear regulations. Pomeroy et al ( 1996) reported that government support through legislation, funding and enforcement was crucial to sustaining the project interventions. In particular, Alcala and Russ (1998) noted that government support is essential for the sustainability of marine protected areas which is a key element of local CBCRM initiatives. The extent to which local community initiatives and use rights are institutionalized through local government policies and budget allocations may be considered indicators of success of community initiatives in coastal resources management.

### Use Rights

Tenure in the form of certificate of stewardship contracts is an incentive given by the national government to individuals who are willing to plant the land with mangrove trees. Based on the post project assessment in Cogtong Bay, Katon et al. ( 2000) noted that co-management in mangrove management appears to more successful than in fishery management in part due to the issuance of mangrove stewardship contracts and the relative ease of patrolling mangrove areas. Pomeroy et al. (1996) likewise noted that where use rights are specified and secure (such as with mangrove stewardship contracts), there is a change in behavior and attitude toward conservation and probably a much greater chance for the intervention to be maintained. However, there are other reports that suggest that this scheme for community-based reforestation has not been effective. For example in Bais Bay, of the 183 CSC holders in three villages, none had mangrove plantations. Whether stewardship will be improved by providing contracts to organized groups remains to be evaluated.

In contrast to mangrove forests, local tenurial instruments for coastal waters are limited (e.g. ancestral domain of the Tagbanuas in Coron). While "rights" (i.e. responsibility) to manage a particular area (e.g. sanctuary) have been acquired by local community institutions in many sites, this communal responsibility has no corresponding exclusive rights to the managers. Territorial use rights have been granted to fishers in Malalison Island (Agbayani et al. 2000). However, acceptance of such use rights is likely only in areas that are relatively isolated from "outsiders" (i.e. villages in small remote islands). Under these conditions, social sanctions/non formal arrangements akin to practices in indigenous communities (Charles 1994) can enhance compliance to regulations by village members. As discussed earlier, in mainland villages, interests of village members are diverse and social and economic status is more stratified (e.g.

McKay 1995, Rivera and Newkirk 1997). Likewise external influences (e.g. intrusions from fishers from other adjacent coastal villages, market demands) result in complex social interactions among members of the community (Aliño and Juinio-Meñez, 1995). Thus, reciprocity and kinship will be unlikely sufficient to sustain cooperation among various resource users.

### **Enhancing the Gains from CBCRM**

Community participation is commonly viewed as a means of empowerment and a key to the sustainability of project initiatives in resources management. In this context, empowerment is a means to an end (e.g. social justice/equity, poverty alleviation, and resource management). With its limitations, CBCRM initiatives have contributed towards the goal of sustainable fisheries (i.e. as defined in Charles 1994) in the country. In particular, these initiatives have catalyzed efforts to implement coastal resources management. However, to date the majority of CBCRM projects focus on the community aspects of sustainability at the “micro” level and less so in finding solutions to address the ecological and socioeconomic aspects of sustainability. However, there are significant efforts to scale up these initiatives at higher levels particularly in terms of institutional arrangements and policy reform. Mechanisms to enhance the positive impacts of CBCRM may be gleaned from a consideration of the constraints that bear on sustainability beyond project interventions. Some directions and emerging strategies to address these constraints are identified.

### **Realizing Economic and Ecological Benefits**

Significant gains in the empowerment of local communities resulting to participation in governance have been achieved by community-based resources management projects. However, while local governance processes, institutions and instruments have been developed and established, substantial positive economic and ecological gains in majority of the project sites have not been realized. Ecological sustainability is the most single crucial component of sustainability on which socio-economic sustainability hinges on ( Charles 1994). Likewise, the primary motivation of local communities to participate in resources management is socio-economic gain. Thus, the lack of significant benefits to the majority of coastal community members makes it difficult to sustain the commitment of many local community members to participate in CRM in the longer-term.

After over two decades of trials with various livelihood projects, it has become apparent that the idea of providing an alternative livelihood to reduce fishing effort is extremely difficult to achieve. Among the constraints are socio-cultural factors (e.g. mismatch of introduced enterprise with interest and skills of fishers) and the economic scale of a livelihood intervention necessary to take people out of fishing. Subsequently, expectations have been tempered down to providing supplemental sources of income or diversification of income sources of coastal community members (i.e. income augmentation). Even so, successful livelihood development activities ( i.e. micro-enterprises) are few and benefits are limited to a small group of participants.

The significant economic and ecological impacts of resources management have been realized in the case of some protected areas. Socio-economic benefits were gained from an increase in catch and income from tourism activities. However, the lack of financial resources to support CRM activities after the project period is the major constraint to sustainability of CRM efforts. Thus, despite the reported success, sustainability of these sanctuaries remains a major challenge. Local experts estimate less than 20 percent of over 400 marine protected areas in the country are functional (Pajaro et al. 1999; Crawford et al. 2000). Other income-generation options that contribute directly to resources management or enhancement should be explored and given priority in CBCRM projects. Some possible options are community-based grow-out culture as reproductive reserves (e.g. Junio-Meñez et al. 1998) which can be adapted for a variety of invertebrate species and reef fish (e.g. siganids) or reform in the policy and management system of fishery concessions which can contribute to greater equitability of benefits as well as sustainability of fishery resources. Likewise, the development of efficient culture production systems as well as market-based incentive systems, which are “environment and community friendly” should be given more attention.

#### Necessity of Co-management Arrangements

Project experiences in coastal resources management indicate that the local communities and the local governments need a lot of support from external agencies particularly in capability building and resource generation. Local governments are constrained with human and financial resources to effectively execute its mandate to manage coastal resources. Small fishers and other local sectors are similarly constrained. The notion that communities (direct resource users in particular) are potentially the best resource managers needs to be qualified based on experience. It is evident that mutually beneficial partnerships among different sectors and the local government are essential. Moreover, the government should invest in resource management by providing resources to ensure long term socio-economic benefits to their constituents.

Rivera and Newkirk (1997) pointed out that the issue of co-management will always be an issue of power. The degree of control or sharing of power in co-management arrangements is essential in the context of community sustainability. The limited capabilities and available resources of both local government and communities in effect forestall attainment of ecological and consequently, socioeconomic sustainability. Thus, despite potential conflicts in interest, workable mechanisms for co-management of coastal resources have to be pursued earnestly. In relation to this, appropriate property regimes in multi-species/gear small-scale fisheries within a multiple use coastal system have to be looked into.

#### Scaling-up and Integration into a Broader Framework

It is unlikely that the solutions to the dire state of natural resources on which the livelihood of millions depend on can be provided by the fisher sector alone nor through community-based initiatives alone. Lessons and experiences in CBCRM in the past two decades demonstrate that goals and objectives are best pursued within a holistic, integrated and multi-sectoral framework. To further increase the likelihood of attaining ecological and socioeconomic sustainability, CBCRM should be placed within the broader framework of integrated coastal management (ICM). ICM takes into account ecological processes and connectivities (e.g. man and nature, among ecosystems, land and sea) and attempts to harmonize conflicting uses of various stakeholders in the coastal areas.

Majority of the current CBCRM project works at the village level and focus on marine sanctuaries a resource management intervention (as discussed in the governance chapter). Within the context of ICM, marine protected areas are strategic and necessary interventions, but are not sufficient for marine conservation (Allison et al. 1998). Neither is it sufficient to enhance fisheries productivity which is the primary objective of community managed marine sanctuaries (Alcala 1998). Management approaches need to be adaptive and dynamic to enhance sustainability. Thus, other local resources management issues (e.g. water pollution, coastal aquaculture, and navigation) that affect the livelihood of local coastal communities need to be addressed. Alongside integration, mechanisms to scale up village-level initiatives are essential. At the very least, village-level initiatives should be integrated within a municipal coastal development plan. Participatory coastal development planning in Bolinao was integral in empowering local community members and enhanced their involvement in decision-making on how municipal coastal resources are to be used (Talaue-McManus et al. 1999).

Scaling –up and integration within a broader framework requires new approaches on how to engage various local interest groups in other CRM activities. Other community organizing and mobilization approaches apart from formation of people’s organizations have to be explored. Knowledge and skills training should be holistic and less biased by political ideologies. Broadening participation in coastal resources management of various interest groups is crucial in highly populated, complex mainland coastal areas. Thus empowering more members of the community rather than a few PO leaders and members which may suffice in remote small island or less densely populated coastal communities, should be a goal of CBCRM projects. Development programs should forge meaningful partnerships between different sectors of the community and most especially with the local government. Network formation of POs, local communities and NGOs by CBCRM projects in small island villages is mostly conducted at the inter-barangay or sitio/barangay level. Linkaging within (e.g. different fisher groups) and among sectors (e.g. fishers, teachers, civic and religious groups, business) is essential to advance CRM initiatives in complex mainland coastal communities as demonstrated in current initiatives in Bolinao (Pinat et al. 2001). The formation of higher forms of alliances and networks built on common interests and aspirations is important in scaling up local impacts (e.g. network if marine protected areas, Alcala, 1998), or maybe a leveraging mechanism against stronger, well entrenched and more organized resource

users (e.g. commercial fishers). These linkages should be should coupled with strong partnerships among LGUs at the village through the provincial level.

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**Table 1. Reported activities involving local participants in various coastal resources management interventions in 47 CBCRM projects.**

<b>ACTIVITIES</b>		<b>TOTAL</b>
<b>Issue Identification and Planning</b>	Resource and socio-economic assessment	16
	Data-gathering/field surveys/PRA	8
	MPA Site Selection and Resource Survey	9
	Drafting of MPA/marine sanctuary management plan	16
	Planning and site-selection for mangrove reforestation	8
	Mangrove stewardship application	7
	Development of Municipal Coastal Development Plan	8
<b>Policy Formulation and Adoption</b>	Advocacy/Support for the passage of MPA/marine sanctuary ordinance	20
	Initiated legislation and informal dialogues with LGU and enforcers on gear regulation	7
	Lobbying and advocacy of fishery management ordinances	12
	Formulation and Planning of ordinances, resolutions	11
<b>Plan Implementation</b>	Information Dissemination on MPA/marine sanctuary ordinance	3
	Deployment of MPA marker buoys	12
	Construction of guardhouses, community center, etc.	8
	Patrolling and enforcement of MPA	31
	Visitor management of MPAs	5
	Reseeding of MPAs	3
	Fund sourcing for MPA	4
	Enforcement of fishery regulations against illegal fishing (e.g. trawling, dynamite fishing)	33
	Collection and planting of mangrove seedlings	13
	Information dissemination on fishery laws, ordinances	9
	Advocacy campaign for the protection of endangered/threatened marine species	10
	Establishment of mangrove nurseries	2
	Fund sourcing for mangrove reforestation expansion	1
	Management of milkfish fry concession	1
	Coastal clean-up	13
	Anti-cement plant advocacy	2
Solid waste management	2	
<b>Monitoring and Evaluation</b>	Landed fish catch monitoring	13
	MPA monitoring (e.g. coral and fish visual census)	5
	Maintenance and monitoring of mangrove reforestation	2
	Water quality monitoring (effect of coastal aquaculture)	1