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DECCAN HERALD
Wednesday 07 June 2017
News updated at 2:00 PM IST

Managing our lakes and sewage

Sharachchandra Lele, Priyanka Jamwal and Veena Srinivasan, April 08, 2016, DHNS 23:09 IST

On the morning of March 7, the walkers and joggers at Bengaluru's Ulsoor lake were shocked to see thousands of dead fish piled up its banks. The local corporator blamed the fisherfolk, the chairman of Karnataka State Pollution Control Board (KSPCB) asked for time to investigate, and residents blamed all government agencies. Solutions proposed ranged from running motorboats and releasing ducks, to banning fishing and releasing enzymes for lake cleanup.

Tests conducted on the water samples revealed that the water had very low levels of dissolved oxygen, high levels of ammonia, and faecal coliform bacteria, all of which point to sewage inflows as the main cause of the problem. For a lake in Bengaluru to be full in March requires it to be receiving a continuous flow of water from some source, and the only all-year source of water is Cauvery water and groundwater that we use and then forget about. Many lakes that are currently full are receiving untreated sewage. The foam in Belandur lake is another manifestation of the same problem.

Thus, the problem of our lakes — not just in Bengaluru, but all urban lakes in India — is linked closely to the problem of urban sewage management.

Focusing on the lake itself — cleaning, de-silting, aerating, or putting in enzymes — is not a long-term solution, because the problem originates elsewhere. Banning fishing is to make a scapegoat out of folks that have a stake in a healthy lake. And diverting drains that reach the lake — a policy often adopted by the Bengaluru Water Supply & Sewerage Board (BWSSB) — is only transferring the problem elsewhere.

Clearly, lake management is intimately linked to sewage treatment. Lakeside sewage treatment plants (STPs) of the 5-20 million litres per day size at each lake are absolutely essential. But conventional sewage treatment plants don't remove nutrients such as nitrates and phosphates that cause algal blooms, which then result in more decaying of organic matter. So lakeside STPs will have to be complemented by wetlands or will need de-nitrification and phosphate reduction units built into them.

Urban sewage management needs to be radically rethought. Conventionally, sewage was seen as something to be treated and disposed. Now, with intensifying water scarcity, some utilities (such as BWSSB) are seeing treated water as a resource to be shipped through tankers and sold to industry. But more socio-ecological thinking is required. Reusing treated sewage by using lakes as intermediate storage systems can provide multiple benefits: micro-climate, recreational space, habitat for fish, birds and other organisms, as well as water for direct use or through groundwater recharge.

Bad governance

Finally, it is important to recognise this as not just a problem caused by poor engineering or underfunding, but also by poor governance. Fragmentation of authority between the municipal corporation (BBMP), water utility (BWSSB), planners (BDA), and special lake-focused bureaucracies (Karnataka Lake Development Authority) is a major issue.

This is compounded by incomplete laws (no clarity on who is legally liable for municipal sewage disposal, no regulations on nitrates and phosphates in treated water) and poor monitoring and enforcement by the pollution control board.

The paradox that existing sewage treatment capacity is half of the required capacity but existing STPs operate at less than 70% capacity, get even less than the sewerage network, and eventually release treated water that often fail to meet discharge standards, needs to be recognised as a governance failure. Building many more large-scale STPs (as BWSSB is doing) will only replicate this failure.

Governance can improve only if we can increase transparency, decentralise scale, and ensure accountability. Pollution regulators must set up continuous water quality monitoring, share the data publicly in real-time, and subject it to independent verification. Grand engineering solutions that hide large treatment plants in faraway locations must be publicly debated alongside the lake-scale that can be monitored by citizens.

Smaller plants allow adaptive management, while large investments have inertia. And governing bodies of both utilities must be de-bureaucratised and more directly accountable to citizens. Lakes are a barometer of how we manage water and wastewater, and the enormous concern and energy shown by citizens can be harnessed if we think through this larger frame.

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