Millenium Post - 16 March-2024

BHOPAL GAS TRAGEDY

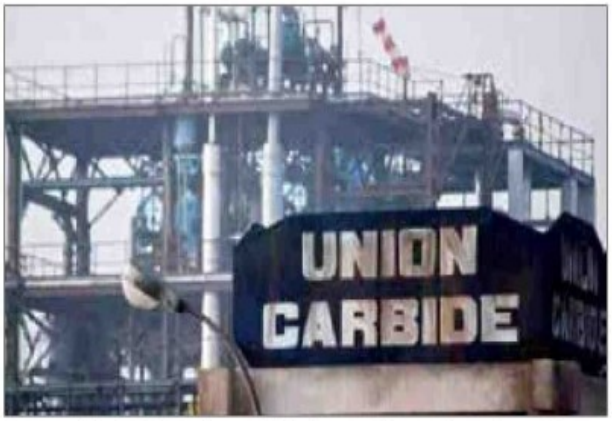
New govt study shows high groundwater contamination in some adjoining areas

Elevated concentrations of nitrate, phosphate, sodium, and potassium at various locations near the plant, four decades after the tragedy

OUR CORRESPONDENT

NEW DELHI: A recent report by the Central Ground Water Authority (CGWA) reveals persistent high concentrations of heavy metals in groundwater near the Union Carbide pesticide plant. Following a media report flagged by the National Green Tribunal (NGT) in December, CGWA launched an investigation into potential groundwater contamination around the Union Carbide India Limited (UCIL) premises. This study involved field surveys and laboratory tests, with 72 groundwater samples collected within a five-kilometer radius of UCIL.

The report to the NGT revealed that at seven out of 36 locations, nitrate concentrations exceeded BIS desirable limits. Phosphate levels surpassed WHO limits at two sites. Some areas showed elevated calcium and magnesium levels, exceeding BIS standards. Sodium concentrations exceeded WHO limits at two locations, and potassium levels surpassed World Health Organization (WHO) limits at 27.77 per cent of sites. Nearly all samples were classified as hard or very hard water.



On December 2, 1984, the pesticide plant accident released over 30 tons of methyl isocyanate, a highly toxic gas FILE PHOTO

The study found pH values within permissible levels, with water conductivity below BIS limits and no carbonate ions present. Total alkalinity remained within acceptable ranges, while chloride levels indicated some pollution. Iron levels exceeded BIS standards at eleven sites, peaking at 11.664 mg/l. Manganese pollution affected 8.33 per cent of locations, surpassing BIS limits.

"Zinc contamination was minimal, with only one location exceeding the BIS-acceptable limit but remained under the permissible limit. Arsenic concentrations were generally below BIS limits, except for one location," the report read.

Strontium, not regulated either by BIS or WHO standards, was reported at concentrations from '0.198' to 2,223 mg/l with an average of 0.833 mg/l. Over 600,000 people were exposed to the deadly gas, with around 15,000 fatalities. Research indicates that those born after the disaster suffer from cancer, disabilities, and poverty.

Takeaways

- High sodium and potassium levels; most water samples categorized as hard or very hard
- Iron and manganese levels exceed BIS limits at several locations
- Strontium concentrations, unregulated by BIS or WHO, reported in groundwater

The Morning Standard - 16 March -2024

Govt's initiative to store excess river water

Bihar government has decided to store excess water of rivers during rainy season to use it as safe drinking water for people faced with water scarcity. The decision comes in the wake of reports that ground water level in state has considerably decreased in recent years. State water resources department blamed a change in climate for decrease in ground water level and increase in population. Chief minister Nitish Kumar, at a review meeting, said that government has launched 'Jal Jeevan Hariyali' mission to cope with the situation arising after climate change. Ganga water is being supplied Rajgir and Gaya.

The Indian Express- 16 March -2024

THE WATER WARNING

Bengaluru's woes are a crisis foretold. Other Indian cities must learn lessons from it

KARNATAKA'S WORST DROUGHT in four decades is now taking a toll on its capital. Bengaluru is reeling under a severe water shortage. The city needs 2,600-2,800 million litres a day for its nearly 14 million residents. It's barely managing half the amount. Nearly 7,000 of the city's more than 13,000 borewells have dried up. The crisis has reportedly affected schools, hospitals, industries and even the city's IT hub. Bengaluru authorities have imposed strict curbs to prevent the misuse of potable water and fixed rates for tankers supplying water to residential areas. The state government has decided to utilise milk tankers of Karnataka Milk Federation to supply water and take over private bore wells in and around the city. It will need to do much more because experts fear that the situation could worsen in the coming weeks.

Till about 30 years ago, a large percentage of Bengaluru's potable water requirement was met by the city's human-made lakes. Unlike many major cities of the country, Karnataka's capital is not located close to a major river or coast. As the city expanded to become the country's IT capital, it lost its water repositories. Developers cut down green hubs and lake catchments became dumping yards for municipal solid waste or building debris. Concretisation made groundwater recharge difficult. But successive governments did not heed the several alarm bells, including by the Environmental Management and Policy Research Institute in the city. In 2017, a two-year-long study by the institute revealed that 85 per cent of Bengaluru's remaining water bodies were severely polluted. At the same time, the water supply infrastructure has not kept pace with the rapid urbanisation.

The problems of Karnataka's capital should be a warning for most major cities in the country. Such warnings have also been served by studies, including the Niti Aayog's Composite Water Management Index (CWMI). The 2018 study by the government think-tank forecast that 21 cities, including Bengaluru, will run out of groundwater by 2030. "If mitigation measures are not implemented, India faces a 6 per cent loss in its gross domestic product (GDP) by 2050," the CWMI said. Several other studies have pointed out that the pace of groundwater use in India far exceeds that of aquifer recharge. However, like Bengaluru, most Indian urban centres continue to neglect water management. The governance deficit at the municipal level in India means that solutions such as rainwater harvesting, reviving water bodies and cleaning and reusing wastewater remain on paper. The crisis in Karnataka's capital should be a wake-up call.