Bengaluru Water Crisis

Why In News

- **Bengaluru is facing a worsening water crisis**, leading to significant shortages in various areas. According to the reports, 223 of the 236 talukas in Karnataka are affected by drought, including Mandya and Mysuru districts, the sources of Bengaluru's water.

- As summer intensifies, **about 7,082 villages across Karnataka** are at risk of witnessing a drinking water crisis in the coming months. With the depletion of underground water and drought in the Cauvery basin, Bengaluru city is staring at a **Cape Town-like water crisis** this year.

Some Facts

- Bengaluru requires nearly **1,450 million litre per day** (MLD) of water from the Cauvery and an additional **700 mld from groundwater resources**.
- However, with **both sources going dry, several distress** calls have been coming in from various industries, institutions, and residents.
- The water crisis in the city has impacted large apartments, gated communities, government and private schools, fire brigades, hotels and restaurants, which are reeling under severe shortages due to the demand and supply gap.
- According to reports, **6,997 out of 14,700 borewells** have dried up in Bengaluru. The crisis expected to worsen during the summer months. According to The Bengaluru Water Supply and Sewerage Board (BWSSB), which supplies drinking water to the city, the water input to the **city has fallen by 50 percent.**

- **Officials stated that the city requires** approximately eight thousand million cubic feet (TMC) of water from March to May, yet there are only 34 TMC of water available in the reservoirs.

Why Does Bangalore Face Water Scarcity

Declining Rainfall and Dwindling Reservoirs:

- Recent monsoons have brought inadequate rainfall to the city, impacting the Cauvery River, a vital water source. Decreased river levels mean less water for drinking and agriculture.
- Karnataka experienced a **38% shortfall in northeast monsoon** rains from October to December, along with a 25% deficit in southwest monsoon rainfall from June to September.
- According to the Karnataka State Natural Disaster Management Centre (KSNDMC), key reservoirs in the Cauvery Basin like Harangi, Hemavathi, and Kabini are currently at 39% of their total capacity in 2024.

Decline in Groundwater:

- The rapid urbanization of Bengaluru has led to the paving over of natural areas that once absorbed rainwater, reducing groundwater replenishment and increasing surface runoff.
- Residents now heavily rely on borewells for water, but with diminishing rainfall and excessive extraction, groundwater levels are plummeting, causing many borewells to dry out.

Infrastructure Shortcomings:

- Bengaluru's infrastructure, including water supply and sewage systems, has struggled to keep pace with its rapid expansion. This deficiency exacerbates the challenge of efficiently distributing water to meet the needs of the growing population.
- The completion of Phase-5 of the Cauvery project, slated to provide 110 liters of drinking water per day to 1.2 million people, is expected by May 2024.

Impact of Climate Change:

- Shifting weather patterns, such as erratic rainfall and prolonged droughts linked to climate change, have further reduced water availability in Bengaluru's reservoirs and natural water sources.
- The Indian Meteorological Department attributes the region's scant rainfall to the El Niño phenomenon.

Water Body Pollution:

- Industrial discharge, untreated sewage, and waste dumping have contaminated water sources, making them unsuitable for consumption and further reducing the available water supply.
- A study by the Environmental Management & Policy Research Institute (EMPRI) reveals that approximately 85% of Bengaluru's water bodies are polluted by industrial effluents, sewage, and waste dumping.

Mismanagement and Unequal Distribution:

- Ineffective water management practices, such as wastage, leaks, and unequal resource distribution, worsen the severity of the water scarcity crisis, leaving some areas with inadequate or irregular water supply.

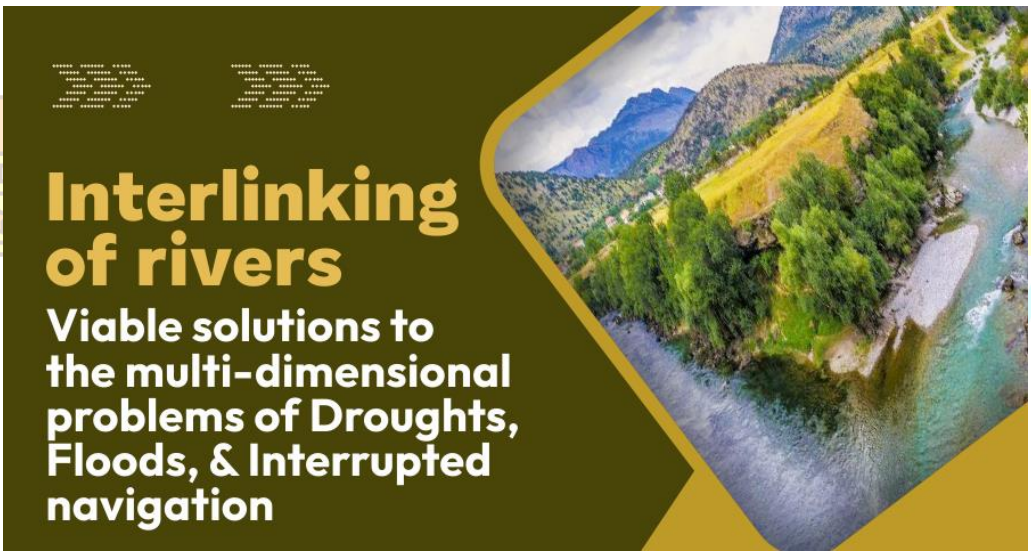
Legal and Political Complexities:

- Disputes over water sharing between Karnataka and neighboring states, particularly concerning rivers like the Cauvery, add complexity to efforts to manage and secure water resources for Bengaluru's residents.
- Ongoing disagreements between central and state governments regarding the allocation of funds to address Karnataka's drought situation further complicate the issue.

What can be done

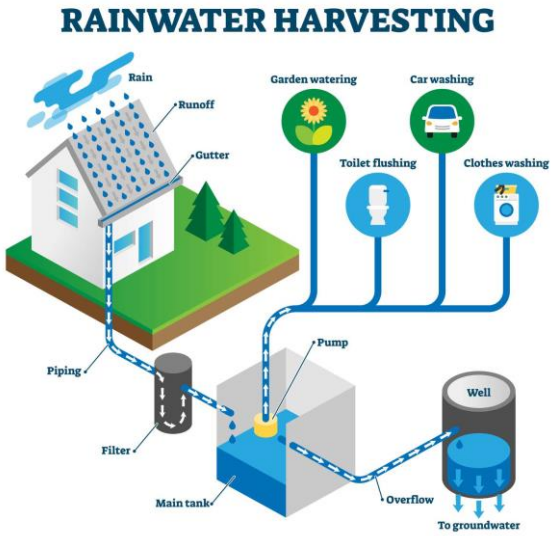
The Interlinking of Rivers:

- The national interlinking of rivers (ILR) is the idea that rivers should be inter-connected, so that water from the surplus rivers and regions could be transferred to deficient regions and rivers to address the issue of water scarcity.



Promote Water Conservation:

- Implementing water conservation measures at individual, community, and national levels is crucial.
- This includes promoting rainwater harvesting, efficient irrigation techniques, and minimising water wastage in domestic, industrial, and agricultural sectors.



Invest in Infrastructure:

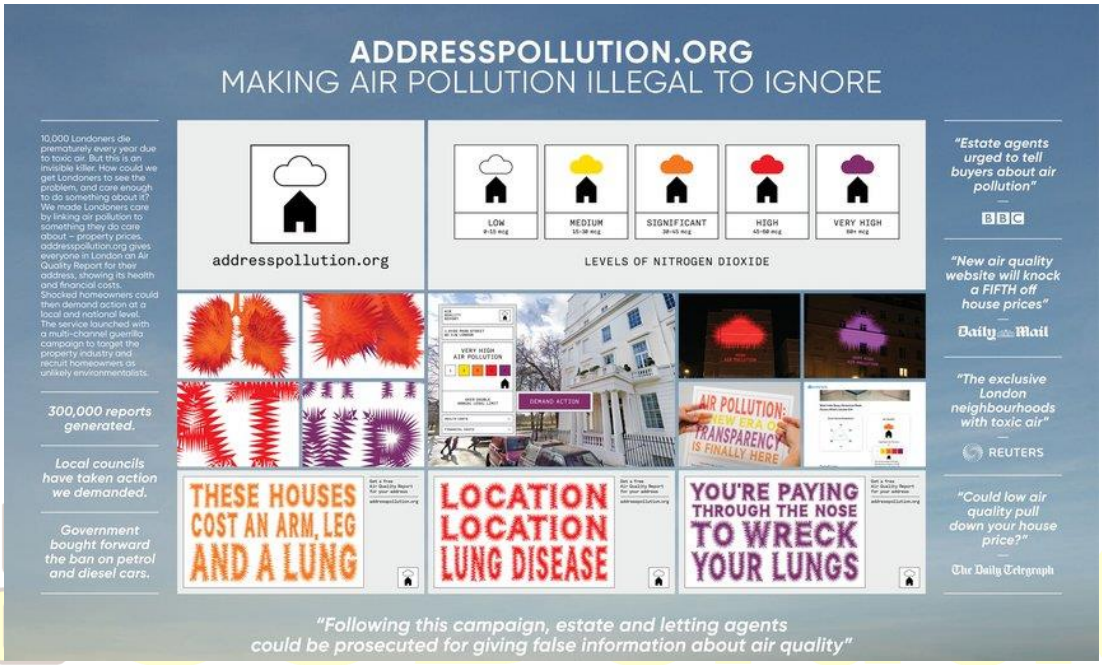
- Allocate adequate financial resources for water infrastructure development, maintenance, and rehabilitation.
- Explore innovative financing mechanisms such as public-private partnerships, water tariffs, and user fees to mobilise funding for water projects.

Promote Sustainable Agriculture:

- Encourage farmers to adopt water-efficient farming practices such as drip irrigation, precision agriculture, crop rotation, and agroforestry.
- Providing incentives and subsidies for implementing water-saving technologies can facilitate this transition.
- As per the MS Swaminathan committee report on ‘More Crop and Income Per Drop of Water’ (2006), drip and sprinkler irrigation can save around 50% of water in crop cultivation and increase the yield of crops by 40-60%.

Address Pollution:

- Combat water pollution by enforcing strict regulations on industrial discharge, sewage treatment, and agricultural runoff.
- Implementing wastewater treatment plants and adopting eco-friendly practices can help reduce pollution levels in rivers, lakes, and groundwater sources.



Legislation and Governance:

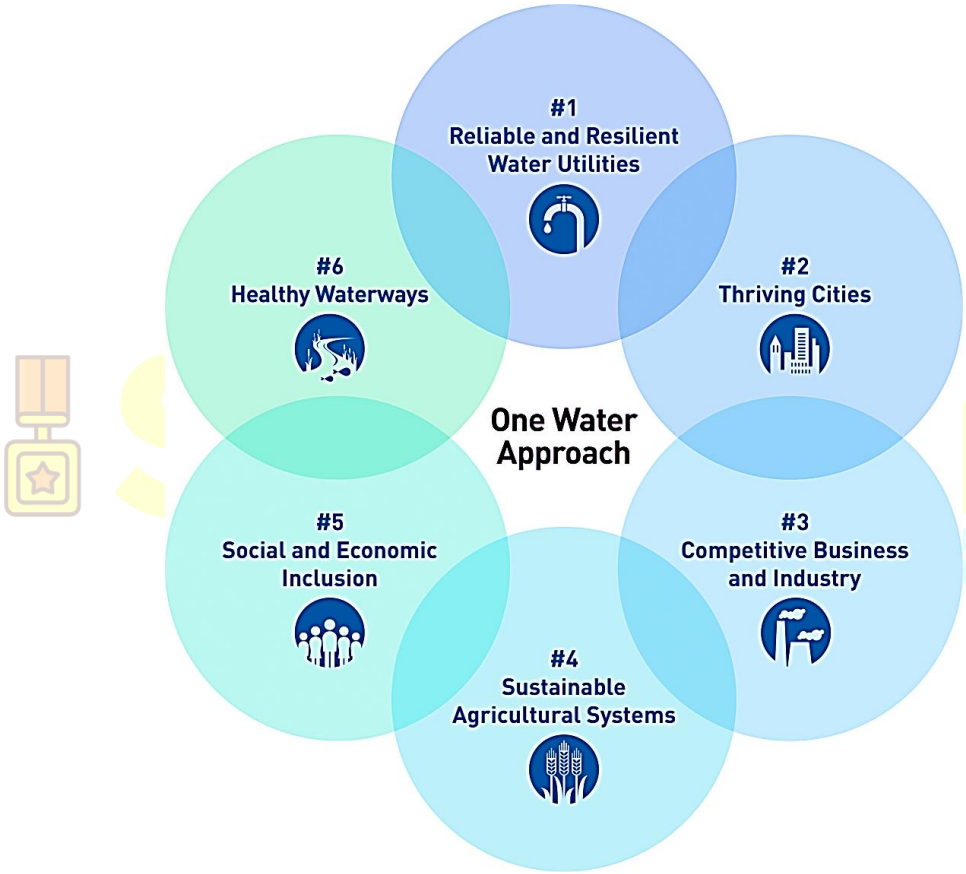
- Strengthen water governance frameworks by enacting and enforcing water-related legislation, policies, and regulatory mechanisms.
- Establishing local, regional, and national water management authorities can facilitate coordinated decision-making and implementation of water management strategies.
- Introducing minimum support policies for less water-intensive crops can reduce the pressure on agricultural water use.

Community Participation:

- Strengthening community participation and rights in groundwater governance can improve groundwater management.
- World Bank projects for groundwater governance in peninsular India were successful on several fronts by implementing the Participatory Groundwater Management approach (PGM).

Adopt One Water Approach:

- One Water Approach, also referred to as Integrated Water Resources Management (IWRM), is the recognition that all water has value, regardless of its source.
- It includes managing that source in an integrated, inclusive and sustainable manner by including the community, business leaders, industries, farmers, conservationists, policymakers, academics and others for ecological and economic benefits.



Conclusion

- By Fostering **Inclusive Participation** From All Stakeholders, And Implementing Sound Policies That Prioritise Long-term Sustainability Over Short-term Gains, India Can Pave The Way Towards A Future Where Every Indian Has Access To Safe And Reliable Groundwater.