

Principle and Practices of Rainwater Harvesting in High Rainfall Region and Effective Utilization of Harvested Water

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Abstract

Land and water are two vital and finite natural resources. The availability of water resources varies over space and time. Rainfall being stochastic in nature, there is a need to conserve the rainfall for its utilization during the non-rainy season. The eastern region of India is blessed with plenty of rainfall, most of which occurs during rainy season. A large amount of rainfall finds its way to river and sea through surface runoff. Due to increasing demand of water for irrigation, municipal and industrial needs, there is a need to conserve/harvest rainwater at every plausible site and utilize the harvested water in an efficient manner. Several rainwater harvesting techniques such as rainwater conservation through provision of optimum bund height in rice fields; two stage conservation of rainwater in rain fed medium lands; tank cum well system in plateau region; micro catchment rainwater harvesting for horticultural crops and rubber dams in the watersheds have been developed at Directorate of Water Management and field validated. These techniques have been discussed in this paper. The harvested rainwater through these techniques has been effectively utilized for irrigating crops. These technologies have been found highly promising in conserving rainwater in the high rainfall region.

Keywords: Rainwater harvesting, Rubber dam, Micro catchment water harvesting, Diked rice field, and high rainfall region.