

GOVT IGNORED BELLANDUR WARNING FOR 8 YRS

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Scientists had cautioned often that lake catchment was being subjected to extreme stress

Almost eight years ago, everyone saw the 3.61 square km Bellandur Lake - once the lifeline of several villages - taking a deadly U-turn; but no one budged. A landmark study by experts, which warned of an imminent disaster, lies buried. This sorry state of the lake today symbolises the apathetic attitude of the government and city municipal authorities, which transformed Bengaluru into the mess that it is in

today.

The state government recently set up a committee to create an action plan for rejuvenating the city's largest lake, Bellandur, as well as Varthur Lake.

But what is little known is that scientists from the Indian Institute of Science (IISc), Bengaluru, who are on the current committee, had warned way back in 2008 that the lake catchment was at that time being subjected to "extreme environmental stress" mainly due to rampant unplanned development in the lake's catchment.

The team had then recommended a slew of measures to save Bellandur Lake. Those included implementing stringent legislations barring other municipal bodies authorising any medium or large-scale development activity.

An equal stress on enforcement of the legislations, too was recommended. "Any lapses in the enforcement of such legislations can have serious implications in the long run. Planning (has) to be holistic. Ecology, natural resources, land use and energy - all to be considered during planning of any new residential or commercial establishments," the report titled "Environmental impact of developmental activities in the Bellandur lake catchment" had then concluded.

The study was headed by Dr TV Ramachandra, coordinator, Energy & Wetlands Research Group of the Centre for Ecological Sciences (CES) in IISc.

Eight years later, the inaction by city/state authorities highlights that successive governments' interest in maintaining lakes in the city had been purely academic, not result-oriented. Recently, after the infamous froth emanated from the water body, residences saw a fire break out on the lake.

"Although our findings were easily implementable and economical, unfortunately the bureaucracy and regulatory agencies have not responded favourably as the benefits (to this section involved in decision-making) are minimal, while it maximises the benefit to the society. We see serious gaps in the implementation of suggestions as per our scientific report," Dr Ramachandra told Bangalore Mirror.

Dr Bharath H Aithal, post-doctoral senior research associate from IISc, said, "We have, for the last 10 years at least, submitted several reports to state and city municipal officials, which categorically showed that the lake is on the verge of 'dying'. Each time, politicians and councillors made promises that they would implement the recommendations; but till date, nothing concrete has happened on ground."

Dr Aithal is part of Dr Ramachandra's team from the institute's Energy and Wetland Research group, which is currently exploring ways to rejuvenate the lake.

A 2003 study on the "conservation of Bellandur Wetlands" by Dr Ramachandra's team had also showed evidences of degradation of the lake. "Wetlands have decreased from 32.8 hectares to 5.95 hectares, whereas the open land (conversion of wetlands to SEZ [special economic zone] construction site) has increased from 0.6 hectares to 27.46 hectares," it had stated.

A 2006 report by Bangalore University researchers from Department of Chemistry (Central College Campus) on the "impact of heavy metal contamination of Bellandur lake on soil and cultivated vegetation" had also concluded that sewage was the main source of pollution of this water body and that "irrigation with sewage-contaminated water containing variable amounts of heavy metals has led to increase in concentration of metals in the soil and vegetation".

IMMINENT-DISASTER warning

The 2008 report, which aimed at bringing out the ecological implications of short-sighted developmental activities in the Bellandur Lake catchment, said this lake was subjected to more than one-third of the domestic sewage (about 400-plus million litres per day, or MLD) generated in Bengaluru city and it was on the verge of an imminent ecological disaster.

"With the excessive disposal of domestic wastewater up to the magnitude of about 400 MLD, the lake is severely polluted as also evinced from the water quality analysis. The loss of water quality will render the lake water unfit for any usage (drinking, irrigation, etc). The high nutrient load can also give rise to weeds like water hyacinth that can cover a large portion of the lake," said Dr Ramachandra in the report.

The degradation of lake water quality has severely affected the aquatic flora and fauna. This is hampering the ecological balance of the system as the quantity of the pollutants entering the lake is beyond the neutralising ability of the lake. This has led to the enrichment of nutrients and has resulted in the lake eutrophication. As this lake forms the part of chain of lakes, the quality of lakes in downstream region is also affected."



It said that current plan for treatment design capacity is 248 MLD, which is about 45 per cent of the sewage getting into the lake. The current plan, said the report, is to leave the treated water in to the lake, which would get mixed with untreated waste water, rendering the treatment exercise futile.

They recommended that authorities should plan for supply of this treated water in a separate network to meet the garden and toilet requirements of the city. The findings said that mismanagement of city's solid waste was evident from indiscriminate dumping of municipal waste (garbage), bulky waste (animal carcasses), poultry farm wastes, building demolition wastes on the shoreline of the lake, affecting the shoreline ecology, water quality and aesthetics.

"As per the reports, private contractors (identified by the city corporation for collection of municipal wastes) are responsible due to lack of vigilance by the regulatory authorities," it had said.

The team highlighted serious threats to the sustainability of the region. The analysis showed that conversion of watershed area of the lake to residential and commercial layouts had altered the hydrological regime while enhancing the silt movement, lowering water yield in the catchment, affecting the ground water recharge.

"What has happened over the years is encroachment of the lake-bed, sustained inflow of untreated sewage and industrial effluents, dumping of solid waste in the lake, dumping of construction and demolition waste in the drains as well as the lake catchment along with an ineffective local administration," said Ramachandra. "All these have contaminated the lake water as well as the ground water in the region, which is evident from higher nitrate and heavy metals."

He added: "Vegetables grown with this water also have higher heavy metals (cadmium, zinc, lead, etc), which is getting into our food chain. There are high nitrate levels in the vicinity of the Bellandur and Varathur lakes, which clearly shows there are serious consequences. Nitrate is carcinogenic and it will introduce cancer in the system. Increased instances of kidney failures and cancer are certainly a warning bell to the present as well as future Bengaluru dwellers."



REJIGGING MINDSETS NEEDED

Environmentalist Dr AN Yellappa Reddy, who is part of the current committee on the lakes' rejuvenation, said citizens have to be proactive. "So far, citizens have been so silent that any government will sleep over pressing issues concerning the lake. Also, there has been no accountability so far. Stringent action needs to be taken against all defaulters. We have a huge task at hand. There are several agencies and government bodies involved, so we have to come up with a constructive action-plan," he said.

Aithal said while the committee is doing a feasibility study on the lake's revival, it is the responsibility of Bengaluru's citizens to stall the irrational conversion of land in the name of development and restrict the decision-makers taking the system for granted, as in the case of Bellandur wetlands by Karnataka Industrial Areas Development Board (KIADB).

"Decision-makers need to learn from similar historical blunders of plundering ecosystems," he added.

Dr Sharachchandra Lele, Senior Fellow at the Ashoka Trust for Research in Ecology and the Environment (ATREE) and member of the lake rejuvenation committee, said there are no simple solutions which can be operationalised in six months or one year, and making systemic changes will be a challenge and need rejigging of mindsets. "Deliberations in the committee and other work that we have done tell us that Bellandur Lake pollution problem is deep-rooted and has significant ramifications. The source of the problem is widespread and fundamental source is untreated or badly treated sewage entering the lake," Lele said.

"The magnitude of the problem is massive. The government is looking for quick solutions. We may be able to do something minimal to address just the foam or fire issue. If you want to get to the heart of the problem, it is going to take serious rethinking and reorganising in terms of how we deal with waste water in that catchment. That involves changing of mindset and approaches and getting people into compliance, which will be a long-drawn process," he said.

"The committee is engaging with those questions, but the implementation will lie in the government's hands. Making systemic changes will require lot of tenacity," he added.

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