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Integrated Water Resources Management for Agricultural Sustainability and Food Security

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Abstract

Water is an indispensable natural resource for sustaining the environment, supporting life and responsible for sustainable agricultural growth and development wherein agricultural sector is the major user of the water resource. The integrated management of water resources could only be possible through adoption of efficient and optimum use of irrigation water, which could only be ensured by judicious and economic use of irrigation potential whatsoever created to increase crop production. The integrated water resources management also includes the concept of rainwater management that has got an immense important on the way to develop the rainfed farming system. Previously, rainfed agriculture was associated primarily with conservational land treatments to check soil erosion and land degradation. But in the areas of medium to heavy rainfall, there is ample scope of tapping excess rain water through suitable water harvesting structures constructed for this purpose for its subsequent uses as irrigation or to apply lifesaving irrigation to the crops which should also come under the purview of water management for crop production. It has got relevancy particularly in installing small-scale irrigation system based on farmers' participatory approach for sustainable crop production for maintaining sustainable growth and development of agriculture. Although there is a difference in the objectives of water management where there is abundant availability of water from continuous flow connected with perennial sources or lakes and rivers and that of from restricted or limited supply from collection of excess