

THE WATER TOWERS PROJECT

The community based restoration of the Kalkanna Oya watershed in the Lipton's Valley in Sri Lanka

- a Landcare Project

In Sri Lanka 103 river systems begin in the montane zone that is largely under the management of 23 plantation companies. Montane forests, also called 'cloud' forests are critical watershed areas because of their ability to fix moisture. Montane forests harbor high levels of endemic biodiversity.

More than a hundred years ago, colonial interests cleared these forests to plant *Camellia sinensis*, tea and today most watersheds are extremely degraded. The removal of forest cover has resulted in the erosion of montane soils, a reduction in dry season water flow in streams, reduction in habitat for biodiversity and an increased propensity for landslides. These problems are exacerbated by the errant use of chemical fertilizers and biocides for the cultivation of vegetables in this mountainous terrain thereby contaminating stream water at the source.

In the dry season, Plantations located in the Uva Province experience an acute shortage of water that leads to a decline in the productivity of tea. Since there is no alternate crop or avenue to generate revenue, Plantation Companies suffer a slump in profitability. Realizing that the solution for sustainable watershed management in Sri Lanka required collaboration with the Plantation sector, the Neo Synthesis Research Centre (NSRC) initiated the first ever restoration of the Kalkanna Ganga, a sub catchment of the Walawe Ganga in the Lipton's Valley, Haputale. The area is located below the Horton Plains and has steep and narrow valleys that are unstable and subject to subsidence and devastating landslides.

The Water Towers Project is a private public project that involves the collaboration of principally the Thotulagalla and Pitarathmalie Tea Estates, Pradeshiya Sabha, Diyatalawa, UNDP's GEF Small Grants Programme and Art Gold Sri Lanka. The Project is being implemented by NSRC.

Work has already started on Thotulagalla Tea Estate where with the onset of the monsoon rains the replanting of the mountain ridge and the riparian zones of the gullies was initiated using species from the native cloud forests of the area. The tea is being diversified with tree crops that have economic value such as cinnamon, cloves, avocado etc. Of significance is the landscape design around the Pitarathmalie Lake that is intended to mitigate landslides in the long term. Further, home gardens belonging to the Estate Line community that are located upstream of the Lake on Thotulagalla Estate and downstream in the Pitarathmalie Estate are being converted in to forest gardens using the silvicultural technique of analog forestry. The cultivation of annual crops with organic regimes of production is also part of the landscape design. In addition, the Project will teach members of the Estate Line community to sort and collect non recyclable waste while the organic component is composted. Grey water will be managed through the construction of a series of ponds and the restoration of natural wetland areas for bioremediation.

The work is being implemented with the collaboration of Estate Line communities, villagers, school children, local administration, Estate management and Local Government using the LANDCARE philosophy. LANDCARE is a unique partnership allowing communities, governments and organizations to come together to repair and better manage an area's natural resources. The adoption of LANDCARE methodologies entails the formation of watershed committees/groups and mobilization that is currently underway.

This will be the first time that Estate Line communities participate in the development of the land. The youth are being trained in restoration technologies and the women are exploring alternative avenues of income generation through home gardening. Given their sad history the Project will give members of the Line communities a new dignity and sense of ownership in the decision making process. This experiment will also be the first time that Plantation Companies adopt a 'watershed' approach in managing their Estates. In the expected increase in hydrological potential they could realize an overall increase in productivity. It will also give them the opportunity to sequester carbon in their trees and soils and therefore enjoy the opportunity to trade carbon. The success of such an experiment could attract other tea plantation companies to adopt this land management perspective. Such replication would thus have ramifications on the industry as a whole and for the security of Sri Lanka's water resources in the long term.