

Optimal Utilization of Irrigation Water in Garufella Catchment in Assam, India

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In India, only about one fourth of the cultivated land is irrigated and agriculture on the remaining three fourth largely depends on vagaries of the monsoon. In the Garufella Catchment, which is situated in Assam, India, about 90% of the rainfall occurs during the monsoon period from June to October. In winter and summer the area is mainly irrigated by surface water available from the Garufella river. There has been no planned irrigation development in the catchment, which has a curable area of 8420 ha. Linear and Goal programming models for optimal utilization of irrigation water for the winter season have been developed considering such factors as soil characteristics, topography, climatic pattern, cropping intensity, crop water requirement, water resources and socio-economic conditions. The water and land utilization, net return and total production from the agricultural crops under various plans have been worked out.

Triangular Side Weirs

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Discharge characteristics of sharp and broad-crested triangular side weirs have been experimentally investigated. Relations between discharge coefficient and mean channel Froude number for different apex angles have been established.