

Special Report

The lady nurtures mangrove trees

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At this time when the depletion of mangroves is a hotly debated issue, a woman in Kerala, India, fosters the care of hundreds of mangrove trees in a tourist hamlet. For the past 35 years, Ms. Mariamma and her family at Kumarakom, Kottayam have planted and nurtured these trees as if they were her children.

When soil erosion threatens the low-lying areas, Ms. Mariamma protects her land from by growing mangrove trees on the borders.

Some 30 years ago Ms. Mariamma's father was attracted to the peculiar root structure of mangroves grown on the boundaries of a piece of land then owned by an expatriate. Mr. Kuuvilla collected

the seedlings of these trees from the backwaters and brought them to his house. His children, including Ms. Mariamma, assumed the responsibility of planting and protecting them.

Her children and grandchildren also developed an interest in these trees. Today, the 0.24-ha of land owned by Ms. Mariamma is surrounded by a thick mangrove belt.

She observed that if the tips of the young plants are cut, the growth of the trees is stunted. Otherwise, they can grow to well over 30 feet. These plants also give good cooling effect to the land during the summer months. During the monsoon seasons in Kerala (June to September and October to December),

fishes like *Clarias* sp., *Channa* sp and juveniles of Indian white prawn, *Peneaus indicus*, are also observed in the area. The land is also occupied by many young mangrove plants.

In Kerala, mangrove timber usually costs IRS250-350 per piece (one US\$ = IRS43). The wood can be built into oars for canoes to be used for sand dredging and fishing craft. The lady has no wish to sell a single tree despite a lot of people wanting to buy the wood.

She also worries that none of her neighbors take much interest in planting mangrove plants.

Recently, the Kerala Tourism Development Corporation (KTDC) approached her for seeds, which she was willing to provide free.

Nonetheless, the KTDC paid half a rupee per propagule which sum she used to start a project valued at IRS4 lakhs, that aims at planting trees along the edges of the KTDC resort at Kumarakom. She has planted trees of *Bruguiera* sp (family Rhizophoraceae). Although she is not familiar with the species name, she has learned to grow them.

She made it sound simple: the mature seeds that fall from the tree have to be collected and planted in small pits half-covered in mud. On sprouting, shade, fertilizer or water is not needed. Once it grows, the branches, not the apical shoot, should be pruned. The plants will grow to be from 0.5 to 1.0 m in one to 2 years. The stem of *Bruguiera* sp is hard. The root system protects the land from soil erosion as well as forms a nursery for fish and shrimp juveniles.

When we visited Ms. Marimma, she expressed pride that her family became aware of the importance of mangroves early on, when nobody cared for a patch of swamp. Even now, she says, people do not realize, or ignore, the importance of mangroves. Some neighbors, to protect their land, built a massive compound wall at great cost. "They could have grown mangrove trees," she says, and "it would have been cheaper, eco-friendly, and longer lasting!" Her family has not found it necessary to build any wall of stone or brick – it is mangrove trees for them.

Public awareness of her mangroves has reached far and wide, and the result is that many people have been approaching her for mangrove seeds – she has been generous with these. But she has remained publicity-shy. Invited to attend a KTDC meeting to honor her achievements in fostering the care of the mangroves, she gracefully declined, candidly admitting to being shy in front of a crowd.

Fortunately, there is no timidity in her care for mangroves.

About the authors

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The natural nursery.



The tall *Bruguiera* trees that serve as guardians of the land.