



Mains Practice Question

Q. Why is the world today confronted with a crisis of availability of and access to freshwater resources? (Answer in 150 words, UPSC Mains 2023)

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Approach:

- Begin by discussing the significance of freshwater and its scarcity.
- Discuss the key reasons behind declining freshwater resources and remedial measures.
- Conclude with a solution based approach.

Introduction:

Freshwater is essential for survival, health, and development. However, the world today is facing a crisis of freshwater. As per the UN, over 2 billion people live in countries with high water stress.

Body:

Key reasons behind declining freshwater resources:

- **Climate change:** Global warming disrupts the hydrological cycle, leading to precipitation shifts, glacier melt, droughts and floods, damaging freshwater resources.
 - Cape Town's "Day Zero" in 2018, where the city nearly ran out of water due to consecutive years of drought.
- **Over-extraction:** Overexploitation through irrigation, mining, and more, causing freshwater depletion and degradation.
 - The Aral Sea, once the world's 4th-largest lake, has nearly vanished due to irrigation water diversion.
- **Pollution:** Polluting freshwater with untreated wastewater, industrial waste, agricultural runoff, and solid waste reduces its availability.
 - Over 80% of wastewater is released without treatment, according to the UN.
- **Loss of natural reservoirs:** Harm to ecosystems that control water storage and filtration, like wetlands, forests, and aquifers.
 - Lake Kolleru in Andhra Pradesh, is one of the largest freshwater lakes, but it's rapidly shrinking.

Some remedial measures:

- Promote water-saving practices like rainwater harvesting. (Tamil Nadu's 'Namma Ooru-Namma Veetu' initiative).
- Adopt water-efficient farming methods such as precision agriculture and conservation tillage.
- Use innovative solutions like smart irrigation systems and water-efficient appliances. ('Sarvajal' project's solar-powered water ATMs).
- Reduce water footprint through minimization, and offsetting of water use.

Conclusion:

Addressing the freshwater crisis demands sustainable management, improved infrastructure, conservation, and global collaboration to counter climate change effects. Innovative solutions and effective policies are vital for a reliable and equitable freshwater supply for present and future generations.

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