

CITY'S TANKER WATER IS UNFIT TO DRINK

Bangalore Mirror Bureau | Updated: Apr 2, 2017, 11.19 PM IST

Centre finds city's water to be deadly dangerous for consumption due to depleting water table, increasing concentration of chemicals, dissolved metals and sewage



This is the condition of water that is available in Namma Bengaluru. Is the government listening?

If you are trying to meet your water needs this summer by depending on water delivered through water tankers – basically, groundwater from deep under the surface – then think twice. The seemingly fresh water with crystal clarity may lure you, but what goes unnoticed is the extent of total dissolved solids in that water. Its consumption might land you with severe kidney problems, cancers, blue baby syndrome and dental disorders as the water is contaminated with high levels of chemicals, metal fluorides, nitrate, salinity and iron, besides sewage due to unscientific handling of solid waste and sewage that allows sewage to percolate down into the groundwater.

A shocking revelation by the Central water resource ministry last week was that underground water in Bengaluru Urban and Rural areas contains dissolved solids like hard metals and chemicals over and above the permissible limits.

Now, close on heels of the Centre's revelation, the Karnataka health department, too, has ordered mandatory health certificate for water supplied through water tankers to ensure pure and contaminant-free potable water.

According to the Centre's estimates, groundwater in Bengaluru Urban and Rural districts has chemicals and other dissolved solids above permissible limits or the national average, thus rendering it unfit for human consumption.

The data that was tabled in the ongoing Lok Sabha session has revealed that groundwater samples from several localities have revealed high content of chemicals and metal fluorides, nitrate, salinity and iron in the water. While it is common to read about the impact of fluoride-rich water on humans in border districts of Karnataka, the threat has now reached the Silicon City itself.

“The survey and the groundwater quality studies were taken up by the Central Ground Water Board (CGWB) and other state departments, showing sporadic

occurrence of contaminants in groundwater above the permissible level prescribed by Bureau of Indian Standards (BIS). Various scientific bodies and premier research organisations have been directed to take up studies to assess the impact of these contaminants on human health,” the report stated.

As per the Centre's data, water samples from Bengaluru revealed salinity levels above the permissible limit of electrical conductivity above 3,000 micro mhos/cm. Similarly, fluoride levels stood above the permissible levels of 1.5 mg/litre and nitrate levels above the permissible quantity of 45 mg/litre.

Blame it on sewage

Providing an insight into the groundwater contamination of Bengaluru, MN Thippeswamy, former chief engineer with Bangalore Water Supply & sewerage Board (BWSSB), said Bengaluru's unregulated sewage is the root cause of all problems, especially the high levels of nitrates in the groundwater. “More than 50 percent of sewage is let into the storm water drains, thereby allowing it to percolate naturally and get into the underground water table. Unless we do something to change the sewage conveyance system, this will only increase in the coming days. Elimination of nitrates requires hi-tech technology that Karnataka is yet to adopt,” Thippeswamy said.

Elaborating on CGWB study, Thippeswamy said, “They had studied more than 3,000 samples largely taken from bore wells spread across an 800 sq km area. Groundwater pollution in Bengaluru is due to two reasons: Geogenic and Anthropogenic. As the groundwater level plummeted beyond 1,500 feet, the percolated water gets filtered through different geological strata that are rich in these metals and thereby contaminating itself with such heavy metals and we call it as Geogenic.

Anthropogenic is largely human-made pollution by unscientific handling of the sewage.”



Spurt in kidney disorders

Noted ecological expert and wetland researcher from Indian Institute of Science (IISc), Dr TV Ramachandra, said contamination has affected the health condition of people in Bengaluru drastically – especially the kidney-related ailments. “Kidney failure cases used to be one in one lakh, a few years ago. But now, you see such cases one in 5,000. Dialysis units have turned out to be limited factor and demand for such units has been widely reported in the media. What is worrying is that these heavy metals in the water are getting into our body through the food chain. While consumption of water is one way, feeding on vegetables, fruits grown downstream of such polluted water bodies, is the other. Greens, vegetables grown in such water have high deposits of heavy metals,” Ramachandra explained.

Blaming groundwater pollution on unscientific practices in handling solid waste and sewage, Dr Ramachandra said, “Due to the sealed pavements and land in the urban landscape, recharge of groundwater is a forgotten reality in recent times. When we do not recharge sufficiently, water levels only plummet to greater depths at which you mine hard metals and chemicals like iron, nitrate and others. The more depth you go to fetch water, higher will be the chances of groundwater contamination. The dump yards of solid waste, too, have added to contamination of water through high quantity of nitrates.”

Thippeswamy further revealed that nitrates and salinity cause depletion of oxygen levels in human body, leading to severe disorders like cancer and blue baby syndrome. Dental experts also warned that excess content of fluoride in potable water would lead to fluorosis affecting the gums and teeth besides triggering deposition of yellowish salts on teeth enamel.

WHAT IS FOUND?

** Central Ground Water Board (CGWB) study of city water samples finds dissolved solids like hard metals and chemicals above the permissible limits.*

** It has revealed salinity levels above the permissible limit of electrical conductivity above 3,000 micro mhos/cm.*

** Fluoride levels stood above the permissible levels of 1.5 mg/litre and nitrate levels above the permissible quantity of 45 mg/litre.*

POSSIBLE IMPACT

** Kidney-failure increased from 1 in 1 lakh to 1 in 500 related ailments*

** Fluorosis affecting the gums and teeth besides triggering deposition of yellowish salts on teeth enamel.*

** Contaminants get inside body through water and feeding on vegetables, fruits grown downstream of polluted water bodies.*