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RAINFALL IN SRI LANKA IN 1975 IN RELATION EVAPOTRANSPIRATION AND THE MOISTURE STATUS OF THE SOIL

A. W. R. Joachim

A preliminary study was undertaken to estimate the moisture status of the soil in relation to rainfall and evapotranspiration in Sri Lanka in 1975, in respect of eight major climatic zones. These are typified by the following specific locations: Hambantota (low arid), Anuradhapura and Jaffna (low dry), Kurunegala (low intermediate), Colombo (low wet), Ratnapura (low ultra wet), Kandy (mid wet), Diyatalawa (high intermediate), and Nuwara Eliya (high wet). The average potential evapotranspiration data estimated by Koelmeyer by the Thornthwaite formula and procedure were used as the basis of the calculation of the following parameters for 1975: actual evapotranspiration, moisture deficit and moisture surplus. The periods of soil moisture recharge and utilisation were also incidentally ascertained.

Some of the features of interest resulting from the study are as follows:

(1) The pattern of the water balance in 1975 in the wet and ultra wet zones was normal, water being much in excess of plant needs in most months except January and February.

(2) The arid and dry zones showed a different pattern to normal in respect of the duration of soil moisture deficits. The drought in the dry zone, especially the Anuradhapura district, was more severe than that in the arid zone.

(3) The actual evapotranspiration in the arid and dry zones in 1975 was about equal to the annual rainfall, the exception being Jaffna because of abnormally high rain in the N. E. Monsoon.

(4) The intermediate Kurunegala zone had a well - distributed water regime and the mid wet zone of Kandy a high water surplus due to a heavy rainfall in November.

(5) The Thornthwaite method of assessment of the soil water balance offers promise of effective use in agriculture.