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**Women's Participation in the
Cogtong Bay Mangrove Management Project:
A Case Study**

by

**Rekha Mehra, Margaret Alcott,
and Nilda S. Baling**



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PREFACE

With few exceptions, women are at the center of the environment and development nexus. In most communities, women have a pivotal role in economic development and in challenging poverty. They perform many of the agricultural tasks and raise small livestock, provide firewood and water, generate substantial income for the family budget from sale of handicrafts, a variety of grown and wild foods, firewood and other products, and care for their children and homesteads. To accomplish their tasks, women are, formally or informally, resource managers. As conservation actors (i.e. any individual who takes action regarding the management of natural resources) they must be fully involved in the decision-making processes regarding resource use.

Thus, women must be integrated into conservation and development efforts to meet the dual objectives of better management of the resource base and improved community welfare. The challenge to development practitioners and conservationists is not only to involve women directly in managing biological resources, but also to increase the productivity and efficiency of their labor, which will contribute greatly to their community's ability to explore new economic and conservation activities.

Within the international development and conservation communities, there is growing recognition of the importance of women's roles in the development process and in natural resource management. The primary vehicles through which most conservation and development agencies can have an effect in this area are community projects. Thus, project design and implementation must include a consideration of gender issues.

The objective of "The Gender Factor in Community Development and Resource Management" project, of which this study is a part, is to heighten our awareness of the critical roles women play in natural resource management and sustainable development, and to strengthen the skills of the staff involved in the preparation and implementation of these projects. Staff require a new set of conceptual and analytical perspectives and skills to deal explicitly, effectively, and efficiently with women-related issues in the spectrum of conservation and development.

As the second paper in the series intended to examine the role of gender in community development and resource management, this case study of the Cogtong Bay Mangrove Management Project in the Philippines takes an in-depth look at the issue. It examines the extent and nature of

The priority and urgency of integrating women more fully into the development and conservation process dictate that development practitioners and academics strengthen their analytical approaches to this task. This publication and subsequent case studies are a step in that direction and, we hope, they will stimulate other similar efforts by our colleagues in the development and conservation communities.

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1. Introduction

Found throughout the extensive coastline of the Philippines, mangroves represent a rich and valuable ecosystem. By providing nurseries and spawning grounds, mangroves support many fish species and crustaceans in the immediate areas and many miles offshore. They afford protection for coastal environments by reducing erosion, controlling flooding, and reducing the damaging effects of storms. They also maintain water quality by acting as silt traps and function as habitat to important birds, mammals, and reptiles.

Mangroves also represent an important economic resource providing food, shelter, and incomes for both traditional and commercial users. Apart from the fish and shellfish that flourish in mangrove areas, they provide timber and fronds for a wide variety of uses, including fuelwood, charcoal, scaffolding for houses, poles for fish corrals and fences, posts, and traps. The leaves of the *nipa*--a variety of mangrove--are woven, dried and marketed for roofing for rural houses. Mangroves are also used to culture milkfish (*Chanos chanos*) and, to a lesser degree, prawns (Vande Vusse 1992). In addition, the seagrass meadows in the coastal areas contain valuable marine products such as rabbitfish, mullet, blue crabs, sea cucumber, and seaweed.

The widespread use of mangroves has contributed directly to their depletion not just in Cogtong Bay but throughout the Philippines. About 70 percent of the 450,000 hectares (ha) of mangroves found in the Philippines early this century have been destroyed (World Bank 1989). Most of what remains now is secondary growth of brush and young mangrove forests. The major source of destruction was the felling of mangrove trees for log exports during the 1960s. Other factors include open access to the resource and pressure from a growing population. A further source of depletion is the unregulated conversion of mangroves for fishpond development (World Bank 1989). The destruction of the mangrove habitat threatens related marine species dependent on the ecosystem.

The government has attempted to stem mangrove depletion by declaring, in December 1981, approximately 78,393 ha of mangroves to be wilderness or forest reserves. The government has also regulated the use and development of mangroves in other areas. These measures were reinforced by a proclamation on environmental impact assessments that permitted challenges to the proposed conversion of mangroves for industrial, tourism, and fishpond development. In 1990, an administrative order of the Department of Environment and Natural Resources (DENR) of the Government of the Philippines made all mangrove areas except wilderness available for community management, provided it is utilized sustainably (Vande Vusse 1992). The principles underlying

community management of mangroves include the idea that, as indigenous users are the real day-to-day managers of the resource, management functions should be decentralized. A related idea is that rehabilitation and management practices of local users can be enhanced by providing long-term security of tenure. Pursuing of this idea, the DENR passed an administrative order in 1991 that provided for awarding Mangrove Stewardship Certificates (MSC) to deserving users of mangrove forests.¹

Community management and security of tenure were the two main principles underlying the development of the Cogtong Bay Mangrove Management Project. The project was initially funded from January 1989 to September 1991 by the United States Agency for International Development (USAID)/Philippines, through the DENR as part of the larger Rainfed Resources Development Project (RRDP). It was implemented by the Network Foundation, a non-governmental organization (NGO) with headquarters in Mandaue City, Cebu, with staff based at the project site.² The case study on women's involvement in the project was undertaken in August 1992, almost a year after the termination of USAID funding. During that period, the World Wildlife Fund (WWF) Philippines had provided bridge funding for the continuation of the project. The funds did not actually become available until early in 1992 and were sufficient to support only a few months of work at the site.

¹ The MSC offers a 25-year renewable conditional lease to the steward who agrees to keep the area under permanent mangrove cover (Vande Vusse 1992).

² The original USAID contract was won by ACIPHIL, a rural development consulting firm. The Network Foundation became ACIPHIL's partner and undertook implementation of the project when, a few months after ACIPHIL had won the contract, it was found by USAID rules not to qualify as a Philippine NGO.

2. The Cogtong Bay Mangrove Management Project

Cogtong Bay is located in the Central Visayas region of the Philippines in the southeast of the island of Bohol. The project site incorporates about 2,000 ha of mangrove forest along the coast, 1,300 ha of which are vegetated. The rest of the mangroves, comprising 700 ha, have been converted into fishponds--some legally and the rest illegally. The mangrove areas have been cut extensively in the past but have recovered well. In addition, portions of the mangroves, covering four small uninhabited islands at the mouth of the bay and totalling about 225 ha, have been set aside as wilderness. They are well vegetated but with secondary bushy growth, having been cut repeatedly. The Bay also contains about 3,000 ha of seagrass meadows (The Network Foundation n.d. and 1992).

The project area includes 14 coastal *barangays* (an administrative subdivision) and the two municipalities of Candijay and Mabini, with a total population estimated at over 52,000, eighty-five percent of which is self-employed, primarily as farmers (68 percent) and fishermen (9 percent in Candijay and 15 percent in Mabini). The communities are poor--average annual household income in 1988 was about P 4,800 or U.S. \$228, well below the Philippines' per capita GNP of \$630 (World Bank 1990). Unemployment is high. Most people, in order to augment their earnings, engage in a number of different occupations. These include carpentry, handicrafts, retail trade, and *nipa*-weaving. Candijay is an active commercial center with 132 *sari-sari* or small general stores, rice mills, and public markets. There is, by contrast, very little commercial activity in Mabini.

By way of services, most *barangays* have primary schools although facilities are inadequate. The Bohol School of Fisheries, located in Cogtong, offers secondary and college education and many of the graduates are from the local area. A large number are, however, unemployed. Access to health services is limited. Only 5 percent of Cogtong's population has access to piped water. The rest of the population must obtain water from individual public artesian wells, open wells, and springs. Secondary roads and a portion of the national highway provide access to all shores of the Bay and to the provincial capital of Tagbilaran City, about 92 km away.

As in other parts of the Philippines, mangroves and other coastal resources in Cogtong Bay are seriously threatened. Factors contributing to resource depletion include cutting of mangroves for firewood (for both household and commercial use) and illegal development of fishponds. The loss of the mangrove habitat may also be contributing to declining fish harvests. Fish yields also have

been declining because of illegal fishing, especially the use of fine mesh nets, trawling, and dynamiting. Dynamiting also destroys coral reefs, another contributor to loss of habitat for fish.

Destruction of mangroves and depletion of fish resources are serious problems because many economic activities (both subsistence and income-earning) in Cogtong Bay center on these coastal resources. While only a small percentage of the community claims fishing as the primary profession, more than half of Candijay's residents reported production of *nipa* shingles as a secondary occupation. Many families also rely on the mangroves to obtain shellfish, algae, crabs, oysters, and other marine products for home consumption and sale.

Most of the fishing is done by artisanal or small-scale fishermen who own small boats and fish with traditional gear such as handlines, gill nets, spears, cast nets, fish corrals, and fish traps. Even though the small fishermen do not often harvest surpluses, they tend to sell or barter their limited catch. The best fish are almost always sold, often to middlemen (or women) for resale in big provincial cities, while lower quality fish are sold in local markets or consumed at home. Commercial fishing, involving one commercial boat in Candijay and five Danish boats in northern Mahini, is done just outside the project area.

A significant problem in maintaining habitat and sustainable resource use in the fisheries sector of Cogtong Bay, as in other parts of the Philippines, is the potential for corruption among officials of line agencies charged with protecting resources and ensuring their fair and equitable use. Some local officials and richer, better capitalized, and more politically influential residents and nonresidents contribute disproportionately to resource depletion. They are, moreover, not held accountable for illegal use of resources from which they may obtain substantial profits (Francisco and Israel 1991). For example, although mangrove harvesting is not permitted in Barangay Banas, certain *barangay* officials harvested large quantities for commercial sale. Some fishpond developments in Cogtong Bay are also illegal and, in one case, the mangrove has been converted to a fishpond but kept unproductive. Besides having a devastating impact on coastal resources, such problems are an important source of frustration and discontent among local people whose very survival depends on these resources.

Project Objectives

The primary objective of the Cogtong Bay Project was to improve management of the Bay's coastal resources by organizing local communities to undertake this responsibility for themselves (Network Foundation n.d.). A key element of the strategy was to provide an incentive for better management by giving individuals within the local communities (mostly small-scale fishermen and farmers) secure tenure over specified coastal areas which they would manage. Specifically, the project sought to accomplish the following tasks:

1. To organize the residents of eight coastal *barangays* to undertake the coastal resource management activities listed in item 2 below.
2. To assist area residents to
 - a) rehabilitate 400 ha of mangrove forest using an Integrated Social Forestry (ISF) approach and to award stewardship agreements over the rehabilitated areas;
 - b) construct and place 80 clusters of 25 concrete artificial reef modules each;
 - c) initiate the culture of commercial oysters and green mussels;
 - d) control the use of illegal and destructive fishing methods in the project area; and
3. To identify and test new approaches in mangrove rehabilitation and management. Although not directly stated, an implicit goal of the project in enabling participants to use resources more sustainably was to help them improve their incomes and better themselves economically.

Over the period of two and a half years during which the project received funding from USAID, project staff succeeded in accomplishing many of the tasks outlined above, as shown in Table 1.

Table 1. A Summary of Project Targets and Accomplishments, January 1989-June 1991.

Activity	3-year target	2.5-year accomp	% of target
Coastal barangay organized	8	11	138
Fishermen's associations (FA) formed	8	13	163
Mangrove			
Reforestation (ha)	75	150	200
Enrichment (ha)	300	100	33
Stewardship agreements issued	265	250	94
Assisted natural regeneration in wilderness areas (ha)	25	15	60
Rehabilitation of existing forest (ha)	0	27	
Replanting of illegally cleared fishpond area (ha)	0	15	
Prevention of five illegal fishpond developments (ha)	0	100	
Protection from commercial firewood cutting by outsiders (ha)	0	1000	
Artificial reef clusters (25 concrete modules each) constructed and placed	60	44	55
Mariculture			
Family oyster plots established	18	17	94
Family green mussel plots established	22	20	91
Illegal fishing largely controlled	yes	yes	100
Credit obtained by a FA	0	5	
Training given			
Small group	0	8	
Individual "on the job" for Bohol School of Fisheries students	0	5	

Source: ACIPHIL 1992

Project Implementation and Impacts

Community organizations (fishermen's and farmers' associations) were set up in eleven *barangays*--three more than were targeted (ACIPHIL 1992). Members held regular meetings whose proceedings were recorded by the process documenter on the project staff.³ Each association was headed by officials selected from among the members. Activities undertaken included most of the tasks listed above for the Cogtong Bay Project. Most associations engaged in mangrove planting. Stewardship certificates were issued to 250 members, primarily male heads of households. Oyster and mussel cultivation were adopted only in places where this was a traditional activity and the environment was suitable for it. Project targets for introducing mariculture were almost fully achieved although only successful at one site. As shown in table 1, just over half the target for artificial reef construction was accomplished.

Implementation of the mangrove rehabilitation and management component of the project was delayed due to bureaucratic difficulties encountered in securing access to suitable mangrove areas. Appropriate mangrove areas were apparently fully owned so project staff were compelled to afforest new areas rather than rehabilitate old mangroves that had been deforested.⁴ The only available area for planting was on mudflats that are not a particularly favorable environment for mangroves as they are susceptible to being uprooted or destroyed by barnacles, oysters, and other crustaceans. Although project staff attempted to take precautions to protect the mangrove propagules (seedlings) by raising them in nurseries for six months, the complete success of these plantings was not assured. In fact, project participants in Cawayanan reported that their plantings had not been successful.

The rehabilitation component of the project was finally undertaken in June 1991 when the district government, under orders from the DENR in Manila, finally permitted this activity. But instead of occurring on 400 ha, mangrove rehabilitation trials were started on 27 ha. The trial was designed to test a management system which would re-establish an upper canopy of large trees while allowing the continued use of small trees and saplings growing beneath the canopy for fuelwood and

³ The project employed eight to ten staff at various times, including a mariculturist, a mangrove specialist, an artificial reef specialist, a process documenter, a site manager, two pump-boat specialists, and a clerk.

⁴ Afforestation differs from rehabilitation in that new areas, usually not particularly favorable to mangrove cultivation, are planted. Rehabilitation, on the other hand, must be done in areas where mangroves were originally found but were depleted by overharvesting.

poles. The rehabilitation trial is significant in that it is the first attempt of its kind in the Philippines. Previous efforts have been confined to mangrove reforestation.

Community organizations also undertook prevention of illegal fishing and construction of illegal fishponds. Although prevention of illegal fishponds was not envisioned as one of the project activities, some community associations decided the problem was serious enough that they wished to tackle it. They succeeded in preventing the construction of 5 illegal fishponds that had the potential to destroy 100 ha of existing mangroves in the project area. Illegal harvesting of mangroves for commercial sale was also stopped in some places. Joint action by the community organizations and project staff, including education, law enforcement, and the prohibition of sale of dynamited fish, succeeded in controlling dynamite fishing within the project area. Illegal dynamite fishing has not, however, been completely eliminated as fishermen just outside the project area continue the practice. The municipality of Mabini has, therefore, established a regular marine patrol to guard the waters.

Another activity undertaken by the community associations not originally envisioned was credit delivery. Through a program sponsored by the Department of Trade and Industries, 5 associations obtained loan funds that were made available to members.

In sum, by September 1991 the project had a major accomplishment to its credit, namely, DENR recognition of guarantees for individual tenure rights over mangrove areas. Although the DENR, through its Social Forestry Program, had been granting individuals tenure rights over forest land since 1981, this practice had not been instituted for mangrove areas until the implementation of the Cogtong Bay Project (1991). The project received recognition by being made the prototype for the DENR's forthcoming ADB-financed Mangrove Development Project (MDP) that was designed to place 153,000 ha of existing mangroves throughout the Philippines under community management. The project at Cogtong Bay was slated for expansion under the MDP. It was also designated as the training site for NGO and DENR staff.

In August 1992, when the research for this case study was done, the ADB project had not started. Some project activities were continuing: the community organizations seemed to be well-established and were continuing to hold meetings, but the number and success of activities undertaken by the organizations varied greatly. Just two of the eight members of the original staff were being retained by the Network Foundation to continue the work. They had not, however, been paid in several months, although they seemed very enthusiastic and were continuing to work on the project.

3. Objectives of the Case Study

The objectives of the case study were to examine the extent and nature of women's involvement in the project and to identify ways to enhance women's participation in conservation and resource management. Specifically, the objectives were:

1. To provide an overview of the project and an evaluation of the project's impact on women's home and market roles that directly and indirectly affect conservation;
2. To document women's roles in managing natural resources and where their knowledge of biological resources can be used to improve conservation;
3. To make recommendations as to how women's roles can be enhanced and more fully integrated into the project;
4. To identify areas where short-term technical assistance and/or small amounts of seed money would lead to women's greater participation in conservation or natural resource management; and
5. To obtain information for formulating program and policy guidelines on involving women in conservation and community development programs.

Until August 1992, no deliberate attempt had been made by project designers, donors, or implementors to integrate women. A review of available project documents, including proposals to various donors spanning a number of years (1988-92), project correspondence (1988-92), and a terminal evaluation report, made no mention of women (The Network Foundation n.d. and 1992). Preliminary conversations with Network Foundation staff and staff at the project site, however, revealed that women had participated in the project but that it was difficult to determine to what extent. The first step in the research, therefore, was to find out whether or not women were involved in the project at all.

4. Methodology

The research for this study was done over a three-week period in 1992. In Cogtong Bay, the study team visited 4 of the 13 project sites (2 sites were added after the termination of USAID funding) Minol, Poblacion II, Cawayanan, and Cogtong. Socio-economic profiles of each community except Cawayanan, for which data were not available, are provided in Annex 1. They are fairly representative of the socioeconomic profile of the project area as a whole as described above.

A rapid rural appraisal (RRA) methodology was used to obtain the necessary information. RRA is the term applied to various techniques used by social scientists for over a decade to obtain data quickly and cost-effectively (Chambers 1985). By using RRA, it is possible to generate accurate and reliable information in a short time without sacrificing the rigor associated with more detailed long-term studies. Two important principles of the methodology are (1) to identify and emphasize the most relevant variables on which information is to be sought and (2) to verify the accuracy of the information obtained by cross-checking.

The data were obtained through semi-structured group interviews of women (and in some cases of men) at each site. The women's groups consisted of those whose husbands may or may not have been members of the community associations initiated by the project, though the meetings were called by project staff. Although the team had asked specifically to meet women without men being present, this proved to be impossible in practice.⁵ The team had also asked that the groups be kept to a maximum of 10 individuals. That, too, proved to be impossible and each meeting was attended by 25-35 people. Most attendees participated.

The team was concerned about having men present because it was felt that the women might be reluctant to speak or that the men might take over the conversation. Fortunately, although at least a few men were present either as bystanders or participants at every meeting, the women were quite outspoken. In some cases, the men's presence provided interesting insights that could not have been captured otherwise as, for example, when women and men offered contradictory responses to questions and then attempted to explain their differences. Only one meeting was held exclusively with men. Otherwise, information on men was obtained from those who were present at the meetings with women.

⁵ The team requested this because they believed on the basis of evidence from other studies that the women's responses might differ depending on whether or not men were present.

Group meetings were conducted in the local language as one of the team members spoke it. She and project staff assisted with translation into English for the other team members. Most respondents understood English (although they were reluctant to speak it) and most had at least a primary education. A prepared questionnaire was administered as a group exercise at the meeting (Annex 2). Individuals were asked to volunteer to provide information on the first question on daily activities. Responses to the other questions were solicited from the whole group. Although certain individuals tended to dominate initially, most women present participated in the dialogue and were quite willing to contradict each other. The team noted the consensus answers and the objections. Whenever women volunteered additional information, which the team urged them to do, this information was used to supplement the questionnaire. What emerged as a result of the group interviews was a composite picture. Such a technique has been used effectively in previous RRA by Collinson (cited in Chambers).

The group meetings proved to be a good way to obtain a great deal of information in the relatively short time available and had the added advantage of internal verification as group members disputed points with each other. As Chambers (1985) points out, the group interview method is particularly good for obtaining sensitive social information--in this case on the role of women. Respondents seemed to be reinforced by having other women present to support them.

Additional verification and cross-checking of the answers obtained in the group sessions was done by holding informal conversations with project staff who accompanied the team to each site and who had the experience of working with the respondents over three years and living in the communities. Informal conversations were also held with individual women and men outside the group setting in each community. As the team stayed in Cogtong, there were some opportunities to talk informally with people and to have a chance to observe women's daily life and work. The team looked for consistencies in the data by comparing the information obtained from each of the four communities and from project staff, plus what could be learned from the literature--longer-term studies of women in other fishing communities with similar problems.

The team also had a group interview with the staff and individual interviews with key staff. A questionnaire guided the initial interviews (Annex 3). However, the responses obtained from project staff were quite inconsistent--whether on women's economic roles, on women's roles in conservation and resource management, or on the extent and nature of their participation in the project. To some extent, staff responses seemed to indicate that they had never thought about women's roles separately from those of their husbands--even though half of the key staff were

women themselves. In this they seemed quite different from the women of the communities who, although they initially portrayed themselves as "wives assisting their husbands," very quickly shifted to describing their roles as individuals separate from their husbands.

Inconsistent responses by project staff may have reflected their belief that the case study was actually an evaluation of the project's effectiveness in working with women and they wanted to put their "best foot forward," so to speak, not knowing exactly what was expected of them. The follow-up interviews with individual staff were therefore used to clarify some of the inconsistencies.

What follows is an account of women's roles in four communities of Cogtong Bay--their roles in the local economies, in their households, and in resource use and management--and the nature and extent of their participation in the Cogtong Bay Mangrove Management Project.

5. Women, Work, and Resource Use in Cogtong Bay

The limited, though growing, literature on women's roles in coastal communities in the Philippines shows that although economic diversification is increasing their employment options, women still depend mostly on natural resources to meet their economic and household needs (UNESCAP 1985; Francisco and Israel 1991; Illo and Polo 1990; and Pomeroy 1985). In coastal communities, fish and other marine products such as shellfish are the basis for subsistence and a significant portion of cash income.

Although women commonly state that they merely assist their husbands in activities peripheral to fishing, such as repairing nets and selling fish, they actually contribute substantially to fish processing and marketing, and sometimes even catch fish (Francisco and Israel 1991; and Illo and Polo 1990). In Luciente, Western Luzon, for example, UNESCAP (1985) found some women directly engaged in fishing. In Paracan, Palawan, the same study found equal numbers of women and men involved in fish marketing. Women often regard their income as supplemental to that of their husbands even if they actually earn more (Francisco and Israel 1991).

In most fishing communities women also engage in a number of other part-time, seasonal income-earning activities, often in the informal sector, many of which are also resource dependent. They may farm for themselves or as wage laborers, engage in retail trade (*sari-sari* stores), fish processing, cottage industries such as *nipa*-weaving or mat-making, poultry and livestock-raising, and domestic work and laundering (UNESCAP 1985; Francisco and Israel 1991; Illo and Polo 1990; and Pomeroy 1985).

11. Cogtong Bay, as in coastal communities throughout the Philippines, women's key roles in the local economy and significant contributions to the support of their households involve extensive use of local resources. Among the more important subsistence and income-generating activities which involve women are fish and shellfish processing and marketing. The success of both activities depends on the availability and quality of marine resources. Although fishing and firewood collection are regarded as strictly male activities, one woman reported having done both. It is quite possible that, when necessary, other women also fish and collect firewood. In fact, the team saw a young girl fishing in a fish corral in the bay. Farming, another important subsistence and wage-earning activity that employs women, depends on land and water availability--as do backyard gardening and livestock rearing, in which women are also involved. In addition, women in Cogtong Bay work at a variety of

activities that do not directly involve use of natural resources, such as running *sari-sari* stores and providing child care and laundry services.

Women's economic activities represent a mix of subsistence and income-earning endeavors. Women tend to reserve a portion of the fish harvest for household consumption and sell the surplus. Alternatively, if a harvest yields higher-valued fish, they may choose to sell it instead of consuming it. Similar decisions are made with respect to other products, some of them being produced and collected partially for household consumption and partially for sale. Other products are used as inputs, for example cassava and *ipil-ipil* (a plant often found in household yards) which are used as pig feed. Activities such as laundering for others, trading, or providing formal or informal day-care services are undertaken purely for income.

Most women, in order to make ends meet, engage in a number of different activities simultaneously and over their life cycles. One 48 year-old woman in Cogtong reported having engaged in eight different economic activities during her lifetime: fishing, *nipa* weaving, snakeskin trade, fish and oyster marketing, organizing a *ripa*, mariculture, and firewood collection.⁶ Notably, all activities except one involved natural resources as inputs. Changes in activity patterns appeared to be influenced by shifts in accessibility to natural resources. The woman abandoned *nipa* weaving, for example, when local supplies of *nipa* declined. Other women also reported similar shifts in individual and household employment patterns related to changes in resource availability. Quite rationally, women seemed to shift from lower- to higher-return activities, subject to individual constraints such as capital availability. Declining resource availability, especially lower fish catches, appeared to be an important factor in seeking non-resource-based employment.

Contrary to what might be expected, women with many children seemed to be most involved in economic activities and engaged in a variety of occupations. Thus, for example, one mother of six children below age 12 and pregnant with a seventh child reported selling fish five times a week (depending on whether her husband obtained it or not). Admittedly, it took her just an hour every day to complete the sales. She also farmed a cassava plot, contributing to planting, weeding, and harvesting even while pregnant; raised pigs; collected shells and travelled to Cebu (an overnight journey) once a month to sell shells; tended fruit trees and assisted her husband in growing vegetables. Interestingly, she had started in the shell trade before marrying, and after marriage continued the

⁶ A *ripa* is an informal savings association.

business with her husband's help. De Castro (1986) found that marital status and number of children did not influence the number and type of economic activities that involve women in Panay, another fishing community.

Having many children appears not to be a major constraint on economic activities because there is generally a grandmother, other relative, or an older child who assumes responsibility for caring for the younger children when the mother's economic activities take her away from the home. There were examples, however, of women using other adaptation techniques to reconcile economic with household responsibilities. Some women with children employed their mothers-in-law to sell their fish, giving them a portion of the earnings as a small commission.

Women in Cogtong Bay are also the financial managers of their households. They keep the purse and make the disbursements, often making decisions independently of their husbands. They do, however, consult their husbands on the purchase of expensive items. Women are deeply concerned with ensuring that there is adequate income to feed and educate their children, consistent with other studies that show that women in other fishing communities (and in general) in the Philippines are the primary financial managers of the household, responsible for budgeting money for food, household goods, school fees, clothing, and other household needs (Pomeroy 1985; and Tungpalan et al n.d.). Women are also responsible for managing savings. When families experience cash shortages, seasonal or otherwise, women are expected to obtain supplementary income through additional employment or by borrowing (Francisco and Israel 1991). Small loans are generally taken by women, though men often share in the decision to borrow larger sums (Pomeroy 1985).

Women's knowledge of local marine and inland resources was quite extensive and thorough, and they were at least as knowledgeable as men about both marine and inland resources. For example, they named up to nine items obtained from the sea, including fish, oysters, mussels, clams, and sea-crabs, and ten items obtained from the mangroves, including wood for use as poles and in house construction, firewood, oysters, and mudcrabs. Many of these items, except oysters and shells, were primarily obtained for direct consumption, although some were also sold. They mentioned that some resources such as *tamiloc* (an edible substance obtained from the trunks of mangroves) were only rarely used. Their knowledge of forest resources was also quite extensive although these were of less interest to them because forests were more distant and the products are seldom used.

Women better understood the economic than the ecological value of natural resources. When asked to rank the importance of resources, there was little hesitation in identifying the two most important sea resources, namely fish and shells (oysters and other shellfish), which are the resources of greatest economic value.⁷ In fact, that was often the order in which they listed the resources. One group of women actually specified that their ranking reflected the price the resource fetched. Even when women were not directly involved with the utilization of the resource in the sense that they did not actually go out to fish or to collect shells, they were well aware of both the subsistence and the cash value of the resource to the household.

When asked about resource depletion, women appeared more concerned about the restriction or loss of an economic activity. They later went on, however, to make the connection between habitat loss and decline in economic activity. They stated, for example, that their husbands' fish catch had declined because dynamite fishing destroyed habitats, or shells were harder to collect because fish ponds removed the mangroves. They mentioned the scarcity of tarsius monkeys which are valued for bushmeat even though the monkey is found in the upland forest which they rarely visit.

⁷ Respondents appeared to use the term "shell" to denote oysters, mussels, cockles, and other shellfish.

6. Project Implementation and Women's Involvement

Despite their resource use patterns, significant involvement in the economy, and participation in association meetings, very few women were official members of the 13 associations that had been organized by the Cogtong Bay Project. Nevertheless, women participated actively in project activities such as mangrove afforestation, mariculture training, and installation of artificial reefs.

Association Membership and Attendance at Meetings

Association membership records showed virtually no women members. In Cogtong, a few women who were either widowed or single reported being members in their own right. Of the four sites visited, there was just one married woman who was a member in her own right and she had only recently joined the organization. She had apparently obtained membership herself because her husband, who was a policeman in the local community, had not wanted to join. Association officers were primarily men, although some women functioned as officers. The Cogtong association, for example, had a woman secretary.

Although women were rarely official members of the associations, they often attended meetings. Even though association presidents informed only the men (as official members) about scheduled meetings, women appeared to have no difficulty in obtaining this information. Project staff corroborated women's own reports that they participated actively in association meetings, often attending meetings as proxies for their husbands when the latter were unable to attend. The most common reason given for men's absence from meetings was that they were out at sea. Women were permitted to proxy for their husbands if they were ordinary members and officials of the association. No proxy was allowed for the president. He was expected to be present at all meetings.

Project staff also reported that sometimes more women than men attended meetings. There were times, for example, that two-thirds of the attendees in Cogtong were women. Women's participation in association meetings could not, however, be verified by looking at attendance records because staff informed us that, because they were attending as proxies for their husbands who were the official members, they signed their husbands' names. Even when the majority of attendees were women, meetings were conducted as if the actual members had been present, and the decisions taken at such meetings were later upheld.

Both male and female respondents seemed to think that male membership implied family membership in the association. Lack of official membership was not perceived as an impediment to participation in project activities. Women were, however, concerned that lack of official membership prevented them from obtaining access to loans in some of the associations, operating credit programs financed through the Department of Trade and Industries.

Project Activities

Of the three main activities undertaken by the associations--afforestation of mangroves, installation of artificial reefs, and mariculture (oysters or mussels, as appropriate for the site)-- some women reported participating in one or all of the activities at all sites visited. However, their participation varied by activity and project site. Women were most active in mangrove afforestation and oyster culture and least active in establishing artificial reefs. Project staff reported that women also participated in preventing illegal fishing by reporting any infringements they had seen.

Mangrove afforestation. Women reported participating most actively in mangrove afforestation and rehabilitation. They were present both at meetings designed to inform them of the Management Stewardship Certificates (MSCs) and how they worked as well as at training sessions where they were taught how to plant mangrove propagules and the reasons for doing so. They also participated in obtaining mangrove propagules (when these had to be cut and brought from a distant location) and planting them in the designated areas. The work was performed on a voluntary basis. Project staff reported that on some occasions more than two-thirds of participants in mangrove activities were women. Once again, this could not be verified by the records, which showed few women engaged in these activities (Table 2).

Women in Cogtong and Cawayanan, however, verified that they were the primary workers in mangrove planting activities, having participated in both collecting propagules and planting them. In Minoi, the men obtained the propagules while the women did the planting.

The team was unable to clarify why women willingly participated in afforestation. A guess is that they understood the benefits of planting mangroves, and more generally expected to benefit from the project in some way in the future. They appeared not to distinguish between benefits to themselves and the family unit. Rather, they regarded all activities as "family" enterprises where family members supported each other.

Table 2. Percent Women Involved in Mangrove Rehabilitation, Cogtong Bay

Site	Men	Women	% Women	
Bonbon		23	3	11.5
Cawayanan*		30	0	0
Cogtong*		26	4	13.3
Lunsodaen		27	2	9.5
Marcelo		19	0	0
Minol*		17	2	11.0
Panas		16	0	0
Pangpang		20	4	16.6
Poblacion I		26	3	11.0
Poblacion II*		22	1	4.3
Sagumay Daku		20	2	9.1
Tombo		24	6	20.0

* Sites visited

Source: ACIPHIL (1992)

Women did not benefit from the security of tenure granted under this project. Very few of them obtained the MSCs which were made out in the men's names, regardless of who had actually done the work of planting propagules. In Minol, for example, just three of 18 MSC recipients were women. Two of them were widows and one woman inherited her MSC from her husband who had left the area. In Cawayanan, the MSCs were held exclusively by men. The lone female member of the association did not have a MSC. However, this may have been because she had only recently joined the association just six months before this study was done.

Mariculture. Project staff introduced mariculture in a three-day on-site training at three of the four sites visited (Table 3). Mussel culture failed in Minol but oyster culture was quite successful in Cogtong. The project introduced a simple technology for stringing together discarded oyster shells or coconut shells and introducing these "collectors" into the mudflats by hanging them on stakes planted in brackish or salt water. Oyster spats attach to the collectors and can be harvested in about eight months. The tasks involved in mariculture included stringing discarded oyster shells to make

collectors, installing stakes in the likely breeding grounds in the bay, hanging collectors on stakes, preventing theft of collectors, and harvesting. Installing stakes required diving into shallow waters to make sure the stakes were secure in the marsh bottom. Hanging collectors and harvesting were usually scheduled for low tide to avoid having to dive under water. Still, both activities required wading in shallow muddy waters--a difficult and potentially dangerous task.

Official records once again showed that few women participated in this activity but project staff reported about 60 percent of mariculture trainees in Cogtong were women. Women in Cogtong reported that they undertook mariculture as a joint enterprise with their husbands who did the more difficult work of installing the stakes and assisting with hanging collectors. Women strung the collectors together, assisted with installing stakes, helped police the waters, and did much of the harvesting. They also processed and sold the oysters produced.

Table 3. Percent Women Involved in Mariculture, Cogtong Bay

Site	Men	Women	% Women
Cawayanan (mussels)*	28	0	0
Cogtong (mussels & Oysters)*	11	2	15.0
Minol (mussels)*	19	2	9.5
No mariculture in Poblacion II*			

* Sites visited

Source: ACIPHIL (1992)

Artificial reef installation. The artificial reefs were L-shaped concrete structures that represented an advance over the less permanent box more commonly used bamboo structures. However, being much heavier, they were more difficult to install. The work, done communally, entailed loading the reefs onto boats and then dropping them into the bay from the boat at the designated site. This was regarded as men's work. The women felt they were assisting because they provided moral support and cooked community meals on the days men installed the reefs.

7. Potential for Enhancing Women's Roles

Women's understanding of the project and its goals seemed to be the best in Cogtong where the project was headquartered. Women there were better able to explain the problems and causes of resource depletion than elsewhere. That women in Cogtong had received technical help in establishing income-generating activities (oyster culture) probably helped to enhance women's awareness. This was in sharp contrast to Poblacion II, the last *barangay* to be contacted, where the community appeared to be much less involved in the project. There the women, especially, appeared to be less conscious of the project, its goals, and the need for better resource management.

At all visited sites women were quite clear about their own needs and the issues affecting their communities. They stated that their most critical problem was poverty, especially the lack of income for purchasing adequate food supplies and providing for their children's education. They were also quite clear that a shortage of capital was the main constraint impeding their economic advancement and that if they had credit they would be able to undertake or expand ongoing income-generating activities. Many women (both project participants and non-participants) had definite ideas about the kinds of income-generating activities they could operate. These included enterprises such as pig-raising and peanut-butter processing. When asked if they knew how to run a credit scheme, some appeared quite confident that they could, while others reported that they could do so if they were given a little training. A number of women asked specific questions about what interest rates and collateral might be if a credit scheme was introduced. (One woman jokingly suggested that she would be willing to offer her husband as collateral!)

In fact, we later discovered that a number of women in Cawayanan and Cogtong had run *ripas*, the informal savings associations.⁸ A *ripa* can be either commodity or cash-based. It is usually initiated by a woman who acts as the sponsor and the bank, and participants are also usually women. In Cogtong there were 3 commodity *ripas* and one cash *ripa* that was not faring very well. Sponsors and participants were all women.

⁸ Women were directly asked about the *ripa* in only two communities. A more general question put to the communities earlier about belonging to informal associations did not elicit a response about the *ripa*. A follow-up question in Cogtong indicated that there were actually four *ripas* even though the women had not earlier thought that this activity could be regarded as an association. It is quite possible that all four communities actually had *ripas* but did not view them as associations that might be of interest to the researchers.

Another noteworthy feature among the women interviewed was the sense of initiative and entrepreneurship that they demonstrated. They talked about the economic and other problems they faced and about the actions they had taken to overcome these difficulties. They seemed willing to do whatever was necessary to contribute to household support. As one activity became impossible, due to shortages, such as in the case of *nipa* weaving, women turned to other alternatives to obtain income. They seemed to be prepared to develop their own mechanisms to tackle their problems by running a *ripa*, or borrowing from friends and relatives.

Altogether they appeared, as individuals, to be able to adapt to changing economic and environmental conditions.

In Minol, a group of women belonged to a Rural Improvement Club (RIC) organized by the Department of Agriculture (DA) designed as a counterpart to the fishermen's association. The objective of the club is to train and educate women "to help their husbands earn a livelihood." In Minol, where the club had been in existence for one year, there were 28 active members. On land rented by the club, the participants grew peanuts which they planned to process into peanut butter for sale in local markets. They were also planning to join with the fishermen's association to set up a multipurpose cooperative, mainly to be able to have access to credit.

It was evident that women were very clear about their economic and other needs and eager to participate in projects that addressed their problems. In fact, most group discussions and individual sessions ended with inquiries about what we could do to assist them in enhancing their incomes.

8. Conclusions, Recommendations, and Lessons Learned

Women in Cogtong Bay are key economic participants and contributors to the economic support of their households. Because they depend both directly and indirectly upon natural resources to meet their economic needs, they are concerned about the depletion of resources. They appeared, however, to better understand the economic rather than the ecological value of natural resources. They were more aware of resource depletion if it had an impact on them economically, that is, if the resource in question was used for consumption or sale.

Without any deliberate planning on the part of project designers or staff, women became actively involved in the associations, presumably because they were accustomed to being active in the social and economic life of the community as their husbands' "helpers" and could see the value of resource management in terms of their current and future livelihoods, being well aware that they were dependent on these resources for survival and income. Thus, without actually acquiring membership in the fishermen's associations, women attended meetings, became officers, made decisions, and undertook association (project) activities. They were most active in providing voluntary labor for mangrove rehabilitation and afforestation and, in Cogtong, in adopting mariculture techniques demonstrated by project staff.

Women were effectively excluded from project benefits such as tenure over mangrove areas, membership in associations, and credit. It had not occurred to them to become community association members in their own right but, when asked if they would like to do so, the universal response was affirmative. Moreover, they knew exactly why they wanted to be members--to have access to resources such as the credit available to the male members through the associations. They were also eager to obtain MSCs in their own names because land ownership provided them with collateral that could be used to obtain credit.

Project Recommendations

Two of the objectives of the case study, as noted above, were to make recommendations (1) about how women could be more fully integrated into the project and (2) to identify areas where short-term technical assistance or small amounts of seed money would lead to women's greater participation in resource management based on the case study research. Recommendations for integrating women into the project are:

- **Project staff should reinforce women's participation at sites where they are already active by inviting them to become full-fledged members of the associations on their own, so they can have full access to available benefits. At other locations, women should be actively recruited as members of the associations. They should also be assured access to leadership positions within the associations. Alternatively, interested women should be given assistance to form their own associations.**
- **Women who have proved themselves capable of undertaking mangrove afforestation, as many have already done, should be given secure tenure over mangrove plots by being awarded MSCs. In the future, women should have equal access to MSCs.**
- **As women have proven themselves capable of engaging in mariculture, there is potential for expanding this activity to involve women at other sites, taking care to ensure that the physical conditions are appropriate and that women are provided the proper technical and financial support to make the project workable. This would serve both resource management and economic goals.**
- **Project staff should be given training in various aspects of women in development (WID)--the importance of WID, gender sensitivity, and practical ways to implement WID. Some project staff, by participating in this study and through attendance at a workshop associated with it, have already made some progress; this momentum should be built upon.**

Additional recommendations can be made pertaining to a recent proposal made by the Network Foundation to the Foundation for Philippine Environment for expanding the project (Network Foundation 1992). Proposed activities include conducting a user survey, regenerating brackish water seaweed, a mud crab and mangrove harvest study, and introducing of credit and *nipa* agreements. Each of these activities can be slightly modified to better integrate women and to enhance their participation in the project. Following are some recommendations:

- **The proposed user survey should obtain information disaggregated by gender. Technical assistance should be obtained to determine what types of data are needed on women and how best to obtain it.**

- Proposed activities, such as regenerating of brackish water seaweed, should be undertaken with full understanding of the respective roles of women and men in the use and management of the resources. Appropriate measures should be taken to ensure the full participation of women.
- The proposed mud crab and mangrove clam harvest study should fully consider the respective roles of women and men, including their respective specializations in production and marketing. Improved management techniques should be developed and introduced that take full account of the respective roles and skills of both women and men.
- Women should have equal access to the proposed credit for maintaining aquaculture of oysters and mussels. If there are special constraints that women experience, such as legal restrictions or lack of information, etc., special efforts should be made to overcome those constraints.
- If the proposed *nipa* agreements are introduced, they should be made available to both women and men and the constraints to women's access should be identified and overcome.

The noteworthy feature of these recommendations is that they require fairly small, though significant, changes in project implementation--and no new resources. It is very important, however, to note that at the time this study was done, project activities had been suspended for several months. Most of the staff had been let go, the rest of the staff had not been paid, and no resources were available to continue project activities. While the community associations were functioning, they, too, did not appear to have adequate financial resources to continue their activities. Unless funds are made available on a regular basis it is unrealistic to expect project activities to continue in an area so poor in resources. Recommendations pertaining to the better integration of women are similarly dependent on the availability of funding and are closely tied to the overall success of the project.

If additional funding such as seed money becomes available that can be earmarked for women, considerable potential exists within the community to use it productively in one or more activities that combine resource management with income generation. Even without receiving direct benefits, women in Cogtong Bay, demonstrated through this project their commitment to resource conservation

and management. They would be just as willing, if not more so, to pursue such activities if they were combined with opportunities for income generation. A key element of the success of a number of conservation efforts in other places has been to combine them with economic development (Mehra 1992). Such a strategy would be appropriate for the women of Cogtong Bay. Therefore, recommendations are as follows:

- One strategy would be to use the infrastructure of the Cogtong Bay Project that already exists and modify it to better achieve resource management goals, integrate women by making them full members of the associations, and offer credit and technical assistance to women for group or individual income-generating enterprises. Obviously, this would require continuing financial and technical support for the Cogtong Bay Project.
- Alternatively, a separate project could be devised for women that combines credit for enterprises with resource management. Credit could be used as an incentive to promote resource management and could be made available through a women's association. (In fact, since the research for this study was done, a group of about thirty women from Cawayanan wrote to inform us that they have recently formed an association of their own.) If a credit scheme is implemented it will be necessary to provide technical assistance in areas such as financial management, enterprise development, the conduct of feasibility studies, and others, to ensure that the women have the support they need to make the project work.

Lessons Learned

A few simple but useful lessons can be learned from this case study about women's involvement in conservation and development projects these lessons provide useful insights for future policies and programs.

- Ignoring women's roles in project design and implementation can result in significant missed opportunities. There may be considerable potential for involving women in conservation and development projects, but a conscious effort must be made at the start of a project to identify their roles, responsibilities, and needs. In Cogtong Bay, despite the fact that women were ignored in project design and implementation, they volunteered to become involved because they thought that benefits might accrue to the household. It is to the credit of project staff that they worked with whoever (women and men) made

It is to the credit of project staff that they worked with whoever (women and men) made themselves available for association meetings and activities. Women in other communities may not be as willing to come forward without the conscious effort of those who design and implement the projects.

- **The views and interests of all stakeholder groups, especially including women, should be sought in the design and implementation of projects. Had this been done in Cogtong Bay, project designers may have discovered early on that many women were discouraged about the community's ability to prevent illegal fishing and wanted access to other ways of improving their incomes that did not rely on coastal resources. This would have alerted project staff to the need for identifying and supporting income-generation projects that would provide short-term returns while the community members worked in the longer term on resource management problems .**
- **Linking resource-management efforts to income-enhancing activities that yield short-term demonstrable results allows women's economic needs to be met while longer term goals such as educating them about the need for conservation and resource management are pursued.**
- **Women, like men, need direct access to resources and control over them to achieve project goals. It was not clear whether male ownership of MSCs provided women with the desired incentives for proper management of coastal mangrove plots.**
- **Women also need direct access to resources and control over them to benefit fully from project interventions. In Cogtong Bay, women required full membership in the community associations and ownership of mangrove stewardship certificates in order to have equal access to the credit needed to enhance their productivity and incomes.**

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ANNEX 1

Socio-Economic Profiles of Three Barangays Participating in the Cogtong Bay Mangrove Management Project

Cogtong, with a total population of 2158, evenly divided between men and women, is the largest of the four communities. It is the site of the project's office and became the base of operations for the case study team. Cogtong has better infrastructure and amenities than the other sites, including gravel roads, a water system, electricity, a post office, a health center with a midwife, two churches, and a variety of sports fields.⁹ An elementary school and the Bohol School of Fisheries are also located in Cogtong. Fishing is the main occupation and small fishermen comprise the majority of the population. Community organizations include the Cogtong Young Generation Association (CYGA), and the Parent-Teachers Association (PTA). The fishermen's association was registered in September 1989. The two main resource problems are the use of illegal and destructive fishing gears and indiscriminate cutting of mangroves.

Poblacion II is mainly an agricultural and fishing community of 1,345 people, just over half of whom are women. Its main resources are fish and firewood. Rice is produced. Illegal fishing has depleted neighboring marine resources while the construction of big fishponds has damaged the mangrove areas. Only a small mangrove area remains that is suitable for rehabilitation. There is a local elementary school, municipal water system, electricity, a Catholic church, and radio. Apart from the community association organized by project staff and registered in January 1991, there is a Parent-Teacher Association. Activities under the Cogtong Bay Project include organization of a law enforcement group and implementation of mangrove rehabilitation.

Fishing and farming are also the main sources of livelihood in Minol. It is accessible by a gravel-surfaced road from the town of Mabini and other neighboring *barangays*. The total population is 867, with males (417) slightly outnumbering females (383). The main economic outputs are fish, rice, and corn. Mangroves provide firewood. Available amenities consist of an elementary school, dug wells, electricity, a Catholic Church and a basketball court. Its main resource management problems include depleted marine resources, and lack of appropriate technology in rehabilitating marine and upland resources. The Minol fishermen's association was registered in March 1990.

Socio-economic data on the Cawayanan community were not available. The Association was established in 1989 and registered in March 1990 with 47 members.

⁹ Data on the project sites was obtained from project files in Cogtong.

ANNEX 2

**Cogtong Bay Project
Participant Questionnaire**

Economic/Resource Use Activity Profile

1. Please tell us about your activities during the day (yesterday), from the time you woke up to the time you went to bed. Include activities outside the house such as *nipa* weaving, collecting shells, etc. List the activities by the hour.

Time	Activity
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2. Was yesterday a typical day for you? If not, what other activities do you do on other days?

3. Are there other seasons or times of year when your daily activities would be different? What activities would you do then that you did not mention in the list?

4. What other sources of income do you have?

5. Who does the activities to obtain the income?

6. What do you do to help your husband in his activities?

Use of Natural Resources

7. What do you get for your families use from the following:

The sea:

The mangroves:

The forest:

Your back yard:

8. Do you sell these? Which of these do you sell?

9. Who in the family (husband, wife, children) participates in obtaining the commodities listed?
10. Which of these resources do you consider the most important?
11. Do you think there is sufficient supply of these resources? Which are adequate in supply and which are not?

Needs Assessment

12. What are the main problems facing your family?
13. How long have you been experiencing the problem(s)?
14. What do you do to cope with the problem(s)?
15. What are the main problems facing your community?
16. How long have you been experiencing the problem(s)?
17. What do you do to cope with the problem(s)?
18. What are the main problems you face? INTERVIEWER: If the responses do not differ from those listed in the question on family, omit the next 2 questions.
19. How long have you been experiencing the problem(s)?
20. What do you do to cope with the problem?

Expenditures, Savings, and Loan Profile

21. What are your main expenses?
22. Who decides how much to spend on a day-to-day basis on these main expenses?
23. Who makes the purchases?

24. When you want to make a special purchase (e.g. fishing gear, furniture), who makes the decision?
25. When you are hard up who do you go to first?
26. Is it relatively easy to obtain loans?
27. Who decides in the family when to borrow and who to borrow from?
28. What do you generally use loans for?
29. Who in the family is responsible for paying back the loan?
30. Do you ever save money?
31. What do you use the savings for?
32. Do you belong to a paluagan (emergency fund association)?
33. If so, tell us more about the paluagan and how it works.

Community Participation

34. Do you belong to an association? INTERVIEWER: If the response is that they belong to a project-related association, then ask what other associations they belong to.
35. How long has the association existed?
36. Who started the association?
37. How many members does it have?
38. What is your role in the association?
39. What does the association do?

40. Are there other things you would like to see the association do?

41. Who are the leaders of the association?

42. If you do not belong to an association, why not?

Resource Management

INTERVIEWER: If resource depletion issues were cited in the problems discussed, follow up here by referring back to these issues. Otherwise, raise the issue.

43. Are you experiencing difficulties in obtaining resources? Give examples.

44. What do you think is the reason for this?

45. Have you tried to solve the problem(s)?

46. Has the project helped to solve the problems(s)? How?

47. Have you participated in the project? How have you participated?

48. Could you suggest some other ways to solve the resource problem(s)?

Baseline Data

Please give us some information about the people and resources at the project site. We have a list of questions:

5. Fisherfolk comprise just 15 percent of households. Is the project only working with fisherfolk in the communities? Or also working with others?

6. What percentage of households engage in agriculture? Would they also be involved in using coastal resources? To what extent?

7. Who harvests mud crab and mangrove clam? What technologies are available? To whom are such technologies introduced?

8. Is aquaculture--oyster and mussel culture--a traditional activity in the community? Who does what?

9. What activities have you observed women doing to earn income or help their families survive (e.g. collecting clams or mussels, fetching water, etc.)?

10. What activities have you seen women doing to help their husbands earn income?

11. What activities have you observed women doing that have an impact on natural resources or relate to resource use?

Implementation

12. Which project activities are women most actively involved in?

13. Which project activities are women least involved in? Why?

14. Are women included in the following project activities? **INTERVIEWER: DO NOT ASK DIRECTLY.** Check off appropriate responses and only ask directly about those not mentioned by the interviewee.

Major elements (checklist):

Organization/building associations

Mangroves:

- reforestation
- stewardship agreements
- assisted wilderness regeneration
- rehabilitation of existing forest
- replanting of illegally cleared fishpond
- prevention of illegal fishpond development
- protection of commercial firewood cutting

Artificial reefs:

- construction
- maintenance

Mariculture:

- oysters
- green mussels

Control of illegal fishing

Credit

Small group training

Implementation (continued)

15. What are the membership rules in fishermen's associations? Are women allowed to be members?
16. Are women allowed to hold official positions?
17. Who inherits traditional *nipa* rights?
18. What kinds of training does the project give?
19. How often is the training given?
20. How do you select participants in the training?
21. How many women have participated in the training?
22. What project activities do you think would be enhanced by women's participation?
23. What are your major frustrations in the project?

Proposal

24. Are you familiar with the proposal for extending the project? INTERVIEWER: If yes, continue. If not, stop here.
25. In the user survey proposed in the next extension what data will you be obtaining?
26. How will you ensure that the data will be disaggregated by gender?
27. Raft culture is being proposed to regenerate *Gracilaria* (brackish water seaweed). Who currently harvests this--men, women, or children?
28. Mud crab and mangrove clam harvest study is being proposed as a way to introduce management techniques. How will the techniques be communicated to the users? How will women have access to the management techniques?
29. Credit is being proposed for maintaining aquaculture of oysters and mussels. Who will receive credit? Will women have access to credit for their activities?
30. Will *nipa* agreements be different from stewardship agreements?
31. Who will receive *nipa* agreements? The same families who received stewardship agreements?

ANNEX 4

List of People Contacted

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ANNEX 5

**Training Materials from a Workshop
Held in Mandaue City, Cebu, August 27, 1992**

Workshop Session 1

JK

Who Does What? Or How to Distinguish Household and Economic Activities

- Objectives:**
1. Recognize that women are active participants in the economy; and
 2. Explore the use of a simple tool to obtain data on women's economic roles, including how to avoid the pitfalls involved in using the tool.

Methods: Small working groups

Time: 1.5 Hours

Materials: Handouts (Activity 1 & Activity 2); pens; newsprints; pentel pens.

Workshop Session 1

Who Does What? Or How to Distinguish Household and Economic Activities

Activity 1

The following is a list of activities done during an August day by two members of a fishing community in Bohol:

Wake up; cook breakfast; look for bait; salt oysters; feed animals; collect oysters; cook lunch; wash oyster meat; sell fish; sell oysters; replant oyster poles; cook dinner; fish; attend charismatic meeting; attend prayer meeting; cook supper.

1. Enter the activities listed above in the appropriate columns provided below. Each activity should be listed only once. (The economic activities may include subsistence and income-earning activities.)

ACTIVITIES		
Household	Community	Economic

2. Enter in the appropriate columns below the tasks you expect would be done by a man and those that would be done by a woman. You may use any item on the list more than once if you like.

Workshop Session 1

MAN

WOMAN

Who Does What? Or How to Distinguish Household and Economic Activities

Integration of Activity 1

1. We show them the real lists of activities (Key Activity). (There is considerable overlap of activities between women and men.)

2. Obtain participant responses on the lists:
 - Is it what they expected?
 - If so, why?
 - If not, why not?

3. The key points that the participants should realize are as follows:
 - Some of the traditionally female tasks such as cooking are being done by the man.
 - The woman is doing many tasks that are purely economic, some are subsistence activities and others will yield income. In fact, the woman's economic activities are more diverse than those of the man, at least in this case.

Key points to note:

Economic activities include production/processing/marketing and subsistence/paid work. Theoretically, household activities, if paid, include economic activities; they also have an impact on the use of natural resources.

Workshop Session 1

Who Does What? Or How to Distinguish Household and Economic Activities

Key to Activity 1

Juliana's Daily Activities

<u>Time</u>	<u>Activity</u>
4:00-4:30 a.m	Pray
4:30-5:00 a.m.	Cook
5:00-5:30 a.m.	Salt oysters (process for sale) (15 bottle in 1/2 hr)
5:30-6:00 a.m.	Feed animals (pigs)
6:00-11:00 a.m.	Collect/harvest "shells" (tide dependent)
11:00 a.m.-12:00 p.m.	Lunch
12:00-12:30 p.m.	Break
12:30-4:00 p.m.	Remove oyster meat
4:00-5:00 p.m.	Wash meat
5:00-6:00 p.m.	Feed animals
6:00-7:00 p.m.	Prepare supper and eat
7:00-11:00 p.m.	Prayer meeting

Key to Activity 1 (continued)

Andres' Daily Activities

<u>Time</u>	<u>Activity</u>
4:00 a.m.	Wake up
4:00-4:30 a.m.	Cook breakfast/read bible
4:30-5:00 a.m.	Look for bait
5:00-5:20 a.m.	Breakfast
5:20-6:00 a.m.	Travel to fishing site
6:00 a.m.-1:00 p.m.	Fish
1:00-2:00 p.m.	Travel for home
2:00-4:00 p.m.	Sell fish
4:00-5:00 p.m.	Home
5:00-5:30 p.m.	Cook for dinner
5:30-6:00 p.m.	Dinner
6:00-11:00 p.m.	Attend charismatic activities
11:00-4:00 p.m.	Sleep

Workshop Session 1

Who Does What? Or How to Distinguish Household and Economic Activities

Activity 2

Attached are two lists representing the types of activities done during the day by members of a fishing community in Bohol.

1. For both List A and List B, identify the type of activity in each case, whether household (H), economic (subsistence or income-earning) (E), or community (C).
2. For each of List A and List B, state whether you think it represents a man's or woman's activities.

DAILY ACTIVITY LIST (A)

TIME	ACTIVITY
4:00-6:00 a.m.	Wake up and cook food
6:00-7:00 a.m.	Prepare breakfast
7:00-7:30 a.m.	Prepare children for school
7:30-10:00 a.m.	Care for small children
10:00-11:00 a.m.	Prepare lunch
12:00-12:30 a.m.	Eat lunch
12:30-1:00 p.m.	Rest
1:00-4:00 p.m.	Care for children
4:00-5:00 p.m.	Prepare supper
5:00-6:00 p.m.	Eat supper
6:00-7:00 p.m.	Help children with homework
9:00-12:00 p.m.	Rest
12:00 midnight	Prepare fish for sale

Workshop Session 1

Who Does What? Or How to Distinguish Household and Economic Activities

Activity 2 (continued)

DAILY ACTIVITY LIST (B)

TIME	ACTIVITY
5:00-6:00 a.m.	Wake up and cook food
6:00-7:30 a.m.	Prepare feed and feed pigs
7:30-9:00 a.m.	Sell fish house-to-house
9:00-10:00 a.m.	Shell oyster meat
10:00-11:30 a.m.	Salt and process oysters
11:30 a.m.-12:30 p.m.	Cook lunch
12:30-1:00 p.m.	Eat lunch
1:00-4:00 p.m.	Weed cassava plot
4:00-5:00 p.m.	Garden
5:00-6:00 p.m.	Prepare supper
6:00-6:30 p.m.	Eat supper
6:30-7:00 p.m.	Prepare to go to Cebu
7:00 p.m.	Travel to Cebu to sell shells

Workshop Session 1

Who Does What? Or How to Distinguish Household and Economic Activities

Integration of Activity 2

1. We disclose that the activities in both lists are done by one woman. When asked to fill out the list of daily activities done yesterday she produced List A. Only on closer questioning did she reveal the activities in List B which is really a composite of some of the other activities she mentioned.

2. Participants should be asked the following question:

- Why do you think the woman at first mentioned only the activities listed in List A? Give as many reasons as you can think of.

(Responses should include: yesterday that is all she did; sees household tasks as the only appropriate ones to mention; some of the tasks are periodic, seasonal, or dependent on tide conditions; she felt constrained to talk openly because men were present, etc.)

We explain that the daily activity list is often used as a device to obtain information about women's roles in the economy and the household. It is a good device but has to be used carefully to actually yield the information needed:

- Better still are methods that obtain the information for several days/weeks/months;
- Activity lists that women can fill out on a daily basis so they do not have to rely on recall; and
- Even better is direct field observation of tasks for an extended period of time filled out by the researcher.

3. Once again, the key points to note in Activity 2 are:

- The woman mentioned at first only the household tasks. She identified herself as just a housewife.
- The activities in List B include many economic activities that contribute to the subsistence or income of the household. In fact, the woman is a key contributor to household subsistence and income.
- The woman is engaging in a number of diverse activities to make ends meet.

Participants should be asked:

- Based on what you have just found out about women's economic roles, are there implications for development planning?
- If so, what are the implications?

Workshop Session 2

Who Knows What About Coastal Resources?

- Objectives:**
- 1) Obtain an understanding of women's and men's knowledge of the status of natural resources in their communities.
 - 2) Have an opportunity to compare women's and men's level of knowledge and understanding of natural resources.

Method: Small workshop groups

Time: 1.25 hours

Materials: Questionnaire; pens; newsprint; pentel pens.

- Procedures:**
- 1) The main activity is for project participants to respond to a questionnaire. To do so,
 - a) they will be divided into two groups--an all-male group and an all-female group
 - b) non-participants in the project will ask questions (from the questionnaire).
 - c) project staff will be cautioned not to prompt the respondents.
 - 2) In each group, a designated person will note responses on newsprint to be shared when the two groups get together.
 - 3) After all questions are answered, the groups will get together and compare responses.
 - 4) If non-respondents observe differences, they can ask respondents to clarify and explain why they do or do not know as much as women/men.
 - 5) A person will be designated to take notes.

1. Right now, do you consider FISH to be:

- Plentiful
- Common
- Rare
- Very, very rare

2. Right now, do you consider OYSTERS to be:

- Plentiful
- Common
- Rare
- Very, very rare

3. Right now, do you consider MUSSELS to be:

- Plentiful
- Common
- Rare
- Very, very rare

4. Right now, do you consider PRAWNS/SHRIMPS to be:

- Plentiful
- Common
- Rare
- Very, very rare

5. Right now, do you consider MUD CRABS to be:

- Plentiful
- Common
- Rare
- Very, very rare

6. Right now, do you consider *NIPA* to be:

- Plentiful
- Common
- Rare
- Very, very rare

7. Right now, do you consider *BAKAWAN/KATSAW* to be:

- Plentiful
- Common
- Rare
- Very, very rare

8. Right now, do you consider EGRETS to be:

- Plentiful
- Common
- Rare
- Very, very rare

9. Right now, do you consider HERONS to be:

- Plentiful
- Common
- Rare
- Very, very rare

10. Right now, do you consider KINGFISHERS to be:

- Plentiful
- Common
- Rare
- Very, very rare

11. Right now, do you consider SEA SNAKES to be:

- Plentiful
- Common
- Rare
- Very, very rare

12. Right now, do you consider *BURI* to be:

- Plentiful
- Common
- Rare
- Very, very rare

13. Right now, do you consider *ROMBLON* to be:

- Plentiful
- Common
- Rare
- Very, very rare

14. Right now, do you consider *TAMILOC* to be:

- Plentiful
- Common
- Rare
- Very, very rare

15. Right now, do you consider *SEA CUCUMBER* to be:

- Plentiful
- Common
- Rare
- Very, very rare

16. Right now, do you consider *GUSO* to be:

- Plentiful
- Common
- Rare
- Very, very rare

17. How many different types of *SHELLS* can you name?

18. How many different types of *FISH* can you name?

FISH

19. Do you collect FISH?
20. How far from you house do you collect fish?
21. Is that the best place to collect fish?
22. Which do you leave behind and why?
23. Is there some time in the year when you don't collect fish? Why?
24. When is the best time of the year to collect fish?
25. When is the worst time of the year to collect fish? Why?
26. Do you know of ways to ensure a bigger harvest of fish?

SHELLS

27. Do you collect SHELLS? Why?
28. How far from you house do you collect shells?
29. Is that the best place to collect shells?
30. Which do you leave behind and why?
31. Is there some time in the year when you don't collect shells? Why?
32. When is the best time of the year to collect shells?
33. When is the worst time of the year to collect shells? Why?
34. Do you know of ways to ensure a bigger harvest of shells?

CRABS

35. Do you collect CRABS?
36. How far from you house do you collect crabs?
37. Is that the best place to collect crabs?
38. Which do you leave behind and why?
39. Is there some time in the year when you don't collect crabs? Why?
40. When is the best time of the year to collect crabs?
41. When is the worst time of the year to collect crabs? Why?
42. Do you know of ways to ensure a bigger harvest of crabs?

NIPA

43. Do you harvest *NIPA*?
44. How far from you house do you harvest *nipa*?
45. How soon can you go back to harvest from the same *nipa* stand?
46. How can you be sure that the *nipa* will grow back?

MANGROVES

Do you collect firewood in the mangroves?

How far from your house do you have to go to get firewood?

How soon can you go back to the same spot to obtain firewood?

Is there any way to ensure that the mangrove will grow back?

Which are the best mangroves to use for firewood? for fish straps? for fencing? for houses?