

Community Involvement, Public Awareness and Education for Mangrove Conservation and Restoration in Trat Province, Thailand

Project Summary

Activities at the Trat Mangrove Demonstration Site are implemented within the Thatapoa – Namcheio forest conservation area in Thailand's Trat Province, which borders the upper Gulf of Thailand adjacent to the border between Thailand and Cambodia. The purpose of the project is to develop models of good practice in community based sustainable use of mangrove.

The main activities at the site include: strengthening and expansion of the community-based mangrove management system; implementation of a replanting programme for mangrove restoration; development of a business plan for the sustainable financing of mangrove management in Trat; development of a comprehensive mangrove management plan; and awareness building and education at all levels of government and civil society.



Mangrove replanting in Trat Province

The project has also initiated establishment of a cooperative framework for resource management in the transboundary waters of Thailand and Cambodia. The Department of Marine and Coastal Resources of the Royal Thai Government's Ministry of Natural Resources and Environment is responsible for the execution of the project.

Issues and Challenges



Fishing is a major source of income in the community

The Thatapoa – Namcheio area is diverse with 33 true mangrove species and 36 associate mangroves species. Eight villages are located in the conservation forest area while a total of 21 coastal villages in Trat Province depend upon mangrove resources for at least part of their livelihood and income. The mangrove forest in Trat has been used for many years as a source of charcoal and tannin, extracted under government concessions, which were terminated in 2001. The major cause of mangrove degradation in the 1970s and the early 1980s was clearance for the construction of extensive shrimp culture ponds, which proved unsustainable in the long-term. Extensive shrimp culture declined in the late 1990s and at present local villagers earn their living through coastal fishing, and the collection and sale of mud crabs and grapsid crabs. Mangroves were progressively removed up to 1996 and substantial areas of abandoned shrimp farms require re-planting with mangrove.

Despite the cessation of government concessions in 2001 and decreased investment in shrimp aquaculture, mangroves continue to be degraded. The main threats to mangroves at Trat include: illegal encroachment into mangrove forest areas for human settlement and expansion of some intensive shrimp ponds; over-fishing and the use of illegal fish gear in and adjacent to mangroves; and erosion of the mangrove forest fringe caused by intensive operation of fishing boats in near shore areas.

A root cause for the past destruction of mangrove was a lack of understanding and knowledge at the community level regarding the functioning of mangrove ecosystems and the economic benefits provided by mangroves. Consequently there is a need to improve understanding and knowledge and to emphasize the links between the conservation of mangrove forest and the livelihoods of local people.

Pred Nai Mangrove Conservation and Development Group

Some 15 years ago, the Chief of Pred Nai village proposed to the Provincial Governor that the spread of shrimp farming in mangrove areas be halted. In the case of the Pred Nai community the desire to conserve mangrove come from the need to protect their own land for occupation and use of the animal resources for food.

The Pred Nai villagers formed a cooperative to protect mangroves from outside investors who wanted to extend shrimp farms in the area. Following the collapse of the shrimp farms the community commenced reforestation using local traditional knowledge. Around 1998, Pred Nai Mangrove Conservation and Development group was established to manage and conserve the Pred Nai mangrove forest under a community based mangrove management plan.

The actions of the community have become a model for community-based forest management, and Pred Nai village was selected as the lead village of eight target villages involved in the project such that it could mentor other villages and lead community education activities.



Replanted mangrove, Trat Province

Other community based activities implemented by the group include establishment of a crab bank, construction of near shore reefs as nursery areas for juvenile fish, and construction of bamboo pole fences to protect sensitive areas from intensive fishing. In addition this group has purchased mud crabs in the local markets for release in mangrove plantations to enhance production and although hard scientific data were not available to substantiate the benefits of this practice, local peoples' experience suggests that this enhances subsequent crab catches.

Management Plan Development and Conservation

Initial steps in the development a mangrove management plan for the Thatapoa – Namcheio forest conservation area included collection of information and data at the village level. Limited existing capacity in villages for the conduct of resource and socio-economic surveys was overcome through training members of the Pred Nai Mangrove Conservation and Development Group in the areas of survey design and execution, data and information management, and management plan development. These trainees were subsequently responsible for guiding other villages through the process of plan development during community meetings and training exercises. The result of this highly participatory process using local leaders from the Pred Nai village resulted in the involvement of 17 villages in plan development compared to the 8 initially envisaged. Villagers from Pred Nai were trained in the conduct of forest patrols and transferred knowledge and skills learned to leaders from other villages. The villagers from Pred Nai also led the establishment of a community-based patrols network.

Awareness Building and Community Education Activities in Trat

Activities focused on building an understanding of the functions and values of mangrove ecosystems and education activities have been implemented at both the government and community levels. Three youth camps involving groups of 100 school children and teachers were organised and led by officers from the mangrove resources research and development station and community leaders. Activities during these camps focused on mangrove rehabilitation, resource assessment and monitoring.

In order to facilitate the re-planting programme in the Province the Department of Marine and Coastal Resources provided education in mangrove rehabilitation and published a manual of re-planting techniques and an evaluation of previous experiences in mangrove restoration in Thailand that identifies appropriate techniques for use in Trat Province.

Public awareness was enhanced through the widespread distribution of five issues of a quarterly project newsletter for stakeholders and improvement of the existing Mangrove Learning Centre, and further development of the boardwalk through the mangrove areas.



Boardwalk in the Thatapoa–Namcheio conservation area

Co-operation between Thailand and Cambodia

In order to establish a cooperative framework for resource management in the transboundary water area between Thailand and Cambodia, experience and knowledge regarding the threats to sustainability of the mangroves were reviewed during an initial joint technical workshop between Trat Province (Thailand) and Koh Kong (Cambodia). This workshop also provided an opportunity to share knowledge and experiences in the technical aspects of mangrove rehabilitation including mangrove propagule production, nursery and planting techniques. A second joint workshop discussed and agreed a framework for assessment and monitoring of mangrove forests and fisheries resources.

Rationale for the Approach

The approach, built on traditional and local knowledge of mangrove conservation and rehabilitation, combined with more scientifically based silviculture, has strengthened awareness of the need for and approaches to mangrove conservation. Activities involving school children have enhanced their knowledge and directly involved them in community activities thus increasing the potential for sustainability of mangrove conservation in Trat Province. Replanting activities have increased mangrove coverage and species diversity and have served as a starting point for the development of cooperative management in the transboundary waters with Cambodia.

Potential for Replication

The practices established through the work of the Pred Nai Village and the Trat Mangrove Demonstration Site will continue to be supported by the Thai Government. Implementation of the Comprehensive Management Plan for Trat Mangroves developed under the project will be supported by the Sub-district Administration, whilst education in mangrove management will continue, through the work of the Department of Marine and Coastal Resources and Thailand Environment Institute (TEI).

The strengthened community participation at the Trat Mangrove Demonstration Site represents a successful experience in management by local people that the Thailand Department of Marine and Coastal Resource will use as a model for other mangrove areas that wish to develop community-based mangrove forest management.

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