QUALITY CONCERNS

Quality, watered down?

Forever stuck in water quantity issues, the city suddenly finds itself in the spotlight over water quality, certified recently as unfit for drinking by the Centre. This has sparked a welcome debate.

RASHEED KAPPAN
BENGALURU, DHNS

Perennially thirsty, Bengaluru has had global attention riveted on its status as a city doomed to run out of water in the near future. This has been debated, but to add to this disturbing prospect, a new dimension has come to the fore: The quality of its water is unfit for drinking.

That the city has been clubbed with the likes of Delhi, Chennai and Kolkata in the report recently released by the Union Ministry of Consumer Affairs, Food and Public Distribution, offers little comfort. The reality is this: The spotlight has suddenly shifted to an area hitherto ignored.

But the Bangalore Water Supply and Sewerage Board (BWSSB) has contested the claim, questioning the lack of transparency in the parameters employed by the Bureau of Indian Standards (BIS). A top Indian Institute of Science (IISc) researcher has also raised his doubts, suspecting that global water treatment firms could be playing a role.

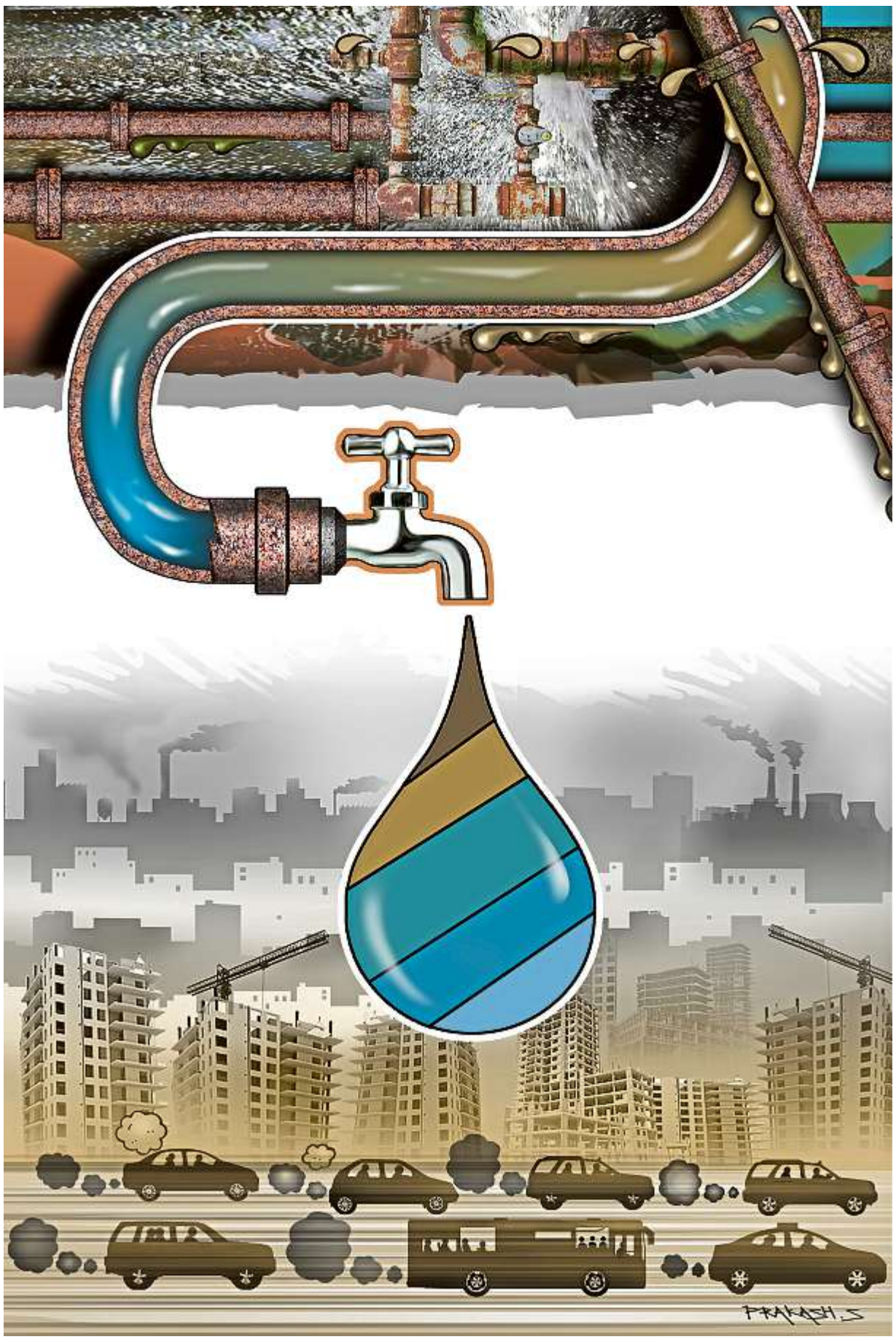
Continuous monitoring

The Board has clarified that the quality of water supplied in the city "is continuously monitored both through in house, well-equipped laboratories and also through NABL-accredited external labs to maintain the fidelity of the system."

Its contention is this: Only 1.14% of the total sample size of 33,567 it tested from October 2018 to November 2019 has failed. This is much less than the permissible limit of 5% prescribed by the World Health Organisation (WHO).

The Board collects 80-100 samples for daily analysis at its lab. "As against the sample size of 1 per 10,000 population in a month as per WHO, we are roughly collecting 2.4 per 10,000 population to maintain the quality of water," the Board's Engineer-in-Chief elaborates.

The BIS tests water quality under 48 parameters. But in the latest study, parameters related to the presence of radioactive substances and free residual chlorine were excluded. The test samples were subjected to organoleptic, physical, bacteriological and chemical tests and checks linked to toxic substances.



BIS quality parameters

The BWSSB's issue with BIS is that the Bureau has not furnished the methodology, places of collection of samples and parameter details. "We have communicated to BIS to make the report available to us immediately so that it can be analysed and facts can be informed to the public and remedial action if required can be taken."

But beyond the Board's contentions, there is enough evidence on the ground to show that contamination is a real issue. Sewage-mixed water often gets supplied to households, particularly in the newly added BBMP areas on the outskirts. Water leakage and pilferage, an issue the BWSSB has been struggling to contain, raises the risk of contamination.

Not convinced

Not everyone is convinced by the Board's clarification. "Within the city, the parameters of turbidity, Ph, alkalinity, residual chlorine and bacteriological tests have to be done on all samples," notes water expert and retired BWSSB chief engineer M N Thippeswamy.

For a population as large as Bengaluru, he contends, at least 1,000 samples have to be tested. WHO standards insist that 95% of these should be tested fit for drinking "Does the Board have the required equipment and are tests done properly. It is a big question mark," he says.

The Board has booster chlorination / re-chlorination plants at about 35 locations. These are required to compensate for dissipation due to flow of the water over long distances, once chlorination is completed at the water treatment plants en route from Cauvery.

Question of efficiency

The standards mandate that 0.2mg/litre of residual chlorine is left in the water to ensure that it is free of pathogenic bacteria. "How many of these re-chlorination plants are working efficiently is another question."

In December 2018, a study titled "Drinking water contamination from peri-urban Bengaluru" published in the journal 'Current Science' had brought out this stark reality. This study was focused on drinking water quality in households from eight villages near the Vrishabhavathi-Byaramangala reservoir.

Water sample analysis from the villages, Anchipura village, Anchipura Colony, Bannigiri, Chikkakuntanahalli, Kodiyala Keranahalli, Kodiyala, Mahadevpura and Kodihalli found that the contamination at source was as high as 80%. They also presented a moderate to high risk for diarrhoea.

On E.coli counts, only 20.6 per cent of the tested water samples complied with the WHO's permissible limits. A high 93% had coliform contamination while the proportion of total dissolved solids, calcium, magnesium, total alkalinity and nitrates was equally high.

Disturbing trend

But even as early as 2013, the deterioration in water quality was clearly evident. A Ward Quality Databook prepared by Janaagraha and IChangeMyCity, based on multiple parameters across the city's 198 BBMP wards, had shown a disturbing trend.

Out of the 7,910 households surveyed for water quality, 5,734 had contaminated water. This accounted for a high 72%. Water samples were tested for bacteriological contamination, the source surveyed and frequency of water supply tracked for the study.

Coliform bacteria, one of the contaminants tested for the Databook, are known to cause diarrhoea, urinary tract infections, gastroenteritis and typhoid.

DHPHOTO BY DINISH S K

Quantity over quality

The implication is clear: Water quality is an issue that has always been troubling Bengalureans. But, as experts point out, the spotlight has always been on quantity, with even the Karnataka State Pollution Control Board (KSPCB) limiting itself to monitoring wastewater and not drinking water. Way back in 2012, the Board had articulated a plan for a Bengaluru Water Quality mapping index. Seven years later, there is no sign of any such index. As lakhs of Bengalureans fall prey to a concoction of water-borne diseases every year, water quality remains under a cloud despite official claims.

PEOPLESPEAK

Water from Cauvery or borewell, boil it to feel safe

SHEETHAL S KUNNATH
AND KASHISH MALANI

Soon after Bureau of Indian Standards (BIS) conducted sample tests on tap water quality in India, a report cited that among 21 cities in this country, Bengaluru's water failed to meet the quality standards of the survey. Branded non-drinkable, the city's tap water was found to be below par.

Elevated levels of total dissolved solids may generate bitter taste of water. Besides, there are certain inorganic minerals found in the samples that causes hardness in water and stains it.

Water quality in Bengaluru, however, largely depends on the source of water, and this differs from area to area. Every source, borewells or the one supplied from Cauvery, are prone to contamination. This is the reason why many residents use filters, water purifiers, bottled water and canned water.

Most residents rely on the basic method of boiling water because of the pathetic condition of the tap water supply.

"The major sources of tap water are Cauvery water supplied by BWSSB, corporation water and the water supplied by tankers from borewells. Generally, the water supplied by corporation is considered portable as it undergoes certain purification processes before supplying it to the public," says Vinitha Mani, a resident of Abbigere.

However, she adds, water supplied by tankers from borewells are considered to be hazardous. It is not recommended for drinking due to pollutants that are not removed. Cauvery water is considered safe to some extent. "Even then, it is always recommended to use a purifier before using it for drinking," Mani adds.

"In general, whatever may be the form of supply, it is always recommended to use a purifier before using the water for drinking. After purifying it, water can be boiled to remove further unnecessary substances in order to have a healthy lifestyle," she elaborates.

Piyush Sancheti, who resides in Nayandahalli with his family, states that "Bengaluru's water quality is different in each area. In the past, we resided in Banashankari which provided us with borewell water that could be easily consumed. After shifting to Nayandahalli five years ago, we have been facing tough times with drinking water."

The experience with city water at present, he asserts, is not satisfactory. "Not installing purifiers and filters is like risking your health with impure water."

Among the people affected by this revelation, homemakers use water not just for drinking but also for cooking and various other household chores. This is an indirect form of consumption.

"I have lived in Bengaluru for more than 16 years and I haven't seen water in such an abominable condition. Some days we can taste the bleach present in the water," explains Chandana Jana, a homemaker from Chickpete.

She continues: "I use mud pots at my home, and when water is stored for two days, the mud gets settled at the bottom of the pot. The water at the top can be used after boiling. Also, while I go to fetch water, I carry a cloth with me that helps to filter the water," Jana says. "Bengaluru's drinking water quality has never been satisfactory, we have been receiving hard tap water since the last few years. The taste of the water is very bad and it cannot be consumed without having filters or purifiers installed," notes Ajita Bihani, another homemaker from Whitefield.

For a city which is in dire need of water due to its scarcity, this will be a major blow. The water supplied in the city should be be treated well. Highly populated cities should be particularly more concerned about their public's health. Citizens want the Bangalore Water Supply and Sewerage Board (BWSSB) to acknowledge this and take actions keeping in mind sound public health.

PIYUSH SANCHETI
Resident, Nayandahalli

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AJITA BIHANI
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CHANDANA JANA
Homemaker, Chickpete

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