

CHAPTER 5

Women and Coastal Biodiversity Conservation: A Case Study of the Cogtong Mangrove Management Project

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INTRODUCTION

In recent years, there has been growing recognition of the importance of women in natural resources management. Over the years, women have been responsible for propagating various species and cultivars of food and cash crops, conservation of medicinal plants, raising of livestock, planting trees and managing forests for firewood, fruits and resins, as well as conservation of wetlands and coastal ecosystems for subsistence fishing and other products.

In the Philippines, women's key roles in the local economy and support of the households is dependent on the use of local resources. In Cogtong Bay, which is located in the Central region, mangroves and other coastal resources represent a rich and valuable natural resource for both traditional and commercial uses. By providing spawning grounds, mangroves support many fish species, crustaceans and other aquatic biodiversity. Besides, they provide timber, fuelwood, poles, posts and traps. The leaves of the *nipa* – a variety of mangrove, are woven, dried and marketed for roofing of rural houses. The sea-grass meadows in the coastal areas contain valuable marine products such as rabbitfish, mullet and blue crabs.

The widespread use of the mangroves directly contributed to their destruction and the depletion of fish resources in most parts of the Philippines, thus jeopardising the livelihood of many local people, particularly women. The major causal factors are: felling of the mangrove trees for timber; unregulated conversion of mangroves for fishpond development; illegal and destructive fishing methods; and open access to the resource. Besides having a devastating impact on the coastal biodiversity, these factors have created frustration and uncertainty among local people whose survival depends on these resources.

BACKGROUND

In 1989, a project called “Cogtong Bay Mangrove Management Project” was initiated to improve the management of the Bay's coastal resources by organising

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local communities to undertake coastal resource management activities. The project was initially (1989–1991) supported by USAID through the Philippines Department of Environment and Natural Resources (DENR), and implemented by an NGO called Network Foundation. The World-Wide Fund for Nature (WWF) – Philippines provided the bridge funding for the continuation of the project from 1991–1992.

The project had three major objectives:

- (i) To organise the local communities of eight coastal *barangays* (an administrative sub-division) to undertake coastal management activities.
- (ii) To assist local communities to:
 - (a) rehabilitate 400 ha of mangrove forest;
 - (b) construct 80 clusters of concrete artificial reef modules;
 - (c) initiate the culture of commercial oysters and green mussels;
 - (d) control the use of illegal and destructive fishing methods.
- (iii) To identify and test new approaches to mangrove rehabilitation and management.

Women and the use of biodiversity in Cogtong Bay

In Cogtong Bay, like in many other coastal areas, marine biodiversity provides the source of livelihood to the local populations for food, fuel and other products. Women's household roles as providers for family subsistence and their income-generating endeavours are dependent on the availability and quantity of these resources.

Women in Cogtong Bay engage in different activities: fishing, *nipa* weaving, snakeskin trade, fish and oyster-marketing, mariculture and firewood collection. All these activities involve the use of natural resources. Changes in the patterns of women's involvement in these activities often depend on shifts in accessibility to those resources. Declining resource availability, for example, lower fish catches, has often been an important factor for women to seek non-resource-based employment such as running sari-sari stores, providing child care and laundry services and trading.

Fishing and the collection, processing and marketing of marine products such as shellfish, are the key economic activities for women in Cogtong Bay. They reserve a portion of the fish harvest for household consumption and sell the surplus. Farming – backyard gardening and livestock-rearing are the other important

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subsistence and wage-earning activities undertaken by women – are also dependent on availability of land and water. The depletion of the coastal resources, therefore, has direct impact on women's roles.

Women's knowledge of local marine resources is quite extensive. They have good knowledge of the various items obtained from the sea including fish, oysters, mussels, clams, sea crabs as well as products obtained from the mangrove ecosystems, including poles, firewood, *tamiloc* (an edible substance from the mangrove trunk), mud crabs, oysters and shells which are used for home consumption and for sale. Generally, women in Cogtong Bay attach greater importance to the economic value of the natural resources than their ecological value. They directly link their concern over habitat loss and resource depletion to a decline in economic activity, for example a decline in fish catch due to dynamite fishing and scarcity of shells due to the illegal conversion of mangroves for fish-pond development.

PROJECT IMPLEMENTATION AND WOMEN'S INVOLVEMENT

The Cogtong Mangrove Management project had four major components namely:

- (i) the Mangrove rehabilitation and management component;
- (ii) the mariculture component (oyster and mussel culture);
- (iii) Artificial Reef Installation; and
- (iv) prevention of illegal fishing and construction of illegal fish-ponds.

Community organisations (fishermen's and farmers' associations) were set up in 11 *barangyas*. Each association was headed by officials selected from among the members. Membership was open to men who implicitly represented family membership to the associations. Although very few women were officials of the associations, they often attended and actively participated in the meetings as proxies of their husbands. Men were usually absent, out fishing in the sea. Even when the majority of attendees were women, the decisions taken at such meetings were always upheld.

However, since membership was in the men's names, women were not, in their own right, entitled to the direct benefits provided by the project. For example, they could not be directly issued with Management Steward Certificates (MSC) which guaranteed security of tenure over the rehabilitated mangrove areas managed by the association members. Similarly, they could not obtain access to the credit facilities provided by the association for maintaining the aquaculture of oysters and mussels and for enhancing productivity and family incomes.

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Regardless, women actively participated in the four main activities of the project but at varying levels, most in mangrove afforestation and oyster culture and least in establishing artificial reefs. They attended training sessions on how to raise mangrove propagules, they obtained the seedlings from the project nurseries and planted them in the designated areas. Women were the primary workers in the mangrove planting activities. They regarded all the activities as part of their family responsibilities where family members support each other.

Women undertook mariculture as a joint enterprise with their husbands. The men did the more difficult work of installing the stakes in the likely breeding grounds in the bay and hanging the collectors on stakes while women strung together the discarded oyster shells to make collectors and did much of the harvesting, processing and selling of the oysters and mussels produced. Most of the mariculture trainees at the courses organised by the project were women.

The installation of artificial reefs (L-shaped concrete structures that represented an advance over the less permanent bamboo structures) was largely men's work. It involved loading the reefs on boats and dropping them into the bay at designated sites. Women provided moral support and cooked community meals on the days men installed the reefs. Women also participated in preventing illegal fishing and illegal fishponds by reporting any infringements in their areas.

LESSONS LEARNED

The following general lessons about women's involvement in conservation and development projects were learned from this case study:

- Ignoring women's roles in the designing and implementation of projects can result in missed opportunities. There is often considerable advantage in involving women but conscious efforts must be made right from the project initiation to identify their roles, responsibilities and needs. In the Cogtong Bay Mangrove Management project, although women were ignored in the project design, ultimately they were instrumental in its success.
- The views and interests of all stakeholders, especially women, should be sought in the design and implementation of projects. If this had been done in the Cogtong project, the designers would have discovered early the importance of involving women, facilitating them to access the credit and explicitly defining their benefits from the project.

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- Women, like men, need direct access to and control over resources in order to benefit fully from project interventions. In Cogtong Bay, women needed full membership in the community associations and ownership of Mangrove Steward Certificates in order to have equal access to the credit needed to enhance their productivity and incomes and in turn act as economic incentives for them to conserve and sustainably use the coastal biodiversity.
- It is important to link the economic value of natural resources to their ecological values so as to make local people aware and to appreciate why conserving biodiversity is critical to their very survival and well-being. In the Cogtong Bay, women's concern over habitat loss and resource depletion was directly linked to a decline in economic activity, for example decline in fish catch and scarcity of shells due to the illegal conversion of mangroves for fishpond development which in turn raised their interest to reverse these processes which threatened their future survival.

CONCLUSION

Women in Cogtong Bay are the principal managers of the coastal biological resources. Because they depend on these resources, directly or indirectly, to meet their subsistence and economic needs, they are concerned about the depletion of the resources. They understand better the economic value of the natural resources than their ecological value and are aware that resource depletion has direct impact on them economically.

Although there was little deliberate attempt by the project designers and staff to integrate women in the project, they became automatically involved in the project because of their central roles in resource management and their socio-economic importance in community life. Even without actually acquiring official membership to the community associations, they attended the meetings, made decisions and undertook the project activities. They were very active in mangrove rehabilitation and afforestation and in adopting mariculture techniques demonstrated by the project staff. However, they were unfairly excluded in obtaining the critical benefits from the project namely, security of tenure over the rehabilitated mangrove areas and access to credit since they were not members of the associations in their own right.

Even without receiving direct benefits provided by the project, women in Cogtong Bay still demonstrated their commitment to the conservation of the coastal

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biodiversity. However, they would be more willing to pursue conservation activities if they were combined with opportunities for income generation. A key element of the success of conservation efforts, therefore, is to combine conservation with economic development endeavours of the local communities, particularly women.

REFERENCES

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