
China: Ramsar Mangroves lost to Shrimp Farming

The Leizhou Peninsula is located in the southernmost part of SE China, and forms the stepping-stone to Hainan Island. Leizhou's 1,500 km coastline and 12,500 km² land area is sub-tropical, containing many bays and estuaries where long stretches of diverse mangrove forests and the associated mudflats are found. There are 24 recorded species of mangrove found there, and approximately 3,300 ha total area of actual mangrove forest scattered along various isolated stretches of coastlines.

China joined the Ramsar Convention on Wetlands in 1992, and designated 14 Ramsar sites as "Wetlands of International Importance" within China in 2001. These sites are to be managed in China by the State Forest Administration. Unfortunately, major problems exist in properly monitoring and conserving these vital coastal wetland areas putting at serious risk both mangroves and the habitat for thousands of migrating waterfowl. Both flora and fauna, including mangroves and shorebirds, were lost to mainly expanding shrimp farms and over-exploitation.

The many practical contributions that mangroves make to wild fisheries, wood products for building, fuel wood, shoreline protection against erosion, water filtration, and medicinal and dietary values of mangroves for local populations far exceed that of shrimp farming. Mangroves also play a protective role of landward seawalls and dykes in storms and typhoons since they can absorb up to 80% of the wave energy, according to research by the Tropical Forestry Research Institute of the Chinese Academy of Sciences.

A first step to counter the degrading process of mangroves was the establishment of the Zhanjiang Mangrove National Nature Reserve (ZMNRR) in 1997. The total area of the ZMNRR, on Leizhou Peninsula, is approximately 20,300 ha comprised of 12,400 ha of mangroves and 7,900 ha of inter-tidal mudflats. Most of this area is not contiguous mangrove cover, but is composed of large and small patches of mangroves scattered along 1,500 km of the peninsula's coastline. The mudflats themselves serve a vital function as the resting sites and feeding grounds for migratory shorebirds. As well, the mangrove forests play an important role in preserving the health and integrity of these coastal zones.

Since 1950 when the mangrove area of Zhanjiang was estimated at 17,500 ha, it has declined under heavy development pressures to 12,400 ha., mainly due to the recent rapid expansion of shrimp aquaculture. Declining stocks of fish and shellfish and loss of mangals mean the impoverishment of local communities. This loss of sustainable natural resources has led to a convoluting increase in demand for remaining natural resources among local communities to help offset declining incomes from reduced wild fisheries.

The wheel of misfortune seems to turn faster with each subsequent misfortune. Unfortunately, the current mangrove conservation efforts appear to consist largely of planting exotic species of *Sonneratia apetala* introduced originally from Bangladesh. With the creation of the ZMNRR, the order came to restore degraded mangrove areas and plant the mudflats. Mangrove tree nurseries were established, and small-scale replanting efforts undertaken with more ambitious plans to come, largely including planting of the non-native mangrove species, *Sonneratia apetala*, and planting these

exotics en masse mainly in important 3,800 ha of mudflat zones.

Meanwhile, little has been done to conserve the remaining mangrove forests and mudflat areas, thus causing serious concern for these important coastal ecosystems and the great biodiversity and vital functions they support.

Because shrimp aquaculture is now perceived as quite a lucrative industry, China would be greatly expanding both its production and exports of shrimp to foreign markets, beginning to compete with, and already overcoming, their rival shrimp producers in Asia and Latin America. Because of low labor and materials costs, China has already out competed its toughest rival, Thailand which was since 1992 the world's top producer of shrimp, but rapidly lost ground to China's rising tough competition.

"The roots of the sea", the interface between land and sea, mangroves are havens of biodiversity and are in peril. They are another life frontier which has been trespassed for the sake of the big capital's commercial profit.

Excerpted and adapted from: "China's Mangrove Forests of the Leizhou Peninsula", Alfredo Quarto, Mangrove Action Project (MAP), sent by the author, E-mail: mangroveap@olympus.net . The full report can be accessed at: <http://www.wrm.org.uy/deforestation/mangroves/China.html>