

## C-05: Hydrology of small catchments

P P G Dias

(Hydrology Division, Irrigation Department, Colombo 7)

At present, catchment yields for small catchments are estimated by a set of iso yield curves representing the N.E. and S.W. monsoons separately. These yield curves are based on the historical observations of the river gauging data of major rivers. The objective of this study was mainly to review the present method of yield estimation for small catchments. Under this study, 9 small catchments located in different parts of the country were selected. It was intended to monitor the rainfall and runoff of these catchments for a period of 2 years.

In dealing with the hydrology of small catchments, an attempt was made to utilize the present internationally available knowledge on the subject, while assessing water yields and flood peaks in selected sites in the country.

In order to estimate average yield of related catchments and then to generalize the findings the following are required: (1) Models (2) Generation of stream flow for 30 years. The following types of models were used in this study:

- (a) Weekly models of Black Box type based on multivariate regression
- (b) Daily models of Black Box type based on the Unit Hydrograph theory.
- (c) Daily models of non-linear conceptual type based on physical characteristics of the catchment.

Based on the findings of this study, the iso yield maps were slightly adjusted to estimate the yield of small catchments.