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SEAFDEC appeals - Save the mangroves!

Aquaculture Department, Southeast Asian Fisheries Development Center

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Mangoves, the intertidal trees and bushes that grow in the tropics and subtropics require salt water, protection from wave action, a suitable substrate, and regular tidal flushing. There are seven from the 26 true species of mangroves in the Philippines. They are bakawan babae, bakawan lalake, api-api, bungalon, pagatpat, pototan, and tangal (refer to p. 2.) Another 60-70 species of vines, shrubs, palms, and trees are associated with mangroves.

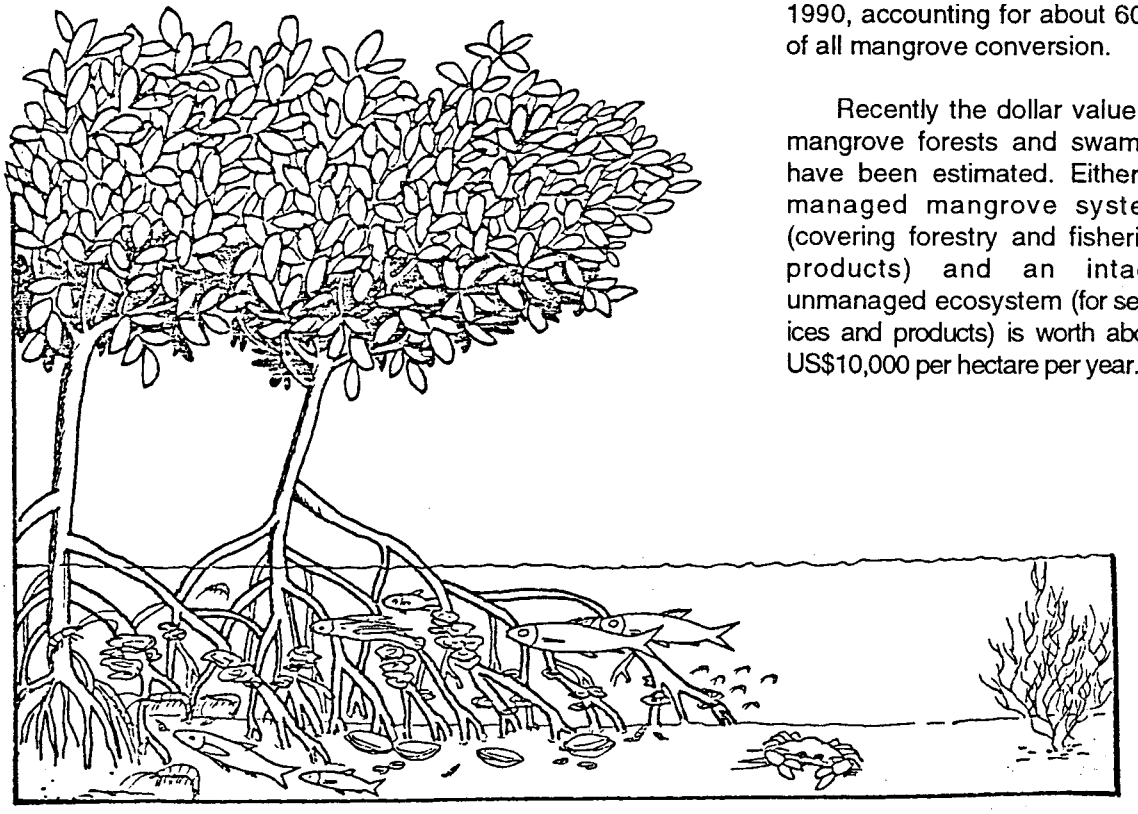
Mangroves have contributed to the ecological and economic well-being of coastal communities for centuries. Mangrove forests prevent river bank and shoreline erosion by trapping and stabilizing sediments, and reduce flooding.

Mangrove areas export nutrients and detritus to nearshore waters and serve as nurseries and feeding grounds for many commercially important species. Milkfish, mullet, rabbitfish, snapper, gobies, shrimps, crabs, oysters, mussels, clams, and some seaweeds are found in mangroves.

Aside from fisheries, mangroves also provide many forestry products - fuel (firewood, charcoal); construction (roof shingles, timber, beams, poles); fishing (poles, floats); paper production; drugs and beverages (vinegar, alcohol, medicines); household items (furniture, glue); textile and leather products (dyes, tannins); and forage for livestock.

Mangroves (and other wetlands) regarded as wastelands have been cut down for fuel or converted to other uses. In the Philippines, mangrove forests and swamps had its own serious slump in area and remarkably reduced which gave irreversible ecological and economic consequence Fishponds increased from a few hectares in the late 1800s to 220,000 hectares in 1990, accounting for about 60% of all mangrove conversion.

Recently the dollar value of mangrove forests and swamps have been estimated. Either a managed mangrove system (covering forestry and fisheries products) and an intact, unmanaged ecosystem (for services and products) is worth about US$10,000 per hectare per year.



What can be done?

To stop and prevent further degradation of the mangrove ecosystem, three major action plans are necessary:

Conservation

To conserve remaining mangroves, existing legistlation designed to protect them must be implemented. For example, the ban on clear-cutting of mangroves should be strictly enforced by the Bureau of Forest Development of the DENR. Only regulated, selective harvesting of fuelwood and other mangrove products may be allowed.

Similarly, the Bureau of Fisheries and Aquatic Resources should require pond owners to retain or plant a mangrove greenbelt 20-100 meters wide around the ponds as specified in Presidential decree 705 (1975 Revised Forestry Code), P.D. 950, and other similar laws. Abandoned fihsponds should be allowed to revert to mangrove forest by breaking the dikes and restoring tidal flow.

Mangrove Reforestation

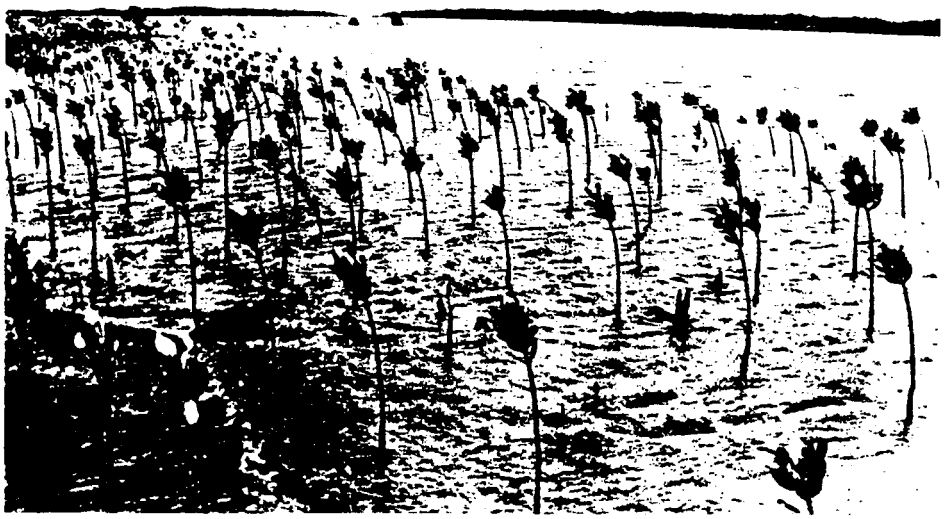
Considering that around 300,000 hectares of mangroves have been lost since 1920, equal effort should be given to reforestration or planting of denuded mangrove areas. As early as 1964, community residents, school officials, and students in Bohol planted mangroves primarily for protection against monsoon winds and typhoons. Similar mangrove reforestation projects can be undertaken in other places in the country.

Ecologically Sound Aquaculture

Mangroves and aquaculture systems may not be entirely incompatible. When culture systems imitate natural ecosystem functions, they require less resource inputs and produce less harmful ecological effects. Examples of environment-friendly aquaculture technologies are:

- Seaweed culture - Gracilaria
- Cage culture of fishes
- Culture of oysters, mussels, clams, cockles
- Crab fattening
- Amatong - rocks or branches placed in excavations in the intertidal area to provide shelter for groupers and other fishes which are then harvested regularly
- Indonesian *tumpang sari* - integrates forestry and fisheries with aquaculture or agriculture and retains the multiple uses of given mangrove areas

Source: Bagarinao, T. et al. Towards a viable environment: What individuals can do. SEAFDEC/AQD. (in press).



Mangrove reforestation is being done in Dumangas, Iloilo as a project of Iloilo State College of Fisheries (ISCOF).