

2020 the year Bengaluru runs out of water

7-8 minutes



It's a prophecy that is almost here. It's been predicted that

Bengaluru

will run out of ground

water

in 2020. For people like Neetu Tandon, Managing Committee member of the 330-apartment complex SJR Verity on Sarjapur Road, the last few months have been

like a glimpse of the future. For two days in April, she says families in their 330-apartment complex survived for 36 hours on

bottled water

till they found a 6,000 litre private water tanker who was willing to supply water at Rs 1500 instead of the usual Rs 500.” This, because the borewells that the tankers would draw from, had dried up.

Not surprising says Vishwanath Srikantaiah, city-based water activist and co-founder of Biome Environmental Solutions. Rampant concretisation and infrastructure projects such as white topping have reduced the amount of rainfall entering aquifers to just 3 percent. The forecast for 2020 looks even worse. “We can expect most borewells in wards with large scale concretisation and over-exploitation of groundwater to dry up,” says TV Ramachandra, Co-ordinator, Energy and Wetlands Research Group, CES, Indian Institute of Science.

Digging deep

Both Srikantaiah and Ramachandra dispute BWSSB Chief Engineer (Maintenance) BC Gangadhar’s opinion that “with two-three spells of rain, the borewells will get recharged”. Says Srikantaiah, “Even if it rains very well, if you have not designed systems, wells will not recharge.” The right way to do it, says Srikantaiah, is to “collect rainwater, filter it and place it into a recharge well – typically 10-20 feet and three feet in diameter. This rainwater then reaches the groundwater table and recharges the borewells.”

Borewells cannot draw water from a groundwater table that has been depleted and is not getting recharged, due to indiscriminate illegal pumping, rampant concretisation and cannibalism of lakes. Ramachandra says, “Groundwater can only be recharged via a porous layer. But concretisation doesn’t allow that – in fact, it contributes to flooding because excess rainfall has nowhere to go.”

Killing lakes

Lakes play a major role in recharging groundwater levels. But most of them are encroached upon or not desilted regularly. Ayyappa Masagi, who’s earned the

moniker of Water Gandhi for recharging 2,50,143 borewells, building 900 lakes and installing over 37,600 rainwater systems, agrees. “In the past, there was no water shortage despite the absence of rivers because the city had over 300 water tanks (keres). When it rained, the water would flow from all around the city into these tanks. When the tanks overflowed, the excess water ended up in the three main valleys in the city area: Hebbal, Challaghatta and Vrishabhavathi. Plus, the bowl-like topography of Bengaluru makes it ideal for storing groundwater.”

Today, the number of water bodies in the city and their storage capacity has decreased. As Ramachandra says, “In Nagashetti Halli, water was available at 150-300 feet when there was a lake. With the removal of the lake, the water table has now gone down to 1400-1600 feet and there is no water.”

In addition, catchment areas have degraded. Water-intensive cash crops such as sugarcane have overtaken the cultivation of native crops and pulses, that would have minimised water consumption. Forests are being converted into agricultural land. Ramachandra cites the study by him and Karthick B, ‘Water Quality Status of Sharavathi River Basin, Western Ghats’ in May 2006, to say that “Wherever there are native species, the infiltration rate was higher, therefore sustaining water for eight non-monsoon months. Where people have converted that into a barren area, water is available for only four months. Catchment treatment has to be done throughout the country.”

Out of options

Depending completely on the monsoon is not an option. For one, it has been playing truant. “From June 1 till June 26, there’s been a 30% deficit in rainfall across the state, and a 45% deficit in the Malnad region. The coastal areas are the main contributors for inflows into our dams,” says Srinivas Reddy, Scientist and Director, Karnataka State Natural Disaster Monitoring Centre. “The pre-monsoon rainfall too (from March to May), with which catchments gets saturated, was deficient by 45%. Monsoon and pre-monsoon showers recharge our reservoirs.” There are other alarming numbers too. “Even in 2002 and 2003, which were severe drought years for the state, we had nearly 18TMC inflow into Cauvery in June. This year, till June 26, we’ve had only 2TMC inflow. It is the lowest inflow in June in 40 years.”

An eye on 2020

The situation is dire, because “we have finished off the fossil groundwater (refers to water that’s taken a decade, even centuries, to accumulate in the ground)”, Srikantaiah says.

What matters, experts say, is not the rain deficit, but what we do with it. On May 26, a 16-acre farm that Masagi co-owns with two others in Tumkur received four inches of rain. “With just that spell, I was able to return 1 crore litres of water to the earth. That’s because I have built a network of five borewells, 189 pits and 19 infiltration wells. We were also able to channel 2 crore litres of water to the seven lakes we have built around the farm,” says the founder of Water Literacy Foundation, which conducts rainwater harvesting training all over India.

Vishnu Prasad, an IT professional and resident of Kasavanahalli, understands this. He has installed a system by which he recharges his borewell directly as well as the groundwater via a recharge well. He is a part of the 2,500 Bellandur Challenge, under which the Bellandur Development Forum (BDF) – a group of 100 Resident Welfare Associations (RWAs) – plans to build 2,500 recharge wells with their own money. So far they have built close to 100 recharge wells, for a sum of Rs 20,000 to Rs 25,000 per well. This campaign is, in turn, part of the ‘One Million Wells for Bengaluru’, conceptualised by the Biome Environmental Solutions.

Srikantaiah says, “From now on, the groundwater that Bengaluru will be entitled to is what we can replenish annually through rains.” And therein lies the opportunity, to “put 50 per cent of rains into our aquifer, equivalent to 1,500 million litres per day, which equals what we receive from the Cauvery per day.” He still believes we have some time to put together our act, because 50 per cent of rains actually take place between August and October. “So we have a month and more to prepare and be ready to receive the rains.”

After the scare, Neetu Tandon’s apartment complex swung into action. They have installed water meters and aerators in each flat to check individual consumption, conducted awareness drives, dug three recharge pits and installed a separate, common line to collect

RO reject water

, which is used for car washing and common area cleaning. Their requirement for water tankers has gone down from 30 tankers a day, to about 25. It’s a start.w

