Background

Chandigarh has grown rapidly in the last decade (1991–2001). Its population growth rate was 40 per cent. Its population density of 7,900/ sq. km is one of the highest in the country and it is estimated that its demand for water will grow steeply. By 2025, the city’s demand for water is estimated to be 800 MLD, an increase of 58 per cent over the 2011 demand of 494.25 MLD.

Timeline

Year of research: 2010
Project description

To ensure long-term sustainability of water sources for the city, RWH is a simple and effective solution. It can be done using roads, roundabouts, parks, rooftops, paved areas in almost the entire city.

The storm-water network collects water from roads (15.89 sq. km), rooftops of residential areas (30.19 sq. km), shopping areas (3.97 sq. km), and public and institutional buildings (7.94 sq. km). This amounts to over 70 per cent of the total land area. The total quantum of water that would be available for recharge annually would be 58 sq. km (area) x 1059.3 mm (rainfall) x 0.5 (rainfall coefficient) = 30,720 million litres (18.46 million gallons per day [MGD]). This is equivalent to almost 90 per cent of the total groundwater supply and is available only from tapping the storm-water-drain network. By careful planning of recharge in parks and green areas of the city, it would be possible to recharge the entire groundwater the city takes out.

The RWH potential of Chandigarh, with an area of 114 sq. km, assuming a co-efficient of 50 per cent, and the average annual rainfall of 1059.3 mm is 60,380.1 million litres, or 13,241.25 million gallons or 36.28 MGD. This is more than the water pumped out of aquifers and, therefore, harvesting and recharging rainwater will go a long way in contributing towards sustainability of water supply.

Features

How and where can RWH be undertaken in the city?
- By recharging the deep, confined aquifers
- By storing water in tanks or ponds and waterbodies
**Key Learning**

Against the background of the envisaged economic growth and the resulting population growth, the water needs of Chandigarh will grow at an explosive rate. But water availability will not grow in parallel leading to water stress and resultant conflicts. There is a need to put in place a number of measures to create awareness among the people about the importance of water and incentivise them to use water carefully and wisely. These will include policy measures (legal, financial), research, capacity building and education measures. Water conservation measures include: (a) Rainwater Harvesting; (b) Recycle and reuse of water; and, (c) Reducing water use.

**Further information:**

*Sources and References*