

# RWH systems are a must this rainy season



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**R**ejoice and despair folks, the first monsoon showers of 2017 have arrived. Ambient temperatures dropped, but the roads puddled and traffic snarled. It is impossible to forget Chennai's flood in December 2015 followed by water scarcity in 2016. We are a city of extremes — too little during summer, too much during rains.

In 1993, a gentleman named Mr. Raghunandan built his house in R.A. Puram, Chennai which was designed by Ar. Sheila Sri Prakash. A rainwater harvesting (RWH) system was one of its novel features. The details were published in a leading design magazine along with diagrams. Almost a decade later, amendments were made to Section 215 (a) of the Tamil Nadu District Municipalities Act, 1920 and Building Rules 1973, making it mandatory to provide similar RWH structures in all new buildings. It made Tamil Nadu the first State to make RWH compulsory.

RWH systems can be complicated but Chennai Corporation only mandates a continuous trench, 1M wide

and 1.5M deep, filled with pebbles along site boundaries. Rainwater falling within a site reaches the peripheral trenches, where it is inexpensively filtered and discharged into the ground. This minimises run off onto roads or waste into sewers. Sometimes a trench is connected to a well or borewell within the plot. Green building standards reward designs that retain 100% of precipitation within the site; but do not mandate their storage in tanks. A more sophisticated system would require lakes and reservoirs to collect, treat and reuse the collected water. According to the National Building Code, "the local authority preparing a town-planning scheme or a development plan should see that the local water bodies are preserved, and if dry, are activated by directing water-courses appropriately."

Efforts to recharge all areas of Tamil Nadu have led to a rise in the quantity and quality of groundwater. However irrational exploitation has drastically reduced water levels in the last 60 years. Chennai needs about 1,200 million litres of water daily (MLD). Pipeline losses are high due

to leakages, poor maintenance and illegal connections. Some of the scarce supplies go unaccounted in unmapped underground lines. Public utilities only provide 350 to 400 MLD, the rest being met by groundwater sources! Around 95% of consumption, after a single use become grey or black water which are discharged as raw sewage into waterways and the sea! Repeated studies have shown that unrealistically low prices tend to encourage overuse and wastage.

Chennai Metropolitan Area measures 1,189 sq kms and it receives around 1,300 mm of annual rains! This is equivalent to more than three years of Chennai's yearly needs! This rainy season, do not waste the water that falls on your property. Whether it is from the rooftop or on the ground, please collect, channel and ensure rainwater reuse. Rainwater is fairly pure and easily meets drinking standards. Water running off onto streets is a wasted bounty — and swinging annually between scarcity and deluge must be managed well. Water is the elixir of life that nature lavishes so generously on us!

