

# A buffer zone for Sinharaja forest?

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The *Sinharaja World Heritage Site* is Sri Lanka's last viable remnant of virgin tropical rainforest. Located in the south west of Sri Lanka and covering approximately 11 000 hectares, the forest has been internationally recognized as a UNESCO World Heritage Site for its biodiversity and high number of endemic species. Despite international status and strict legal protection under national law, the forest reserve continues to be encroached by surrounding communities and degraded at an alarming rate.

The districts bordering the Sinharaja forest are among the most densely populated in the country but until recently, very few families lived in the Sinharaja "buffer zone" bordering the forest reserve. There were no roads into the area, and the few established villages could only be reached after many hours of hiking on forest paths. With little access to government services or external markets, these isolated communities depended on shifting cultivation, home gardens and forest products for their subsistence. Over the past 15 years, the promotion of low-country tea cultivation and the opening of new roads have set in motion dramatic changes in the Sinharaja buffer zone. Settlers have flooded into the area and population pressure has increased. The high profit margin of tea has improved living standards, but it has also provided tremendous incentive for the clearing of natural rainforest and mixed tree crop home gardens.

Today there are nearly 40 villages circling Sinharaja forest park. The boundary of the reserve is a stark line between rich rainforest and monoculture tea fields – a "buffer zone" exists only on paper. The absence of a clear official boundary demarcation prompts further encroachment of the forest, and current tea cultivation practices by smallholders threaten both the forest and the future of agricultural production in the area. There are already signs that the change in vegetation is affecting water flow. The clearing of steep and fragile slopes for expanding tea lands has led to topsoil exposure, heavy erosion, and a loss of soil fertility. Erosion on lower slopes destabilizes the soil in upper regions and prevents the regeneration of forest cover.

## Agroforestry in the buffer zone

In January 2003, *Sewalanka Foundation* started an agroforestry project for tea smallholders near the Sinharaja forest. In practice, the project aimed to reintroduce a new buffer zone by reducing the use of agrochemicals, introducing soil conservation measures and increasing the diversity of the tea fields through intercropping. In this context it also addressed the capacity of the buffer zone communities to carry out ecologically sound economic activities, as well as creating linkages with markets and helping to coordinate the activities of the many agencies and organizations working in the area.

The programme works in 22 villages north and south of the forest and more than 150 farmers have so far taken part in the training course offered. Through the training, participants learnt the theory and practice of good tea cultivation. Field visits demonstrated management of the tea bushes, fertilizing, intercropping, soil erosion control, weed control and plucking techniques. The training course focused on practices used in other parts of Sri Lanka but unfamiliar to the participants. These included soil conservation measures like lock-and-spill contour drains, lead drains, bunds, green manures, mulching, shade trees and hedgerows. The programme promoted intercropping with the South Asian native tree *Gliricidia sepium* for multiple uses including green manuring, shade, erosion control, and fuel

wood; and the shade tolerant "*Savandara*" and *Arachis pintoi* to prevent soil erosion. As the latter species is new to the area, homestead nurseries were established to cultivate seedlings.

From follow-up visits and through project monitoring, it has become apparent that the impacts of the project are substantial. Farmers now practise better crop management, for example plucking tea leaves weekly instead of once every two weeks. In addition, plot management has become increasingly important, including pruning, weed control and applying fertilizers only after testing the soil.

## Small business development

Through the strengthening of the community group *Deniyaya Sinharaja Conservation Committee* (DSCC), farmers are learning to share their experiences in formal meetings. They have also undergone business training and are now aware of the importance of keeping good records. This has helped the implementation of other, related projects such as the development of small, environmentally sound enterprises as alternatives to tea production – for example the collection, processing and bottling of Sinharaja *kithul* (*Caryota urens*) treacle by community members, which is marketed as a Sinharaja Conservation Product through Sewalanka.

The DSCC hopes to assume responsibility for the processing, marketing, and monitoring of *kithul* and is working to develop a number of additional conservation-based enterprises including herbal medicine preparations; home garden cultivation of flowers, ornamental plants, and mushrooms; beekeeping; marketing of nature-inspired handicrafts and fine art; and the production of traditional sweets.



Photo: Author

Training session on agroforestry in the tea fields near Sinharaja forest.

## Conclusion

More sustainable agricultural practices have slowly helped reduce the siltation of the Sinharaja watershed. More importantly, they have also increased sustainability and productivity of tea production on already cultivated lands. Together with the development of sustainable enterprises based on forest products, these efforts help to reduce the need for expansion and further encroachment into the forest, and contribute to the ecologically sound economic development of the World Heritage Forest buffer zone.

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