

Integrated Watershed management in Water Stressed Western Tracts of West Bengal, India — a Bonanza for Water Resources

Shyamaprasad Sinharay
Centre for Ground Water Studies, West Bengal, India



ABSTRACT

In chronically water-stressed areas, water harvesting and artificial recharge have been important for sustainable water resources development. Rainwater harvesting and conservation of water resources essentially involve collection of rainwater and storage both in surface and sub-surface reservoirs.

The acutely water-stressed tracts of Paschim Medinipur, Bankura, Purulia and Birbhum districts of the western part of West Bengal, India, suffer from extreme moisture stress during March-June every year. Being underlain by hard granitic rocks, ground water resources are very limited. The river water flowing through the area remains almost dry during these lean months. This has caused a perpetual water crisis in the area even for safe drinking water supply. Agriculture in non-monsoon seasons is almost negligible. Bestowed with an average annual rainfall of 1200 mm and large tracts of cultivable lands, the agro-economic situation can change considerably, if additional water is made available during non-monsoon seasons.

With these issues in mind, a program of Integrated Watershed Development was initiated with the primary objective of conservation, development and sustainable management of water resources in consideration of priority areas of extreme drinking water scarcity, and extension of limited agricultural activities through available additional water resources.

Twenty existing ponds have been re-excavated in a Public-Private Partnership mode keeping with regard of the average decadal ground water level in the driest period so that the water harvesting capacity of these reservoirs can be maintained even during the driest months with at least 2 to 3 meters of water in the reservoirs. This endeavour has enabled to store and recharge 5 million cubic metres of additional water which is being used for limited agriculture and pisciculture activities in the region. This simple intervention with reasonably minimum expenditure can significantly improve the socio-economic conditions of the communities.

Keywords: Integrated watershed management, ground water level, water conservation