

Drinking-Water: Quality and Challenges

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Source: RSTV & The Hindu

Manifest Pedagogy: Drinking water pollution is a major area of concern for the public today. The various aspects of Drinking water pollution and its effects on Human health are important issues for Prelims. The new methods of water treatment and the technologies used for the same are important for Mains.

In news: BIS report

Placing it in the syllabus: Government policies and interventions for development in various sectors and issues arising out of their design and implementation

Dimensions:

- BIS report and other indicators on Drinking-water Quality
- Causes of the problem (contaminated drinking water/Tap water)
- Effects of the poor water quality
- SDG Goal on Safe Drinking Water
- New methods in Water purification

Content

BIS report and other indicators on Drinking-water Quality

- The national capital Delhi is at the very bottom of the list, in a ranking based on tap water quality released by the Bureau of Indian Standards (BIS)
- It is among 13 cities, including Kolkata, Chennai, Bengaluru, Jaipur and Lucknow, where all tested samples failed to meet the BIS norms for piped drinking water.

In fact, Mumbai is the only city where all samples of tap water met all the tested parameters under the Indian Standard 10500:2012 (specification for drinking water) so far.

- Chandigarh, Gandhinagar, Patna, Bengaluru, Jammu, Lucknow, Chennai and Dehradun are in the list of cities where the tap water quality was found to be below par. The first of its kind report has exposed the failure of water supplying agencies across cities to provide safe drinking water a basic right for living.
- The water samples were tested on 28 parameters as prescribed for drinking water standards of BIS notified in 2012
- The report showed that in most cases samples across cities failed on parameters of total dissolved solids (TDS), turbidity, total hardness, total alkalinity, minerals and metals, and presence of coliform and E Coli, which can cause severe illness.
- It was mentioned that in the subsequent phases, BIS will come out with test reports of samples lifted from capital cities of north-eastern states and from smart cities.
- Later, samples will be picked up from the district headquarters and their test results will be made public.



Causes of the problem(contaminated drinking water/Tap water)

- **Chlorinating: chlorination is used to purify the water, however, it only kills bacteria & other microorganisms but dissolved salts, alkalinity, toxic metals in water cannot be removed by chlorination**
- **Leakages:** since the pipes which carry the water are old and leaking, the leakages are leading to the mix of contaminated water with drinking water
- **Mixing of water by housing board:** Many housing boards are also mixing the groundwater with the surface water

- Lack of management: Water is a state subject and it is resulting in the problem of coordination and responsibility between Union, State, and Local government.

Effects of the poor water quality

- **Health:** According to the World Health Organization (WHO), 80% of diseases are waterborne. Drinking water in various countries does not meet WHO standards. In India, over one lakh people die of water-borne diseases annually. It is reported that groundwater in one-third of India's 600 districts is not fit for drinking as the concentration of fluoride, iron, salinity, and arsenic exceeds the tolerance levels.
- **Economic impact:** A World Bank report mentions that the world faces an invisible crisis of water quality that is eliminating one-third of potential economic growth in heavily polluted areas and threatening human and environmental well-being. The report finds that a lack of clean water limits economic growth by one-third.
- Usage of plastic bottles: Poor drinking water quality is the prime reason for the sale of plastic bottled drinking water. However, this bottled water is leading to plastic pollution as well

SDG Goal on Safe Drinking Water

Goal 6 of the SDG: Ensure availability and sustainable management of water and sanitation for all. A target under this goal mentions to achieve universal and equitable access to safe and affordable drinking water for all by 2030.

New methods in Water purification

Solutions

- **All municipalities must confirm BIS standard for drinking water, i.e BIS standard should be made**

mandatory for drinking water

- Long-distance of transfer of piped water should be avoided, instead, rainwater harvesting method can be used for tap water supply
- Monitoring water quality more frequently. And data should be made public
- To identify the contamination the origin and supply-side of the water has to be monitored carefully
- Promoting new technology in water treatment plants