

Additional Articles

Introduction

The following articles were not included in the previous section either because they present broader themes than do the discrete site-based case studies, or because they do not deal specifically with coastal or fisheries resources management. However, they are included in the proceedings because they offer some lessons that can be applied in CBCRM.

THE BANICA RIVER WATERSHED: A CASE STUDY

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Note: Although the following is not a case study of coastal resources management, it contains several lessons of potential interest or application to CBCRM audiences. This report includes information provided in the oral testimony given during the workshop by Mrs. Nida Bato, President of the Sagbang Agroforestry Reforestation Action Project (SARAP).

In 1992, the Martin “Ting” Matiao Foundation (TMF)² embarked on a study of the watersheds in Negros Oriental. Of the 48 existing watersheds in the province, ranging from 3,000 to 50,000 hectares in area, 14 were deemed to be in critical condition, because of their advanced deforestation, high incidence of erosion, and drying up of rivers. The TMF decided to target an entire watershed for reforestation and the introduction of non-destructive farming methods.

The Banica River Watershed, covering the municipality of Valencia and the city of Dumaguete, was chosen because of its manageable size (3240 ha) and its relative importance as a source of drinking and irrigation water for nearly 100,000 people. Over the 10-year time frame established by the project, the Foundation aimed to promote reforestation of 1,100 ha of land in the upland barangays.

Rapid Rural Appraisal drew out the concerns of the affected residents, and was followed by a series of meetings with community representatives to discuss concepts and approaches. The TMF wrote the proposals and secured partial funding from the Philippine Australian Community Assistance Program of AusAID (PACAP) and the Philippine Department of Environment and Natural Resources (DENR), allowing the project to begin implementation in the barangays of Sagbang and Apolong in June 1994.

Components of the project included: community organizing, resource management training, erosion control, reforestation, agroforestry farm development, and establishment of a revolving fund for community livelihood projects.

Two community organizations were formed to represent the interests of the beneficiaries and to coordinate the activities of the project on the local level. The TMF aimed to strengthen these organizations to enable them to carry on resource rehabilitation and management after the NGO has withdrawn. An administrative staff and several committees were established and trained in an assigned implementation specialization. Field trips to other areas in Negros or Cebu exposed participants to existing agroforestry or agriculture projects and gave them the opportunity to discuss their experiences with fellow farmers.

The TMF established a demonstration farm in Apolong to pre-test farming systems and new crops. Together with a tree nursery, it also serves as a training site for farmers. To complement the TMF activities, community farms have been set up in the participating barangays where the beneficiaries themselves can try out cropping systems. In all agroforestry project activities, the community members provide labor and land, while the TMF provides other inputs and financing. Due to their growing financial and managerial strength, both SARAP and its Apolong counterpart, the Apolong Livelihood Agroforestry Reforestation Management Association (ALARMA), will become direct partners with the PACAP program.

¹ German Development Service.

² The Ting Matiao Foundation is a non-governmental organization working in the field of Natural and Human Resources Management and Development in Negros Oriental. It is the extension arm of the Rotary Club of Dumaguete South.

Lessons Learned

As in all partnerships, occasional problems arise out of the daily activities or due to negligence by one side or the other. The NGO sometimes has to rush or delay activities, due to pressure from funding agencies, delays in procurement of inputs, shortfalls in the monthly target setting by the NGO management, or simply because a staff member became ill and work piled up. In such cases, the community members often feel neglected or confused.

Conversely, the NGO staff may grow frustrated with community members who fail to show up for appointments or when they pose demands that the NGO's budget cannot accommodate. Most of these problems can be minimized if each side is well informed of the constraints each side faces. To address this problem, the Banica Project created a Project Operations Group for Implementation, composed of representatives from both TMF and the participating POs. The goal was to plan and coordinate all project related activities on a monthly basis, but it has not been fulfilled entirely as intended due to poor leadership by the NGO.

Similarly, at the beginning of the project, an advisory board was established including PO representatives, barangay captains, LGU representatives, local industry and producer cooperative representatives, and TMF staff. At first, coordinating meetings were held every month to exchange information on ongoing projects to avoid overlapping activities as well as to inform one another of existing human resources that could be tapped for consultancies. The group later reduced the frequency of meetings, since there were too few new developments each month to report. Another problem—having to discuss the same topics over and over to accommodate changing participants—could have been solved by pressuring participating organizations to be consistent in their assignment of representatives.

The importance of good coordination between NGO and PO must be emphasized. Any information gaps between NGO and PO regarding the implementation of the different interventions can cause misunderstandings that hinder progress. Partnerships should be based on commonly-agreed set of principles. For example, balancing the economical and ecological goals of a project is only possible if the beneficiaries fully understand and believe in the long-term benefits of proper natural resources management. Their natural interest in short-term gains via improved production or additional income through livelihood projects must be at par with their willingness to use sustainable agriculture methods and care for the forests, even if these benefits cannot be seen at once.

There must also be clear mutual understanding of each other's strengths, weaknesses, limitations, nature. Considerable time and effort must go into dialogue and the building of personal relationships. Sensitivity to each other's culture and background will help avoid the pitfalls of appearing to promise things that cannot be delivered. The roles and functions of each participant must be clearly defined.

Conclusion

The experience we gained from the first year of the project was quite encouraging. The enthusiasm of farmers in Sagbang and Apolong to try out something new, and gradually to accept the project as their own, gives every member of the TMF team the encouragement to render the best service possible. But we also learned that partnership is not established by signing a contract; it has to be built through mutual respect, communication, and understanding.

GENDER IN COMMUNITY-BASED COASTAL RESOURCE MANAGEMENT

Luz Lopez-Rodriguez¹

Introduction

This paper presents the Filipino women's situation in coastal communities, particularly those engaged in fisheries. Social and gender analysis is a necessary framework in understanding issues in community-based coastal resource management (CBCRM). Women do not just have a role in the implementation of CBCRM programs, but we must also deconstruct and redefine the vision, the elements and strategies of CBCRM and define for ourselves suitable roles so that we can be full partners in environmental resource management. Though treating gender as a key component in CBCRM planning and execution is relatively new, the case of the *Katibyugan it Mangingisda sa Talangban* (Talangban Fisherfolk Organization, or KMT), an incipient organization of small-scale male and female fisherfolk, helps illustrate some of the critical issues.

Site Profile

Talangban is one of the five sitios of barangay Camaligan. Camaligan is one of the 20 barangays of the municipality of Batan, province of Aklan. Camaligan is the largest and most populous area of the Batan barangays with a total land area of 89.20 km². It is 18 km away from Kalibo and 30 km by road from the Batan Poblacion.

The slope of Camaligan ranges from level to very gently sloping (0-3%) to undulating. The higher level is on the west with several hills as high as 100m are found. On the east, along the Kil-ohan River near Talangban, are tidal flatlands, and in between are gently rolling hills and flat alluvial plains. Around 80% of the area is agricultural land.

The population consists of 1,949 persons or 374 households (1991). Of this, 49.62% are males and 50.38% are female. The mean age was 18 years. Specific to Talangban, the survey reached 166 households or 607 persons or over 31% of the village population.

Sitio Talangban resembles an islet, almost entirely bounded by a winding river system. The highest elevation is only about 80m above sea level; the feeder road is flanked by mudflats, much of which have been developed into fishponds or fishfarms.

Besides homelots and gardens, there are small fields planted with rice, coconut, nipa as well as patches of banana and bamboo groves. The physical and social environment is intimately tied up with the riverine setting that surrounds most of the village. Similarly, the rhythm of rain-fed rice cultivation, tidal flows and lunar successions regulate life and livelihood in this area.

The Balete, Kil-ohan and Agsam Rivers all run through the area, though the most proximate is the Hae-o (Jal-o) River, essentially brackish water with increasing salinity towards the mouth of Batan Bay. Only muddy bottoms cover this river system; there is neither grassy vegetation nor coral reefs, although some banks abound with oysters.

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Women's Roles in the Community

In Talangban, women play multiple roles, all of which have a strategic importance in community livelihood and environmental resource management. CBCRM programs must recognize these roles in order to be sustainable. For example:

1. Women are primary food producers in farming and fishing. Most coastal communities rely on a combination of farming and fishing, depending on the season. Both types of livelihood are essential to diversify the sources of income. Women work on the farm at important stages of rice production, specifically planting, weeding, harvesting, post-harvest processing and marketing. Women tend home gardens and raise livestock and poultry, all of which provide food at the family table as well as cash income. Women fish in the shallow waters along rivers or beaches. Together with children, women catch fish and collect edible shells from the river for home consumption or for the market. They row bancas, install fishing gear and haul nets with their husbands and other relatives. They mend nets, maintain the fishing gear, salt and dry the fish, and process food in other ways to store for lean days or to generate more income.
2. Women trade fish and other locally produced commodities, and they sell consumer goods in *sari-sari* stores. As soon as the catch is landed, women bring the fish to their *suki* (favored buyer) or peddle fish around the village. They also sell vegetables and home-cooked snacks. These efforts are essential in keeping the local economy going.
3. Women consume and use resources. They gather plants and collect marine products for food consumption and for the market. They collect *talaba* (oysters), *tahong* (mussels) and other edible shells along the river banks. They cut nipa and coconut palms and weave them for their housing material and for sale. They weave baskets from buri for storing grains or strip buri stalks and weave them into raffia cloth. Although it is less common nowadays, some women still weave fine piña cloth from pineapple leaves. Women gather fodder for the animals and wood for fuel. They wash clothes at the well and fetch water for the family's use at home.
4. Women manage resources. They plan and allocate their meager income and the resources at their disposal for the multiple needs of the family. They transact credit when resources are inadequate and advise the family members on their consumption patterns when resources are low. They train the young by example on conserving and recycling resources such as water, fuel and food.
5. Women are housewives and caregivers. They are mostly occupied by childbearing, child rearing, housekeeping and other so-called reproductive tasks that nurture the health and general well-being of husbands and other economic producers in the family or household.
6. Women are community volunteers and development workers. As an extension of their caregiving role in the family, women take on unpaid community management work such as being day care workers, barangay health workers, barangay nutrition scholars, school board members and officers, or church volunteers.²

² Women's interrelated functions in reproductive work at home and in productive work outside the home is succinctly captured in the themes *pangabuh* and *pangita* which is documented in Mabunay's study of Talangban women. *Pangabuh* refers to reproduction involving life/sexuality, stemming from root word *buh*: literally life, to live or being alive; figuratively, it also means to survive. *Pangita* comes from *kita*. In the contexts in which it is used, it implies a form of gain, as reward or profit. Thus, *pangita* signifies diverse aspects of production specifically in terms of work

Gender Issues in CBCRM

Environmental depletion and degradation especially harm women. Changing environmental and social conditions affect local fishery resources and activities that shape women's work and lives at Talangban. At the same time, changing circumstances may push women toward new avenues and opportunities. Most of their undertakings indicate deliberate efforts to contribute actively to their household's welfare. However, there are several factors impeding women's full participation in a sustainable development process. Among the key problems and its effects on women are:

- A degraded and depleted environmental resource breeds poverty, results in the further overexploitation of such resources and the marginalization of women. In the past when the rivers and bays were always accessible to all, women and men together fished along the shores using simpler technology, less effort and less time. Now that mangroves are gone, and fishponds occupy most of the fishing ground, women fish less and are confined to edible shell gathering or work more as traders on consignment of produce from the fishpond. Younger women, unable to proceed with higher education, leave the villages to work as domestic helpers and factory workers in cities and town centers. Men undertake most of the fishing activities with increasingly expensive technologies that sometimes require venturing out farther to sea.
- The culturally constructed gender division of labor restricts most women to reproductive work in the home and regards them as secondary or auxiliary economic producers outside the home. Men are generally considered the fishermen; indeed they seldom partake in child rearing or housekeeping. This gender-based division of labor results in the 'invisibility' of women's reproductive work. It implies a hierarchy of work and values whereby 'fishing for income' is more valuable than 'housework for the nurturing and well-being of the family.'
- This division of labor is reflected also in development work. Researchers tend to be blind to women's issues. Research methodologies treat men and women as respondents. Technology development focuses on capital intensive, expert-dependent projects. Organizing on production and environmental projects targets mostly the male head of the households. Training, access to technology and credit programs have mostly been channeled through the men, while women are usually organized around child welfare, health, nutrition and food processing projects. In mixed-gender organizations where the bulk of membership may be women, women are usually assigned to serve secondary roles like secretary or treasurer.
- Poverty and environmental issues complicate women's multiple responsibilities. Deforestation causes water wells to dry up, making housework more difficult and time consuming. Mangrove deforestation and fishpond construction result in salt water intrusion

and livelihood. In combination, as in '*gapangita it pangabuhian*', the terms denote active pursuit of ways and means by which to live; it suggests the connectedness between women's work as one aspect of their living. The connectedness of *pangabuhi* and *pangita* are key concepts and principles which we can learn from in setting the vision and strategies of CBCRM. From Mabunay, Ma. L. 1995. Gender relations in fishing households in Talangban. PhD Thesis. McGill University.

into water wells. Pollution of potable water sources poses serious health risks. When family members get sick, women act as caregivers who must painstakingly nurse them back to health while at the same time continuing to perform their regular work in and outside the home.

A Case of Gender-Responsive Development

The Fisherfolk Association of Talangban (KMT) was organized in July 1992 by the University of the Philippines in the Visayas. Recognizing the gender issues in the community, membership in the association involved 13 households, deliberately encouraging both husband and wife to represent their households. The majority of fishers in Talangban operate stationary gears along the river and engage in occasional wage work in the fishpond around the area. A few are small owner-cultivators with an average of one hectare rain-fed rice land.

A community organizer spent considerable time on informal discussions, individually and in small groups, evoking environmental and economic issues affecting the local residents. When the organizers decided to formally set up the KMT, they defined their objectives as follows: to uplift the community's standard of living by engaging in economic projects, to promote environmental awareness in the community towards conservation of the environment; and to support and collaborate in the intermunicipal coastal resource management program in Batan Bay. Members underwent training in social and gender analysis, community organizing, book keeping and tilapia cage culture.

The cage culture of sex-reversed hybrid tilapia (*nilotica*) was developed Dr. Lourdes Dureza of the UPV College of Fisheries. Her work emphasized participatory technology validation. The KMT members enthusiastic received the training in tilapia cage culture, because the new knowledge would provide them with an additional source of income. The KMT organized themselves for the hands-on training on cage culture, the feeding, monitoring and cage maintenance tasks. They also met at least monthly for organizational meetings, especially on financial and organizational management. Households took turns in managing their project. Men, women and children helped in the feeding, the sampling, the cleaning of cages, and eventually the harvest.

After three months, the tilapia were ready for harvest at 3 to 4 pcs. a kilo and sold at PHP 45 per kilo. Marketing is no problem because there is a good demand for the hybrid tilapia which tastes delicious and with a texture comparable to highly priced fish. The KMT decided to sell the produce entirely by themselves so that they can earn the PHP 5 mark-up for every kilo that usually goes to middlemen. Except for this financial benefit, they decided that the net income would be reinvested in production, until such a time as they have expended their production and gained enough profit to distribute individual dividends. Women mostly handled the financial record keeping.

After one year, or four cycles of production, the KMT estimated a profit of more than PHP 11,000. This is not enough to solve the economic and environmental problems of the community but it has helped them in the following ways: 1) They have a ready source of food for the family and the community during fishing lean times. Tilapia of reasonable size can be selectively scooped out any time for their use; 2) selling the tilapia at a mark-up provides additional income to women and their families; 3) the experience of collective action in managing a project has fostered camaraderie and unity, trained people in leadership, organizational and entrepreneurial skills, and 4) women are recognized as partners at work and at home. Men have started to share more in household chores.

At the moment, KMT members are expanding into hatchery production of tilapia fry. The tilapia cage stands as an example of a viable aquaculture technology that can be managed by a people's organization for the benefit of both men and women. It contributes to food security by

supplying the food needs of the local community as well as a profitable source of income. When further expanded and developed, it can also serve as a partial alternative to exploitative fishing activities in the river and bay.

This technology's introduction would not have been as successful without some complementary interventions, namely:

- gender-disaggregated baseline and women-specific studies conducted by participatory methods;
- community organizing and continuing community education on environmental, economic and gender issues;
- networking and advocacy with LGUs, NGOs and POs;
- application of appropriate, environment and women-friendly technology; and
- gender awareness, equal sharing of responsibilities and decision-making in the home, in production, and in organizational activities.

Problems Encountered

The KMT are constantly reminded that tilapia cage is not a solution to the problem *per se*. They have to work with other groups in protecting the river and conserving the marine resources in the bigger ecosystem, such as the Intermunicipal Coastal Resource Management Council (ICRMC) which is composed of local government unit officials, government agencies, NGOs and fisherfolk organizations.

Once, the KMT they petitioned against the construction of a fishpond dike obstructing a natural waterway in their vicinity. Despite their repeated follow-up with various government agencies, their petition at the time of this writing had not yet yielded satisfactory response. The ICRMC has been hindered by political factionalism among LGU leaders. Fisherfolk participation in the ICRMC is still relatively weak, and they have yet to consolidate their ranks across the various organizations around the bay.

Within each organization such as in the KMT, members must cope with the individualistic tendencies of some members, the occasional lack of enthusiasm among members in undertaking their share of tasks, and the complacency of other fisherfolk in the community in protecting the environment. Follow-up training in financial management is still needed in terms of improving both the system of reporting and of checks and balances. Continuing education sessions on organizational and social issues must accompany technology development.

While there have been gender sensitivity training sessions, other gender issues in the community should be probed and addressed, for instance domestic violence and reproductive health and rights. Women's health tends to be poor due to frequent childbearing, poor nutrition and multiple work burdens. Some women cannot easily decide whether to go out of the house to attend meetings, especially if outside the village, without their husbands' consent.

Conclusion

The KMT has a long way to go yet in terms of achieving sustainable, gender-sensitive, development. At least, they have taken the initial steps. This case study has shown that a CBCRM project intending to adopt a gender-balanced perspective must acknowledge the interdependence of men's and women's labor and the value of each form of labor. It must help women to gain control over their labor and their time, for example by receiving help from their husbands and families in child care and other domestic tasks, so that they can join meetings, organizations, and training sessions. Finally, empowerment for women must be undertaken together with men, so

that people empower themselves collectively, and undertake the joint action necessary for sustainable development.

SUSTAINABILITY OF COMMUNITY-BASED RESOURCE MANAGEMENT IN THE CENTRAL VISAYAS REGIONAL PROJECT-PHASE I (CVRP-I) SITES

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ABSTRACT

The Central Visayas Regional Project-Phase I (CVRP-I Rural) was the first foreign-funded project to support the Philippine Government's decentralization program. Implemented from mid-1984 to December 1992, the project addressed the problems of declining productivity and rural poverty caused by continuing degradation of the region's natural resources. By promoting administrative and fiscal reforms, CVRP supported the devolution of power to the region as well as participatory resource management by smallholders in critical watersheds of Central Visayas' four island provinces (Bohol, Cebu, Negros Oriental and Siquijor). This paper will focus on the nearshore fisheries component and discuss some general findings from the overall CVRP experience in terms of implementation philosophy and prospects for sustainability after project termination.

Introduction

The Central Visayas Regional Project-Phase I (Rural), with funding from the Government of the Philippines and The World Bank, developed community-based resource management as an approach to rural development whereby entire communities become active participants in effectively managing their physical, social and economic resources. As a strategy for rural development, CBRM is founded on the philosophy that people, particularly farmers, fishermen and forest occupants, are de facto managers of the natural resource base in critical watersheds and stewards of the environment in which they live. In keeping with the definition of sustainable development advanced by the Bruntland Commission in "Our Common Future"—development that meets the needs of today's generation without compromising the ability of future generations to meet their own needs—this orientation was central to the original concept for CVRP-I. The guidelines for the application of this concept, however, evolved over the course of the project because in the early 1980s, when the project started being implemented, there were no solid experiences elsewhere to serve as guidance. Today, CBRM is one of the most widely acknowledged strategies for rural development in the Philippines.

The Central Visayas Regional Project Office (CRVPO) implemented the CRVP between 1984 and 1992 through nine site management units (SMUs) located in critical watersheds around the Visayas region. Sites were selected on the basis of the relative poverty of the area, degree of degradation of the watershed, as well as the area's development potential. CVRP-I had watershed management components dealing with three ecological zones in a typical watershed of the region: social forestry, upland agriculture and nearshore fisheries. Its investment in infrastructure such as roads, bridges, trails and domestic water supply systems accounted for about 60% of the project budget. CVRP-I support service components offered institution-strengthening programs for regional line agencies (mainly for Departments of Agriculture, Environment and Natural Resources), for local government units (according to a provincialization scheme initiated by the region in 1988), and for communities through community organizing and mobilization. In

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addition, process components included training and manpower development, research and development, development communications and technical assistance.

Methods and Process: The Nearshore Fisheries Component

As with the CVRP-I Upland Agriculture and Social Forestry Components, strategies to achieve the objectives of the Nearshore Fisheries (NSF) Component consisted of the following: (1) various technology and resource management interventions or activities, (2) community organization efforts, (3) infrastructure development, (4) training and technical assistance, (5) institutional development, including provincialization, and (6) measures to enhance resource access. Five NSF project sites were established: the Ipil Watershed of Bohol (Talibon, Jetafe, Trinidad, Bien Unido, Carlos P. Garcia), the Bayawan watershed (Bayawan, Basay, Sta. Catalina) and Ayungon-Bindoy in Negros Oriental, southern Cebu (Ronda, Alcantara, Moalboal, Badian, Alegria, Malabuyoc), and one encompassing all the coastal municipalities of Siquijor.

The Aquafarming Development Foundation, Inc. reports that a total of 114 fisher associations had been organized in the project sites as of August 1992. These associations became the entry points for various interventions, including the guarding of fish sanctuaries against violators as well as information dissemination and training on fish conservation and management. From 1984 to 1991, 182 barangays participated in the various project activities, which all together benefited 8,086 families.

The NSF component initiated various resource conservation and income-generating activities. Of the seven interventions implemented, four were designed to conserve, rehabilitate and enhance fishery resources, namely the establishment of artificial reefs (initially made of bamboo, and eventually developing concrete and rubber-tire modules), fish attracting devices, mangrove reforestation and rehabilitation, and management of natural coral reefs including the establishment of fish sanctuaries and improved monitoring against illegal fishing. The pilot nature of the project allowed it, to a certain extent, to experiment with various nearshore conservation technologies under previously untried conditions.

Other interventions included mariculture and seafarming. Various kinds of shells and culture such as fish cages, miracle holes within mangrove stands, and seagrass culture (*Eucheuma* and *Caulerpa*) were tested using technology guides developed by the Consortium for Integrated Regional Research and Development. Complementary income-generating projects involved the dispersal and redispersal of 132 heads of livestock as well as the weaving of mats and baskets by women fisherfolk. Where the project supplied technical assistance and materials, such as the concrete to build fish sanctuary guardhouses, the community residents provided the labor.

To raise community awareness of environmental degradation and the need for effective management, project workers took fishers on visits to other sites to see other or newer technologies in practice, produced pamphlets on destructive fishing techniques and technoguides on mangrove reforestation and the like. They formed out-of-school children into theater groups to present information to the community in educational, entertaining ways. The project also developed resource access instruments such as the Mangrove Stewardship Contracts, composite law enforcement teams, and inter-institutional resource access committees to settle tenurial and access disputes. It also assisted in the formulation of municipal ordinances dealing with users' rights and fish sanctuaries. Project leaders engaged in conflict resolution activities; for example, when some local chief executives protected individuals who had been apprehended by barangay wardens for illegal fishing, or in the widely publicized case of an influential foreigner who began cutting protected mangrove stands to make way for his beach tourism development.

Physical accomplishments in the NSF project sites included the management of fish sanctuaries in 4,621 hectares of coral reef area, installation of 1,164 clusters of artificial reefs and 278 units of fish aggregating devices, reforestation of 1037 hectares of mangrove areas (not

FISHERMEN AS RESEARCHERS IN THE CENTRAL VISAYAS REGIONAL PROJECT-I

Pamela Edo-Sullano¹ and Ponciana Cruda²

CVRP was actually a pilot project on the decentralization of power but is founded on the principles of CBRM and, specifically, on watershed management with the following objectives: resource management, decentralization and devolution. CVRP-I covered critical watersheds in the four provinces of Central Visayas: Cebu, Bohol, Negros Oriental and Siquijor. CVRP as a project was composed of two components, namely: watershed management and support services. Research formed part of the support services component of CVRP-I. It was supposed to develop farming systems technologies and, at the same time, to reinforce local capability to conduct such research with the participation of farmers or fishermen, something that was not very common in the early 1980s.

When CVRP started in 1984, Central Visayas was a part of Region VIII's (Eastern Visayas) research consortium, because Central Visayas did not have a very strong agricultural college of its own. We first formed a task force to develop a research consortium for Central Visayas through CVRP. Later, it became an inter-agency committee with about 15 member institutions, technical line agencies, some private institutions and a few honorary members. The consortium had its own purpose and objectives, because its formation as a group was only facilitated by CVRP. Through an iterative process, we decided to use Rapid Rural Appraisal (RRA) as our framework for CBRM research, and embarked with farmers and fishers on an experiment of different methodologies.

We wanted to create a facility that would enhance community participation and at the same time directly link farmers and fishers conducting research to a formal organization. This facility became a series of Research Core Groups (RCGs) composed of researchers and extension workers from DA, DENR and CVRP who advised farmers and fishers at our "satellite stations" in conducting experiments and verification trials at participating CVRP sites. The coastal part of research—involving Tanghaligue and Talibon in Bohol along with Enrique Villanueva and Tulapos in Siquijor—came much later; we started first with social forestry in four upland sites. We wanted to first to demonstrate a process that was necessary in order for farmers and fishermen to be involved from the very start of conceptualizing a research project, a research agenda and then in the actual experimentation.

We provided materials and training so that the farmers and fishers had what they needed in order to perform experiments. It was an ambitious dream of having this core group that was supposed to think about the research needs of farmers and fishers. We were concerned about sustainability, because if we hire our own researchers from the project, and the project ends, then our research ends with it. So we made a core group whose members came from DA and DENR, two agencies with research funds coming from the central government. This core group was trained and given all they needed to think, write, go to the field, talk to the farmers and fishermen and organize them.

The RRA was usually introduced during a barangay assembly, in which the residents are informed that a research core group is coming from CVRP-I to do rapid rural appraisal. Sets of RRA teams throughout the provinces would walk around the site and look, for instance, where their water supply was. At the same time, inter-agency teams would be gathering secondary data from different offices in the region, province, municipality and barangay concerned. Primary data gathering involved visiting the houses of farmers or fishers. It was a very tedious, fearful process and there were times when researchers were bitten by dogs or branded as NPAs (New People's Army). After this, the team was supposed to stay at the site for a week or so to work on the analysis of RRA results and prepare it

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for validation, a process that usually took the form of a barangay assembly attended also by the mayor and other LGU officials. The presentation typically consisted of the barangay profile, maps, transects and the list of problems seen by the visiting team but agreed upon by the barangay residents. The important part in the validation process was actually the vision setting, which involved asking local people to draw or write how they want the community to be in five or ten years so they get to analyze why they don't have this, why they want to have this, and so on.

Then, the local group at each barangay, together with the RCG and the farmers/fishers, select their own sites in which to do the experimentation. For coastal resource management, we held a field trial in Tanghaligue on the barnacle infestation on mangroves. In Enrique Villanueva, we experimented on *Eucheuma*. Farmers and fishers were actually doing the research with their own methods, supported by the RCG and field researchers. The methodology must be flexible to what the researchers want and need, and it must be very simple so they can understand it at once.

The farmer and fisher researchers in the satellite stations are also invited to larger forums, like regional reviews, where they may ask questions and give recommendations and suggestions. They are equipped with technologies that can be tried at their own sites, reference materials, and opportunities for attending seminars, conferences and other training for their own development. The farmer and fisher researchers then do their own evaluation, whereby they share their results with the barangay council and with other people in the community.

Some significant constraints hindered the process. For one, a consortium is actually just a formation of different agencies with no legal personality, and a commitment only to their own activities. Two, although the junior staff in any line agency would like to do or understand participatory research, sometimes the management itself or an agency or organization will be very hard to convince that participatory research is really possible and worthwhile. Finally, we did not have full-time RCG members. They were merely detailed from various line agencies, so every time their agency had some tasks for them, they got pulled out. In fact, because of these constraints, the research endeavor was not a very successful process. However, the consortium has stayed and received recognition as the research consortium for Central Visayas.

We also learned some lessons. One is the value of system-wide versus commodity-based analysis, meaning that we should not only look at problems in fisheries, but remember that many fishermen are also farmers who have problems on agricultural crops. The second lesson is on community participation in situation analysis, planning and implementation. By our own experience, it was very meaningful for us to have worked with people at the lowest economic levels—farmers and fishermen—and talk to them a little about technology development and participatory research. Lastly, we learned to appreciate simple technologies versus highly technical ones. Understandably, farmers and fishers want to learn about and do simple things. If you make things too complicated, they will just shy away from research.

In conclusion, research in CBRM should: 1) transform data into information useful to farmers/fishers; 2) generate alternative systems, options and solutions to current problems, and 3) involve the community at all stages of technology development or research from the planning to appraisal to actual experimentation.

Nene Guyo, fisher from the barangay of Tanghaligue, Talibo, Bohol.

Our research activity started on August 1989 when the CVRP-I, through the Research Core Group and their assistants, conducted a rapid rural appraisal. At the start, we were very happy because we, the fisherfolk, were given importance. They got us involved in getting information and they listened to our experiences and problems during their stay with us in our barangay. When they made the RRA, the most encouraging part of it was the validation and vision setting. Through this activity, the fishermen were able to realize the situation of the barangay, its various problems and what we have done about them. The researchers also heard our ideas on how we as fisherfolk can help the government, and what we can do in cooperation with them and other line agencies.

In this gathering, we illustrated our visions for the future, our families and our barangay. The fisherfolk of barangay Tanghaligue were united in identifying our problems and which ones should be addressed first. There were so many problems raised, but we decided first to find a way to stop the barnacles that attack our mangroves. Based on this, research on how to control barnacles was conceptualized. The CVRP-I and the RCG assisted us in preparing the research proposal, since we don't have the technical know-how yet. They also taught us the different methods tried by DENR in the control of barnacles in the mangroves: the use of malolexide to kill the barnacles, placing sacks around the mangroves, and scraping the affected mangroves with a knife. To compare results, some other barnacles were left alone. When the fisherfolk discussed the different methods, we decided that we would not use chemical poisons even if this proved to be the most effective method, because we don't want to kill the shellfish and fishes, since we rely on them for our daily consumption. We decided to try another method, namely placing coconut fronds around the mangroves. This is more economical than sacks, because the fronds can be collected locally, while the sacks cost PHP 5 each. Through this experiment, the fisherfolk were able to see for themselves which methods were most effective.

As cooperators, we also encountered problems in conducting the research. We did not get clear results because the duration of our study was supposed to be five years. However, when CVRP-I terminated, our research study stopped because we didn't have financial support. In addition to this, we lacked technical know-how. Still, we learned from this activity that even the poorest of the poor can contribute to research. We can also be scientific persons and can help in solving the problems of our own barangay.

including research trials in Banacon Island's mangrove stands), issuance of 1,490 Mangrove Stewardship Contracts, and introduction of mariculture in 90 hectares of farm sites.

According to an impact evaluation of community-based coastal resource management projects in the Philippines (Pomeroy et al, 1996), CVRP-I experience in the NSF sites reveals apparent success even in worst scenario cases, i.e., with some positive impacts despite partial or complete failure of a few physical project interventions in some of the study areas. At a minimum, fisher households and communities gained a sense of empowerment and increased knowledge as a result of the project. This was even evident in relatively less successful communities such as Tiguib, Ayungon and Malhiao, Badian. For instance, the same study noted that in Sta. Cruz, Ronda, none of the material interventions was sustained after project completion and yet, despite these project shortfalls, the fisher households claimed that CVRP-I fostered greater understanding and harmony in a community that had once seen strife, and made barangay residents more aware of environmental management and protection.

Implementation of Community-Based Resource Management

To more effectively pursue sustainable development of the pilot watersheds in Region VII, CVRP-I (Rural) in 1986 changed its emphasis from technology development to community organizing. The project's change agents were reoriented to community organizing principles, and a pool of community organizers was hired to assist the site resource management specialists. Indigenous grassroots groups had earlier acted as entry points for strategic planning exercises by the SMUs. Community organizations in the form of cooperatives, federations, associations and theater/research groups emerged and became partners in the attainment of the project's goals and objectives. Project staff facilitated leadership and human resource development training, exposure trips/cross visits and, most importantly, on-the-job experience for these targeted clientele.

A Provincialization Program was launched by the CVRP management in 1988 to insure that the government machinery would gain first-hand experience in supporting CBRM in some watersheds. Since 1984, the regional line agencies had been recipients of the project's Institution Strengthening (IS) initiatives in the form of capital investment, technical assistance, operating funds and management support. These agencies, notably, the Departments of Agriculture, Environment and Natural Resources, among others, even enjoyed provision for the hiring of additional staff. To complement this investment, and in line with the CVRP office's mandate for decentralized schemes, a separate investment with the local government units was made with capital infusion into provincial governments for both on-site investments and for replication areas. Provincial Resource Management Committees (PRMCs) were provided management and technical backstopping to establish the CBRM vision. Institutional capability building was pursued with the setting up of an organization with operational mechanisms to support the provincial resource management program.

In its implementation procedures, CVRP-I (Rural) attempted to nurture the CBRM process by focusing on two critical sets of actors: de facto resource managers, both as individuals and as organizations, and development change agents in the government machinery, whether based in regional line agencies, local government units or project staff. They are the key to providing local initiative, collective spirit, and the will to pursue their vision. Scrutiny of the CVRP-I experience reveals many varied opportunities that were accorded to individual farm/fishing households and communities since 1984. Facilitated by site-based project staff, including roving region-based technical assistance, the CVRP-I investment gave these targeted clientele the chance to gain experiential learning on resource management. Specifically, the processes that were facilitated at the community level included the following:

- analyzing prevailing location-specific conditions including constraints to development, resource potentials and opportunities for instituting changes, including the selection of criteria for a given set of actions;
- acknowledging the value of endemic biological species, indigenous technical knowledge, relevant information such as cause and effect relationships, and coping mechanisms used across generations;
- knowing their rights and privileges in society, getting acquainted with the government machinery, accepting their responsibilities and importance in sustainable development;
- developing technology or experimenting with new designs, ways and means to respond to identified needs—including planning, designing, innovating action, implementing the plan, evaluating and learning from results;
- sharing experiential learning or results with others using simple communication strategies so as to incite others to adapt, test results in their own circumstances, or add to the growing pool of knowledge;
- building linkages with groups and/or individuals to support their vision as contained in their own programs;
- organizing to become power brokers in their communities in the search for resources to support felt needs and common vision including the reallocation of scarce governmental resources or policy formulation in aid of equitable development.

These opportunities have been processed during strategic planning exercises, rapid rural appraisals, cross visits or exposure trips, script writing and theater presentations, barangay assemblies, and the meetings of various people's committees such as community nurseries, livestock committees, microwatershed development committees, and contract reforestation associations. Behind the physical indicators of success in the project are the unquantifiable processes such as these that make these technological and concrete outputs possible, for it can be stated that the project has endeavored to be process oriented and participatory in arriving at progress.

Sustainability of CBRM in the CVRP-I Project Sites

To gauge the sustainability of community-based resource management in the CVRP-I pilot sites after the termination of the project, two factors in the institution building process must be assessed: (1) the internal characteristics of the community-based organizations and key leaders among the de facto resource managers, and (2) the external environment of the government machinery which had been the vehicle established by the project to sustain CBRM in the post-CVRP stage.

By the end of CVRP-I in 1992, the de facto resource managers and most of the community organizations facilitated by the project had been enriched with knowledge and practical experience in resource management in their respective locations. Knowing that sustainability depends on mature organizations endowed with committed, constructive, technically and politically competent leadership, CVRP-I spent time honing the collective spirit of the community of de facto resource managers, opening the gate for individual growth and development to all. This means that a pool of leaders on resource management—rather than a limited few—has been nurtured over the years. CVRP strove to promote mechanisms for democratic selection of new leadership when the present leadership in some sites becomes ineffective, inefficient or unavailable, and to encourage staff spirit within the organizations to call for and initiate change when the need arises. Several cases during the last few years of the project have shown this to be happening with or without project intervention! Furthermore, creating several specialized committees spread the risk as well as the skills of development. This

means, then, that for community-based development to occur, there is a need to interact with other skilled groups in the community to bring about systematic and holistic development. No single group has exclusive knowledge or skills in development. These groups each have patterns of decision making, communications and control that enable them to carry on their work in a relatively efficient and creative fashion.

Next to leadership, a second important characteristic of a mature and viable organization capable of sustaining CBRM is a pervading sense of purpose and commitment. This characteristic, while largely present at this phase of CVRP-I, will be tested after CVRP-I pulls out. Provided that a democratic atmosphere will be observed and nurtured within the community and in the surrounding communities, there is no evidence as of yet that clientele loyalty to the CBRM process will wane. Should an oppressive political and policy environment ever arise, it is logical to expect that the greatest resistance will come from within the CVRP-I sites where communities have had a taste of the fruits of CBRM, in which their dignity, rights, and will were allowed to prevail. Their journey to success was often not smooth during the project—indeed, many times the clientele felt several forces attempt to waylay their plans and visions. But first-hand experience has emboldened the target clientele to face the obstacles. Because the project did not spoonfeed the clientele, because they had to counterpart the project's development efforts with their own resources, and because these beneficiaries have tasted success, it is rational to expect these clientele to be able to respond to changes more responsibly and effectively than other groups who may never have had such exposure. For example, the fisher households in Calagcalag, Ayungon noted that because of their involvement from the beginning in the implementation of the project sub-objectives, they better understood the difficulties involved in the introduction of new technologies. In addition, the 1996 impact study by Pomeroy et al noted the larger increase in their ability to participate in and influence community affairs and in their self-esteem as a result of their role as an organization in community organizing, implementation of project improvements, associated surveillance and enforcement activities.²

Programs which meaningfully reflect the organization's commitment and purpose on resource management is the third internal characteristic towards sustainability. Groups that have become structurally more formal, e.g., associations, cooperatives and federations, stand a greater chance of sustaining CBRM after CVRP-I. Each CVRP site has at least one association, cooperative and federation with a concrete program for development. Situated in the premier barangays, these groups can sustain CBRM in their respective areas. The Asian Institute of Journalism has written several success stories of such groups, while the World Bank has included some of these sites in its documentary film "Investing in People." However, most other groups still need guidance and leadership to translate their vision into a concrete program, starting with a project in the pipeline that is their own from inception to evaluation.

Funding constitutes a critical obstacle to the sustainability of resource management efforts. In many project sites, people's organizations have insufficient resources to continue existing programs and start new ones. In some places, better prepared groups still nurse a collective spirit, e.g. Zaragosa Island in Badian and Calagcalag in Ayungon, Sto. Niño in Talibon, Palanas in Ronda and Enrique Villanueva in Siquijor. For far-flung areas like Tiguig in Ayungon, Malhiao in Badian, and Sta. Cruz in Ronda, networking with established groups is wanting. In fact, this one precondition for co-management, i.e., regional scope of operations or affiliation to a national/regional federation, is often the missing link for CVRP-I NSF communities. Resources such as funds are very restricting despite the revolving funds initiated in 1988-89, if one is to remember that the project clientele are subsistence farmers and fishermen, and cases of savings resulting may be too few and household based. There are cases, though, when project-facilitated

² Robert S. Pomeroy, Richard B. Pollnac, Canesio D. Predo and Brenda M. Katon. "Impact Evaluation of Community-Based Coastal Resource Management Projects in the Philippines." Research Report No. 3, ICLARM/University of Rhode Island, June 1996.

external assistance was enjoyed by some organizations (e.g., KANIA of Aguing, Bohol through the Canadian International Development Agency).

While most of the CVRP-initiated organizations have the legal authority to initiate their programs, logistic and financial support for these programs at this point in time are needed from external sources as well. Linkages with other groups to insure support for their programs and projects are needed. Enabling linkages with groups who control access to resources have been instigated by the project, such as through the Regional Resource Access Committee (RRAC) of the RDC. However, whether this governmental machinery will prioritize the needs of the CVRP-I target clientele remains to be seen. Functional linkages with groups who have use of the people's organization's services/outputs have been initiated for some of the clientele. Examples of these are the barangay "barefoot technicians" for training, farmer-researchers for farming systems research, and some cooperatives for their produce. But those organizations with services such as contract reforestation and nurserying and sea-farming produce will be competing in the open market with advantaged groups. Their survival and growth will depend on how competitive they will be in the market.

The Role of Government in CBRM

Development is a dynamic process. Sustainable development can materialize through community-based resource management, provided that government promotes not only the harmony among human beings but also between humanity and nature. This means that the policy and political environment, especially with reference to the CVRP-I sites, must sustain a favorable condition for the local initiative created earlier by the project. During the project's existence, how did the government provide for this atmosphere?

From the policy-makers in the CVRP Board to the project management in both the regional office and site management units, the project maintained a philosophy of decentralization or devolution of power, and diversity of style and variety of choices that recognized inherent people power and emphasized the primacy of what the people need, want and can achieve. They were people-centered, especially for the resource-poor, systems-oriented, resource-based with bias for community processes. This philosophy grew over the years of project implementation, and the style resulting from it spread in varying degrees across levels of project implementors. A case in point is the Regional Development Council in Central Visayas which, through the CVRP Office Projects Board, exercised a democratic process of allocating scarce resources, formulating policies and deciding on issues in support of action in the field.

Project implementors, particularly the project staff, acknowledged their roles as change agents of development. As such, they are the colleagues or partners of the de facto managers as they discuss, experiment, implement, analyze and diffuse their knowledge of resource management. This radical shift in orientation from being the main actors of development came about early in the project life. There had been more difficulty, however, in changing the orientation among the staff of regional line agencies and some local government units who had been accustomed to being the main actors in other government projects. The major difficulties also arose because of the more laborious nature of being process oriented rather than technology-output oriented. In the latter case, for instance, the government staff can just disperse heads of animals to arrive at their output; but CBRM requires that the process of setting criteria for dispersal be established by a community committee, then the selection process is undertaken by the committee with the government personnel rendering technical assistance in evaluating the potential recipients. Such efforts can be exhausting, and may take place beyond regular office hours, since it is the schedule of the farmers in the committee that must take precedence. In this respect, the CVRP project personnel who are site deployed and live in the target barangays have an advantage over regular government personnel. The traditional practice of short farm visits akin to project scanning cannot suffice for effective CBRM requirements. However, the Cebu

provincial government installed after the May 1992 elections have regressed to this traditional form of project service.

To create a favorable policy condition with respect to tenurial security, CVRP established Resource Access Committees at both regional and provincial levels to discuss and resolve resource access cases in the CVRP-I sites. This committee has become a member of the Regional Development Council, and it is hoped that they will not only continue to resolve access cases, but that they will also formulate policies in aid of legislation—especially users' rights of marine resources that have remained ambiguous to date. Stewardship contracts and contracts for reforestation extend beyond project life. The DENR, though, has favorable national programs that can see these contracts through. And DA regional staff are now more conscious in implementing laws against different forms of illegal fishing. During the project life, project staff acted as buffers against power plays in the tenurial cases, including even illegal logging activities.

Capital investments for the basic needs of the CVRP-I communities, particularly physical infrastructure and educational facilities, are largely in place. Maintenance of these outlays by the government will be needed to ensure long-term benefits for the localities and beneficiaries. The track record of government with respect to maintenance of capital investments has not been encouraging, though. It is hoped that the provisions of the Local Government Code will be sufficient to capacitate the local government machinery to perform this sustaining function.

The project infused a significant investment of money and technology into the government bureaucracy to capacitate it to provide services and inputs to support the resource management programs. Electronic data processing for speedy monitoring, evaluation and reaction to community programs have been set up side by side with state-of-the-art transportation and communication facilities for efficient delivery of goods and services. Government personnel had been beneficiaries of sufficient training programs based on the needs to support CBRM. In the latter, the government personnel had been exposed to alternatives and options which, in turn, can give the farmers and fishermen a wider repertoire of farming systems. A system for inter-agency cooperation and resource sharing has been initiated by the project. Effective multidisciplinary team effort had been experienced during project implementation. Capacitation, then, has been done. Whether the existing government machinery in both the local government units and regional line agencies will have the *will* to continue such service can only be answered by the government unit concerned.

Indicators of continuity or effectiveness in carrying out this service has changed dramatically after changes of political leadership. In the political setting, power holders have changed, and while at one instance, a social system may have been established to provide solutions to tensions that may arise in the implementation of CBRM, gains may be dislodged by an inflexible administrative system that has no capacity for self correction. In such cases, project management simply awaited more favorable conditions while keeping the doors wide for a win-win situation. Should such a stand-off occur post-CVRP, there might be no venue for negotiations where suitable solutions can be reached. Thus, a continued system to secure effective citizen participation in resource management rests on the *will* of existing political leadership.

The CVRP-I experience indicates that sustainability of community-based resource management will bear out in the CVRP-I sites where the community organizing process resulted in mature and viable people's organizations duly supported by a capable government unit with the will to sustain the CBRM approach to development. In the worst scenario, where communities remained recipients of change rather than the implementors of change, and where the prevailing government bureaucracy did not support CBRM, these watersheds may still enjoy the results of some technological interventions in the short term. However, in the long term, benefits may come to a standstill unless external interventions, either by governmental or non-governmental actors, correct the trend. For several watershed communities in the CVRP-I pilot sites, persistent

problems will turn into challenges that can be tackled and overcome because the people now have the skills and the spirit either to persist, resist or insist on changes.

Conclusion

There are several reasons to view CVRP-I as a success. First of all, it was a radical project in its scope and sensitivity to the participation of communities in providing for their own welfare for generations to come. Second, in several project sites, the DENR Coastal Environment Project has used CVRP-I pilot sites as models for learning about CBRM, and in so doing has ensured for these communities a good policy and administrative environment in which to sustain their activities. Some non-government initiatives, such as those led by CEMRINO and the German Development Service, USAID-funded initiatives, and others have also tapped CVRP-I communities for lessons to apply in their own interventions under different co-management schemes.

In the CVRP nearshore fisheries sites in particular, according to a follow-up report: “The CVRP-I has laid the groundwork for a community-based resource management regime in the region. Fishermen’s associations have been organized and enlightened on the value of fish conservation and management. The positive contribution of CVRP-I in increasing catch and incomes of the poor fishing households warrant continued efforts in its resource management schemes into the future.” The report goes on to recommend the development of further legal instruments to provide “a policy framework and define responsibilities for fishing community organizations, governmental institutions, non-governmental organizations and regional political units under a joint management arrangement” and to “guarantee exclusion in access to the project’s gains through a well-defined system of property rights for the cooperators and a system of payments by the non-cooperators who also benefit from the project activities.”³

More generally, the context of CVRP-I initiatives—working with resource poor, marginal and subsistence farmers, fishermen and forest occupants in the most degraded resource base in the region—makes it all the more inspirational. Where people had given up hope for the future, and the prevailing atmosphere was distrust for government programs and personnel in the early stages of project implementation, it was difficult but rewarding to provide opportunities for these marginal groups to painstakingly reflect on their conditions, and then to see them dare to plan and experiment with untested technologies, and finally to take time and effort to analyze and share their learning! The effects of renewed dignity and optimism, and the strengthening of capacities among these subsistence groups to manage their scarce resources pervades to this day in the project sites, especially among those in the premier barangays. These results alone suffice to justify the efforts exerted by the project.

³ Linda M. Peñalba, Marian S. delos Angeles, and Herminia A. Francisco. *Impact Evaluation of the Central Visayas Regional Project Phase I (CVRP I)*. Discussion Paper Series No. 94-22, Philippine Institute for Development Studies, Dec. 1994.

Nong Pediong Padilla, Calituban Island, Bohol

The first seminar initiated by CVRP in Calituban was on the planting of mangroves on the island. The second part of the seminar was a visit to Apo Island, which has a fish sanctuary. I observed that the sanctuary really improved the living standards of the local people and brought benefits to the fisherfolk. When I went home after the seminar, I explained to the barangay captain and members of the council what I had seen. I was very thankful they listened to me, and they gave importance to my learning. At that moment, because it was a regular assembly session, I proposed a resolution regarding the establishment of a fish sanctuary in Calituban Island. Fortunately, the council were agreeable and they approved the resolution on December 22, 1988.

We did not take immediate action, since we were dealing with politicians, and we had to wait to see who would be newly elected. I was one of those selected because people see that I am hardworking. In May, 1989, we created a law that any fisherman who enters the fish sanctuary will pay a fine and face administrative prosecution. The fines that are collected are set aside by the barangay treasurer for use in purchasing bamboo and rope for markers, or for buying batteries for flashlights to monitor the fish sanctuary.

Before the sanctuary, our fish catch was very limited. After the sanctuary was established, no fishermen from the island entered the area, since they understood the concept. There was only one instance when somebody threw a net in, but he was not from the island, and did not know there was a sanctuary. He was forgiven, but the offense was recorded by the barangay secretary. The violator also proposed that he give his catch to the barangay as a donation, so that he would not be sued in court. We sold the fish in Cebu. Fortunately, we got a very good price, and the income was deposited with the barangay treasurer so that if there are things needed by the association—such as markers, ropes, batteries, etc.—there will be money to purchase them. Nobody was against this process, because everyone was after the good of the coastal resources.

So even when CVRP terminated, we still protected our sanctuary in Calituban. We are also very thankful to CVRP for initiating the project in our area.

Calixto Yao, Provincial Environment and Natural Resources Office (PENRO), Siquijor

I would like to mention a few examples from Tulapos, where a fish sanctuary is run by a real community-based fisher's organization under the CVRP coastal resource management program. The fish sanctuary was established some time in 1984 through the initiative of the CVRP-Siquijor with the Tulapos United Fishermen's Association (TUFA). This was after a public hearing was held, attended by the mayor and other officials and of course the community. The sanctuary area is located about 500 meters south of the municipal hall of Enrique Villanueva. This is the eastern side of the island, consisting of 13 hectares, fronting a beautiful beach which has good potential as a beach resort. It is framed by a mangrove stand consisting of *sonneratia*, *pagatpat*, and some *bakwan*. The project was assisted by several line agencies and universities. Silliman University, for example, helped seed the area with giant clams, the *tridacna*. The LGU and the PNP also supported the project by offering protection. The DA provided used tires to establish artificial reefs, while the DENR coordinated the mangrove establishment effort.

The mangrove establishment program lasted from 1985-1990, and right afterward the area teemed with fish. But then poaching started. Fortunately the CVRP was able to provide the fishers' association with a pumpboat that they can use to apprehend violators. There were times that they had to resort to ingenuity, for example, using fire crackers to bluff poachers at night. The poachers believed that the association was using real guns, so they scampered away.

Then, in 1992, when the Hon. Rhett Pelaez visited the area, he saw how during the night time and rainy seasons, the fishers' association and the PNP wardens have a problem in taking cover. So the presidential assistant provided a little amount of money for the construction of the guard house right in front of the sanctuary. In 1994, the DENR established the Coastal Environment Program (CEP), which is the baby project of our former DENR secretary, Angel Alcala. The association became a beneficiary of some employment contracts under the DENR through the CEP, for example, planting mangroves and building infrastructure.

We didn't know that what we were doing was already co-management. For example, we used an old building from another, discontinued project nearby, and the association—many of whose members are carpenters—constructed a tree house atop a branch of the big *pagatpat* tree, about 100 meters from the shoreline. This is now becoming one of the main attractions in the area, because even tourists and local residents are coming to see the tree house.

Then the DENR bought some bamboo for the fishers' association to construct a bamboo fish trap to be used on agreed sharing arrangements, which means that whenever they catch fish, they put some aside to feed our visitors. We are now constructing a multi-purpose building with attic rooms, which will later be used for small group training. This is again an opportunity for the association to manage and cater food services.

Cesar Suminguit, Secretary of the Tulapos United Fishermen's Association (TUFA), Siquijor.

In 1984, CVRP was implemented in Enrique Villanueva, Siquijor. The CVRP staff conducted a seminar on the management of coastal resources. We, the fishermen of Tulapos, were organized into an association called the TUFA. Our association accepted a contract with CVRP for the construction of concrete artificial reefs, with 25 clusters, each cluster comprised of 32 modules. The DA also told us to make artificial reefs out of used tires, with 3 clusters. Most of the reefs we constructed are made out of bamboo. The bamboo reefs easily attract fish, but they also easily rot. The TUFA also entered into contract for the planting of mangroves in two contiguous barangays.

In 1986 the CVRP recommended that we establish a fish sanctuary, so we conducted a public hearing inviting the municipal mayor and the public as well as people from different government agencies. We immediately coordinated with the municipal mayor on the use of illegal fishing devices, and we recommended that they be abolished, especially the use of *sahid*, because it is a method of fishing that destroys coral reefs and washes out the natural habitat and food of the fish. We always explained all these things to people in the community so that they will understand that this is the way to increase the number of fish. The DENR is recommending to its central office that Tulapos and three other contiguous barangays will be made into a protected seascape.

Rogelio Salindo, President of the Tulapos United Fishermen's Association (also elected "Best Fisherman for 1989), Siquijor.

I will start at the time that Mr. Pelaez and Mr. Jun Bojos visited our area and asked us what problems we had encountered on our fish sanctuary project. We told them that our first problem is the need for a guard house, because we need shade in times when we guard the sanctuary. In the early days of our sanctuary, we would just lie down in the sand. So Mr. Pelaez called the CVRP manager, Mr. Ernest delos Angeles, and told him that a guard house should be built for us. The second thing we asked for was law enforcement. We need enforcers to stay with us in guarding the sanctuary. He immediately called the provincial commander to give us two CAFGUs (armed civilian law enforcement support) every day together with a policeman.

Moreover, we did not expect Director Alcalá's Coastal Environment Program (CEP) to reach our barangay. But our barangay was chosen as the model site in the province of Siquijor. It is our great pride that in the whole province of Siquijor, our barangay was made the first model site, because of our project on which we worked very hard. What we did first was to plant *bakhaw* in all the vacant lots of the barangay and neighboring barangays. Second, we constructed a building—a tree house. Third, the multi-purpose building. Fourth, we made a *bubo* (fish pot) so that whenever we have visitors, we just spread this where the visitors can eat. Fifth, our association established a small store.

There are so many tourists and other visitors from Central Office or Region VII. We are also planning to invite Mr. Bojos again so that he can also witness what TUFA has accomplished. We he visited us before, he asked us whether our association will survive independently even when CVRP terminates. I assured him that I will do everything I can to help the project survive forever and leave something for our children so that they will not be too hard up in the future. That's why I and the other fishermen and our families are all united in improving our baranagay. Now, when somebody visits our fish sanctuary, based on what they see, we no longer hear bad comments but only good ones. Even Governor Ben Aquino said that our fish sanctuary is the second best one based on a survey conducted throughout Region VII. Illegal fishers, they all have penalties. The last one we caught was from Santander; he paid a very big amount because he used a compressor. We also confiscated the fish that they caught. We did not forgive them. We are really protecting the project for the future of our children.