# **Groundwater Depletion in Bangalore City**

The city of Bangalore faced an acute water shortage at the beginning of this year. The demand for water has increased sharply due to rapid urbanization, and the Bangalore Water Supply and Sewerage Board (BWSSB) has been unable to deliver public water supply across the entire city, especially in the suburbs, leading to people rely more on private borewells, tankers and open wells.

According to the Urban Water Balance Report by Well Labs, the total current demand for freshwater in the city of Bangalore is approximately 2,632 MLD. Around 1,470 MLD is sourced from Cauvery Reservoir and the rest from the underground aquifers.

However, as per the data of the Central Groundwater Authority, 2023, all six assessment units—that is, Bangalore City, Anekal, Yelahanka, Bangalore-East, Bangalore-North, and Bangalore-South—are overexploited in urban Bengaluru.

Urbanization from 1973 to 2023 increased the extent of concretization by 1,055% with serious consequences for natural water supplies. Such a rapid rise in paved surfaces has resulted in decline of wetland areas by 79%, which normally recharge groundwater levels. The decrease in wetlands, coupled with over extraction, has significantly lowered the groundwater levels.

**Issues at hand:**

1. Illegal borewell installations leading to overexploitation of groundwater, worsening the already critical water situation
2. Loss of wetlands, grasslands and water bodies which are crucial for groundwater recharge
3. Insufficient rainwater harvesting across the city.

**Proposed Solutions:**

1. **Implementing city-wide operations:**

Sealing of illegal borewells used by housing complexes and private companies. Conducting more comprehensive building-to-building inspections, especially in commercial areas where groundwater may be used for purposes beyond residential needs. Closely monitoring construction sites and working in collaboration with its teams already deployed on the ground, as suggested by Sandeep Anirudhan, a civic activist from Whitefield.

1. **Comprehensive Lake Rejuvenation Programs:**

Focus on lake rejuvenation using ecologically sound methods such as de-silting, de-weeding, shoreline restoration, and invasive species removal

Natural Filtration through Wetlands: Creating integrated wetlands is an effective way to further purify treated water before it enters a lake. For example, at Jakkur Lake, scientists from IISc developed a wetland system where water from a sewage treatment plant (STP) flows through a specially constructed wetland. This additional step uses plants and algae to clean the water even more, resulting in a healthier and cleaner lake ecosystem.

Promote the development and preservation of urban green spaces, such as meadows around water features. These areas assist groundwater recharge, filter pollutants, and serve as ecological buffers, all of which improve the ecosystem's general health.

1. **Mandatory Rainwater Harvesting in All Buildings:**

Approximately 90% of Bengaluru houses let rainwater run down the drain. Just like in Tamil Nadu, rainwater harvesting systems must be required for all types of properties—residential, commercial, and industrial—along with stringent regulations, frequent evaluations, and financial incentives to boost rainwater collection and lessen reliance on groundwater.

Inject Harvested Rainwater into Underground Aquifers: Create decentralized systems to capture rainwater and inject it directly into underground aquifers via recharge wells and percolation pits, thereby increasing groundwater levels and closing the recharge-extraction gap.

Tamil Nadu enacted a state-wide rainwater harvesting mandate, which increased groundwater levels in Chennai. In Bangalore, such community-led and government-backed projects can improve groundwater recharge and provide sustainable water management.

**About us**

Make Parliament Great Again (#MPGA) is a citizen’s initiative that aims to raise public issues with representatives & decision makers from across the political spectrum with the objective of reclaiming the Parliament as the House of the People.

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