

Catchment morphometry and the tank distribution pattern in the ancient Dry Zone of Sri Lanka

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Agricultural activities in the settlements in Dry Zone of ancient Sri Lanka seem to have been mainly dependent on a man-made irrigation system. The general condition in the Dry Zone necessitated a continuous maintenance of a systematic irrigation pattern. The tank, dam and canal bear witness to the hydraulic engineering ingenuity of ancient Sri Lanka. Within this irrigation system there flourished an agricultural pattern resulting in self sufficiency in food in a dry yet fertile soil-scape (Gunawardana 1979).

The river basin is a systematic natural open hydraulic system accepting and rejecting the incoming and overflowing water freely without restriction. The catchments ecosystem includes geological structure, soil profile, climate, gradient and shape of the basin, vegetation and finally human action. The above factors influence the formation of the stream network as a single component. Thus, the village tank density is more in the first and the second order while major and medium tanks are seen in the third, fourth and the fifth order stream. The river basin is physically shaped by the flow of the stream in line with dendrite and the lineage patterns in the Dry Zone. The nature of these patterns has greatly influenced ancient hydraulic technology.

Key words: Dry Zone agriculture, Irrigation, Catchments eco-system, Tanks, Catchments

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