

**IMPACT OF RUBBER PLANTATIONS ON
ENVIRONMENTAL CONDITIONS OF EASTERN
PROVINCE OF SRI LANKA**

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ABSTRACT

Introduction of rubber in to Ampara District of Eastern Province of Sri Lanka in 2003 was intended to meet better environmental conditions, improve the rural livelihood and good quality rubber yield. Except a short assessment, there was no effort found on crop microclimatic conditions under mature rubber cultivation in this area in dry period. Therefore a detailed study was aimed to assess the microclimatic conditions under mature rubber lands in Komana Village at Padiyatalwa in Ampara District of Eastern Province during the dry period from 30th May to 22nd July 2015. Rubber plantation, manmade forest, natural forest and chena (an open area) cultivations area included in comparison and assessed the microclimatic conditions under these sites in this area. To facilitate the assessments, three replicates from each site were included and importantly automated weather station was also established in this experimental site. Four crop microclimatic parameters were used for assessing each particular cropping system namely air temperature, relative humidity, wind speed and solar radiation. Also two soil parameters were assessed in each site namely soil moisture content and soil temperature. Soil moisture content under rubber lands recorded 5.49% higher than chena cultivation and also, the mean values of both rubber and natural forest recorded the highest values of relative humidity and the lowest values of soil temperature, air temperature, wind speed and solar radiation over the chena cultivation. Mature rubber plantation performed similar conditions of the natural forest and simulate the environmental conditions of a natural forest. Further investigation also suggested the need of repeating this work in other areas to find out the changes of regional climate.

Key words: Cropping Systems, Eastern Province of Sri Lanka, Microclimatic Conditions, Rubber Plantation, Soil Conditions