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Bengaluru: A cure for monsoon malady

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After enduring one of the worst summers, Bengalureans are gearing up for the monsoon. Many dread the thought of rains, given their past experiences. The growth of Bengaluru, a city once known for its pristine lakes, lush greenery and pleasant air, has come at a massive cost that has affected the quality of life. Ahead of another monsoon, ET held a discussion with two experts on the finer aspects of Bengaluru's ecology and ways to ensure rains leave only happy memories "I thoroughly enjoy the rain. As a rainwater harvester, rain is a reason to be happy…to see if your filters and recharge wells are working fine...to check if drains are not clogged and the water is going where it should." This is how water activist and educator Vishwanath Srikantaiah describes when asked about the first thoughts that come to his mind when it rains.

Thoughts of Prof TV Ramachandra (TVR) from the Centre for Ecological Sciences at the Indian Institute of Science (IISc) are no different. The professor who has done extensive research on ecology and environmental issues of Bengaluru says rain brings him joy. "We enjoy

the rain and we welcome the rain. What we have forgotten is how to retain rainwater within the city's landscape."

These two well-known individuals have been witness to the transformation — or degeneration, shall we say — of the city's open spaces as it rapidly transformed from a holiday destination to a tech megapolis. "In 1973, about 69% of the city was covered with greenery. We had 1,500 water bodies that were interconnected, where natural treatment of water was taking place. The city did not experience flooding then," the professor recalls.

But in the last two decades, indiscriminate constructions, encroachment of storm water drains, polluted and silted lakes, exploitation of natural resources have all scarred the city. Come summer, the city faces water scarcity. There are talks of the city turning non-livable. Come monsoon and the city is flooded, causing largescale destruction.

Covering the surface at public places with concrete is one of the reasons why water does not to seep in, points out Prof TVR. "About 81% of the landscape is concretised, which implies we are not letting the water to seep in." Yet, the Bruhat Bengaluru Mahanagara Palike (BBMP) that manages the city administration is enthusiastically white-topping several roads, further blocking seepage of water into the ground.

While the drain and storm water drain network is broken, leading to floods, the continued pollution of lakes is of a greater concern and has added to the misery. This was a city with 1,500 pristine water bodies at one point of time, but now it is left with just 193, and most of them are decaying. The city's tryst with lakes is not something to rejoice.

Bengaluru is built on the premise that water has to be transported in, according to Srikantaiah. The dependency on water from outside meant reduced reliance on lake water. Eventually, lakes were not seen as a necessity and became the easy target of city planners and land grabbers. "Way back in 1890, the then government decided to bring water from Hesaraghatta, 24 km away from the city. That was the seminal point

when Bengaluru started losing its connect with lakes," he says. "From then on, city planners went ahead with the idea of going out to get water."

The result is the growing dependency on Cauvery water in most parts of the city and on borewells and tanker water in some parts that were added to the Palike in 2008.

But the experts do not see the increasing dependence on Cauvery as a bad thing, considering the river is the only source of water that could cater to a large population. But the issue is with letting sewage into lakes. "Bengaluru receives only 11% of the total Cauvery water allocated to Karnataka. Of this 80% of the used water joins the river. So there is a possibility of treating all of this wastewater and reuse it," Srikantaiah says.

MARKETING TREATED WATER

The city has 28 centralised sewage treatment plants (STPs) capable of treating nearly 1,000 MLD of sewage. Yet, the government agencies have not figured out how to market the treated water. Take for instance the STP at Cubbon Park, which has a capacity of four million litres per day (MLD). It releases treated water that can match the drinking water quality. With apartments struggling for water in peak summer, the Bangalore Water Supply and Sewerage Board (BWSSB) has said it will sell this treated water for ?15 per kilo litre. But the challenge is how to supply it.

"Apartments are asked to arrange a certified tanker on their own to get the water from the plant. It is a cumbersome process for apartments. There is a need for the BWSSB to be proactive and create a market force," Srikantaiah says.

While issues like lake rejuvenation and clearing storm water drain encroachment are frequently talked about, especially after incidents of lakes frothing and roads flooding, a lot is yet to happen on the ground.

Both Professor TVR and Srikantaiah agree that it all boils down to the "governance puzzle."

"We have too many custodians in Bengaluru, but that has not solved the problem, thanks to poor coordination and lack of a comprehensive and integrated planning. We need smart planning. We need engineers who can think practically and who know the issues well. To start with, we should first develop interconnectivity of lakes," notes Prof TVR.

Srikantaiah says that even after so many years, the state has not developed a comprehensive water management programme and river basin institutions. "We are trying to fix the 21st century problem with 20th century institutions. We need to develop best institutions that are essentially multidisciplinary in nature, with sociologists, hydro-geologists and ecologists to drive the projects. This should be done once we take a step ahead to recognise the problem, which is equally crucial," Srikantaiah points out.

The city is known for citizen activism, spirited campaigns for sustainability and against the use of plastic, and court litigations to save lakes. Experts feel such citizen involvement in conservation should go hand in hand with government responsiveness. "We have 193 lakes in the city today. If each ward can take responsibility and ownership to revive these lakes, things will change," Prof TVR says.

"Every individual building can get responsible for its storm water. If they adopt rainwater harvesting, 65% of Bengaluru's flooding problem will be addressed," according to Srikantaiah.

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NS RAMA, CEO of ELCITA
Putting an end to urban flooding does not require rocket science. We do not face such problems in Electronic City township as we regularly clean the stormwater drains. There are about 50 water harvesting pits on both sides of the 20-km road. And almost all the 250 buildings have rainwater harvesting facilities... People here do not litter on the road that could clog the drains. If such measures are taken across Bengaluru, the problem of flooding can be stopped.

MN THIPPESWAMY, Retired BWSSB engineer
None of the seven metro cities, including New Delhi, Mumbai and Bengaluru, has taken any effective measures to mitigate flooding. There are several ways to reduce the burden of getting surface water (such as the Cauvery river). That could be either through rooftop harvesting, recovery of lake water. This is what cities all over the world are doing. Lakes such as those in Bellandur, Yelahanka and Byramangala can be used to save water for potable and non-potable purposes.

HARINI NAGENDRA, Professor of Sustainability, Azim Premji University
We have stopped thinking about the city as a system and our planning is myopic... We should start with identifying flood-prone areas, create a map of it to study the pattern. A serious datagathering exercise should be taken up during the monsoon. We should also do a fresh topographic survey of the city. This can be done using satellite images. And most importantly, the government agencies should use technologies to solve problems.