

Froth in more lakes

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The latest to join the list is Kaggadasapura lake.

Water bodies are facing the brunt of the lack of sewerage infrastructure in newly-developing areas

Bengaluru: On morning last week, Bimal Chandran, a resident of Kaggadasapura, woke up to see the neighbourhood lake spewing out snow-like froth at its inlet and outlet. This phenomenon was believed to be endemic to Bengaluru's Bellandur-Varthur-Yamalur lake system. But that is a misconception. Over the past two years, an increasing number of lakes have been falling prey to a similar fate. Kaggadasapura lake is the latest to join the list.

One of the first victims was Byramangala lake in the Vrushbhavathi valley in 2010. But the phenomenon earned international notoriety in 2015 when people witnessed noxious fumes, frothing and the occasional outbreak of fire in Bellandur lake. Since then, three other lakes — Kasavanahalli, Rampura and Kaggadasapura — have started foaming, brining the total to seven.

What has changed in the last year?

A close analysis of these lakes reveal that the topography around them has drastically urbanised over the past couple of years. Several hundred apartments are coming up in areas where sewerage systems are yet to be laid.

"This has led to untreated sewage being let into the lakes, rich with phosphates from detergents and oils. This is the cause for frothing," said Dr. T.V. Ramachandra, senior scientist at IISc. His study of Bellandur-Varthur lakes showed that frothing is a direct result of a high concentration of phosphates.

The rapidly urbanised areas around Kasavanahalli and Rampura lakes are yet to have proper sewerage infrastructure, which makes even Sewage Treatment Plants (STPs) redundant, a situation similar to Bellandur-Varthur-Yemalur lake system.

While Kaggadasapura has a piped sewer system, at least two drains let untreated sewage from neighbouring apartments and layouts into the lake, which does not have an STP.

S. Vishwanath, a water conservationist, said that with each passing day, more lakes are crossing the tipping point with concentration of phosphates and sediments only increasing by the day. "There is a clear time lag between unbridled development, especially in the suburbs, and the provision of even basic infrastructure like sewerage lines, which is ruining our lakes," he said. It is not enough to just build STPs. He says preserving wetlands is crucial to prevent frothing.

More lakes may froth soon

If this continues, more lakes, especially in those suburbs that are not served by sewerage lines yet, may end up frothing over the next two

years, experts argue.

S.M. Ramakrishna, chief engineer, waste water management, BWSSB, said that it is evident that all the frothing lakes are in the outer zones, newly added to BBMP in 2007, where BWSSB is yet to lay sewerage lines. "We are working on a war-footing to provide sewerage infrastructure in these areas. However, the development of real estate is faster than the pace of laying infrastructure, leading to dumping of sewage in lakes," he said. The STPs being built in Vrushabhavathi and Koramangala-Chellaghatta valley, which would take the load off lakes, would be completed by 2019-end.

Mr. Vishwanath argued that if there is no immediate intervention, more lakes will end up frothing soon.

Best way out is to ban phosphates

IISc. scientists are recommending a ban on phosphates in detergents. This follows scientific studies of water quality in lakes, which established that frothing was caused due to high concentration of phosphates. "Phosphates are not eco-friendly and lead to frothing. In many countries, including USA, concentration of phosphate based compounds in detergents and soaps is regulated. That is the best way ahead," says Dr. T.V. Ramachandra. However, the Union government is yet to take a call on a recommendatory report, submitted by Dr. Ramachandra, to regulate phosphates.

Frothing lakes

Byramangala: since 2010

Bellandur-Varthur-Yemalur: since April 2015

Froth on Varthur lake caught fire in May 2015

Rampura Lake: since June-July 2016

Kasavanahalli: since May 2016

Kaggadasapura: November 2016

What causes lakes to froth

- Increased concentration of phosphates and surfactants in the water, which increases alkalinity in the lake
- Source of phosphates: detergents that are part of raw domestic sewage and surfactants in industrial effluents

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