

705/F

**Contribution of intercropping and cover crops for large scale rubber plantations:
Economic analysis**

W M D S U Wijemanne* and U A D P Gunawardena

Department of Forestry and Environmental Science, University of Sri Jayewardenepura

Intercropping maximizes land use efficiency and this could be considered as an important option for large scale rubber plantation in Sri Lanka. However, at present, except for a few plantation companies, intercropping on rubber lands is generally confined to the smallholder sector and mainly to the immature phase of growth. Cover crops can significantly control soil erosion, during the early stage of growth and could enhance soil fertility in rubber plantations. However, application of such practices is still not widespread and demonstration of such benefits in economic terms is a strongly felt need. The present study therefore intends to identify best intercrop and the cover crop among the available options and test the economic viability for a large scale rubber plantation with extent of 219.6ha.

Three intercrops (cocoa, coffee and pepper) and two ground cover options (*Mucuna bracteata* with paddy straw mulching and *Crotalaria anagyroides* with its lopping leaves as mulch) were selected for the study. Data related to these practices were collected from smallholders in Kalutara and Colombo districts during December 2007 to April 2008 regarding costs and revenues related to the selected practices. Other relevant data were obtained by expert opinion surveys, market surveys and secondary sources. Finally, cost benefit analysis was carried out for each practice and net present values (NPV) were calculated considering 30 year time horizon and 10% discount rate.

According to the results, cocoa was identified as the best inter crop with NPV of Rs 235 million and *Crotalaria anagyroides* tree legume cover as the best ground cover with NPV of Rs 25 million. The results will provide important guidelines for the intercropping of both small holdings and large scale plantations.

*uthpalaw@gmail.com

Tel: 011-2804685