Harvest water on a rainy day

■ By A N Khan

The concept of rainwater harvesting was incorporated into the architecture, when Rajmohan Gandhi established the Moral Rearmament Society in Panchgani in 1964, so that residents would have water round the year. In the eighties a hawaldar called Anna Hazare of water-starved Ralegaon Sidhi, a village in Aurangabad, Maharashtra saved water flowing from a hillock by introducing runoffs to the village pond. Continuous water harvesting put an end to Ralegaon's water woes.

Movements in rural Gujarat and Madhya Pradesh have resorted to constructing check dams on rivulets and streams, gullies, contour trenches, bunds and small infiltration tanks. Individuals as well as the government are chipping in to save water and improve the water table. The check-dams are constructed as part of the Sardar Patel Participatory Water Harvesting Project. Check-dams in Sagar district in Madhya Pradesh are part of a Water-conservation movement. The Rajiv Gandhi Water-shed Development Mission has started a project to bring water to all villages, and Dewas district prone to desertification, has adopted roof-top rainwater harvesting.

Today, India uses only a tenth of the rainfall it receives annually and even 20 years from now will be using only a quarter. But it must learn to store the water and use even the fraction on its uses without polluting it, otherwise there will be serious water shortages. India's groundwater resources are almost 10 times its rainfall. But with lakhs of tube-wells added every year, the water table is declining in many areas, leaving the dug-well of the poor high and dry.

With the increase in population and decline in water table, the availability of water is going to be a huge problem. Conservation of water is the key in the drive to tide over the scarcity. Cherrapunjee which receives about 11,000 mm of rainfall annually suffers from acute shortage of drinking water. This is because rainwater is not conserved and is simply allowed to drain away.

Traditional Water Harvesting Systems :

There is some evidence of advanced water harvesting systems even from prehistoric times. The Puranas, Mahabharata, Ramayana and various vedic, Buddhist and Jain text contain several references to canals, tanks, embankments and wells. Monks living in mountainous areas had series of gutters and water-cisterns to provide them domestic water supply throughout the year.

Kunds, found in the sandier tracts of the Thar Desert, are covered underground tanks with an artificially prepared catchment area to increase runoff. It was developed to supply drinking water. The Shompen and Jarawa tribes of Nicobar island make extensive use of split bamboos in their water harvesting systems. The split bamboos are placed along a slope with the lower end leading into a shallow pit. These serve as conduits for rain water which is collected, drop by drop, in pits called jackwells. Virdas are the principal means of water harvesting by the nomadic Maldharis of Gujarat. These are shallow wells dug in low depressions called Jheels to collect rainwater.

Rainwater Harvesting:

Though rainwater harvesting has been in practice from time immemorial in the form of Kunds in the Thar desert, Kul and bamboo irrigation methods and temple tanks, the importance of it dwindled considerably. Rainwater harvesting is the technique of collection and storage of rainwater at surface or in sub-surface aquifer, before it is lost as surface runoff. In urban areas, the concretization has left little surface area of the soil exposed for rainwater to soak in. Roof-top rainwater harvesting means collecting rainwater on the roof of building and storing it under ground for later use or artificially recharging ground water. Authorities in India are trying to make rainwater harvesting mandatory for all new buildings. Central Ground Water Board is taking necessary steps for its implementation.

We never know the worth of water till the well is dry. We are seriously concerned about the depleting water table and there is an urgent need to end the indiscriminate exploitation of ground water.

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