JAL SHAKTI BOARD, NLUO

NEWSLETTER

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UNION BUDGET 2024-25: A BOOST FOR THE JAL SHAKTI

- The finance minister Nirmala Sitharaman presentation of the Union Budget 2024-25 highlights the government's ongoing dedication to water management, conservation, and fair distribution in line with the Jal Shakti Mission. The Jal Shakti Abhiyan initiative is aimed at water conservation and rainwater harvesting, traditional water body restoration, water reuse and structure recharge, watershed development, and intensive afforestation.

- The Jal Shakti Ministry has been granted a total allocation of ₹98,418 crore by Finance Minister Nirmala Sitharaman in her interim Budget 2024-2025, marking an increase from the previous budget of ₹96,549 crore, that is 2% more from previous financial year.

- 78% of this allocation is towards Department of Drinking Water and Sanitation.

Table 1: Budget allocation to the Ministry of Jal Shakti (in Rs crore)

Department	2022-23 Actuals	2023-24 BE	2023-24 RE	2024-25 BE	% Change from 23-24 RE to 24-25 BE
Drinking Water and Sanitation	59,665	77,223	77,033	77,391	0.5%
Of which,					
JJM	54,700	70,000	70,000	70,163	0.2%
SBM-G	4,925	7,192	7,000	7,192	3%
Water Resources	11,962	20,055	19,517	21,323	9%
Of which,					
PMKSY	5,637	8,587	7,031	9,339	33%
River Interlinking	624	3,500	1,400	3,500	150%
Namami Gange	2,048	4,000	2,400	3,346	39%
ABY	1,155	1,000	1,778	1,778	0%
Other schemes	457	500	254	497	95%
Total	**71,628**	**97,278**	**96,550**	**98,714**	**2%**

Note: BE is budget estimate and RE is revised estimate. Other schemes include allocation towards the Dam Rehabilitation and Improvement Programme and Flood Management and Border Areas Programme.
Sources: Demands for Grants 2024-25, Ministry of Jal Shakti; PRS.

DEPARTMENT OF DRINKING WATER AND SANITATION

- The Department of Drinking Water and Sanitation has received a budgetary allocation of Rs 77,390.68 crores for the fiscal year 2024-2025.
- This figure reflects a minimal increase of only 0.5 per cent from the revised estimate of Rs 7,032.65crores announced in budget 2023-2024.
- The Department of Drinking Water and Sanitation implements two key centrally sponsored schemes:

1. Jal Jeevan Mission (JJM), to provide piped water supply in rural areas, and

2.. Swachh Bharat Mission - Grameen (SBM-G) to provide for sanitation in rural areas.

In 2024-25, 91% of the total allocation for the Department is towards JJM (Rs 70,163 crore), and 9% is towards SBM-G (Rs 7,192 crore). The allocation for SBM-G has increased by 3%, while the allocation for JJM has remained almost the same as the revised estimates for 2023-24.

POLICY PROPOSALS IN UNION BUDGET 2024-25

- Water supply, sewage treatment, and solid waste management projects will be promoted in 100 large cities.

- Assam, Bihar, Himachal Pradesh, Sikkim, and Uttarakhand will be provided assistance for flood management projects.

PROGRESS UNDER MISSION

- 15.07 Crore (77.98 %) of rural households in he country have been provided with tap water connection.

- 188 districts, 1,838 blocks, 1,09,996 Gram Panchayats and 2,33,209 villages have reported to achieve 'Har Ghar Jal' status.

- The Government of India accords priority to Japanese Encephalitis (JE)-Acute Encephalitis Syndrome (AES) affected Districts to ensure potable tap water supply in all the households under the Jal Jeevan Mission. Over 2.35 Crore households (79.21 %) in JE-AES water quality-affected regions are getting access to clean tap water.

- 11 States/UTs, which include, Goa, A &N Islands, Dadra Nagar Haveli & Daman Diu, Haryana, Telangana, Puducherry, Gujarat, Himachal Pradesh, Punjab, Mizoram, and Arunachal Pradesh have provided tap water connection to all rural households (100%) in the respective State/UT as on August 14, 2024.

- As on August 14,2024, 9,27,421 schools and 9,63,955 Aanganwadi centres have tap water supply.

WORLD WATER WEEK 2024: "BRIDGING BORDERS: WATER FOR A PEACEFUL AND SUSTAINABLE FUTURE"

Date: August 25 – 29, 2024

Organized by: Stockholm International Water Institute (SIWI)

This event has been organized annually since 1991, by the Stockholm International Water Institute (SIWI). As the world's leading conference on water, this event brings together experts, policymakers, and organizations from around the globe to foster cooperation and tackle some of the greatest challenges facing our planet. The event encourages collaboration across different areas since water issues cannot be addressed in isolation and a comprehensive approach is needed for effective solutions to water-related challenges. The event is centered on water cooperation, for peace and security.

The theme "Bridging Borders: Water for a Peaceful and Sustainable Future" focuses on water cooperation, for peace and security emphasizing that water is not just an environmental issue, but also affects human security, food and nutrition security, ecosystem security, and energy security.

The Swiss Agency for Development and Cooperation, The World Bank, the Ministry for Foreign Affairs of Finland, and the World Youth Parliament for Water are global organizations contributing their expertise to shape the event's content and structure.

This year there is a 25% increase in session proposals, showing a global surge in interest and collaboration around the critical issue of water security. The top four trending categories with the highest percentage of proposals are: - transboundary water and diplomacy, ecosystem and climate resilience, human rights, gender, youth, and underrepresented groups; and WASH (water, sanitation, and hygiene).

World Water Week 2024, themed "Bridging Borders: Water for a Peaceful and Sustainable Future," is crucial for India, which faces severe water scarcity, pollution, and climate-related challenges. Major cities like Delhi and Chennai are already struggling with water shortages. India also deals with transboundary water disputes and lacks sufficient access to clean water and sanitation in rural areas. To address these issues, India must focus on water conservation, strengthen regional cooperation, and enhance climate resilience. Involving communities in decision-making is key. This event offers India a platform to learn and collaborate on securing a sustainable water future.

RECHARGE WELL

What happens when our reliance on groundwater outpaces nature's ability to replenish it? Although water is widely present, only about 2.5% of all water is freshwater and fit for consumption. Human life revolves around water, this is evident as such all cities either big or small were settled beside a water source, generally rivers. As civilisation progressed demand for water increased and to meet this demand groundwater was sourced. In India this is characterised by the Green Revolution wherein there was a shift from dependence on rainwater to groundwater using borewells. The number of irrigation wells used in the country increased from 6.2 million wells in 1986–87 to a whopping 20.5 million in 2013–14. This steep increase corresponded to a decline in the groundwater table as there was more abstraction than the rate of groundwater recharge. This is true for almost every rural area as the irrigation has been mostly dependent on borewell irrigation instead of the traditional dependence on rainfall. However, the urban areas are characterised by a decrease in groundwater recharge due to a proportional increase of roof, pavement area and the density of the population. This problem arises because the natural rate of groundwater recharge is lower than the rate of abstraction which is at all times high and is set to increase due to extreme weather events such as irregular seasons of rainfall and frequent droughts caused by global warming.

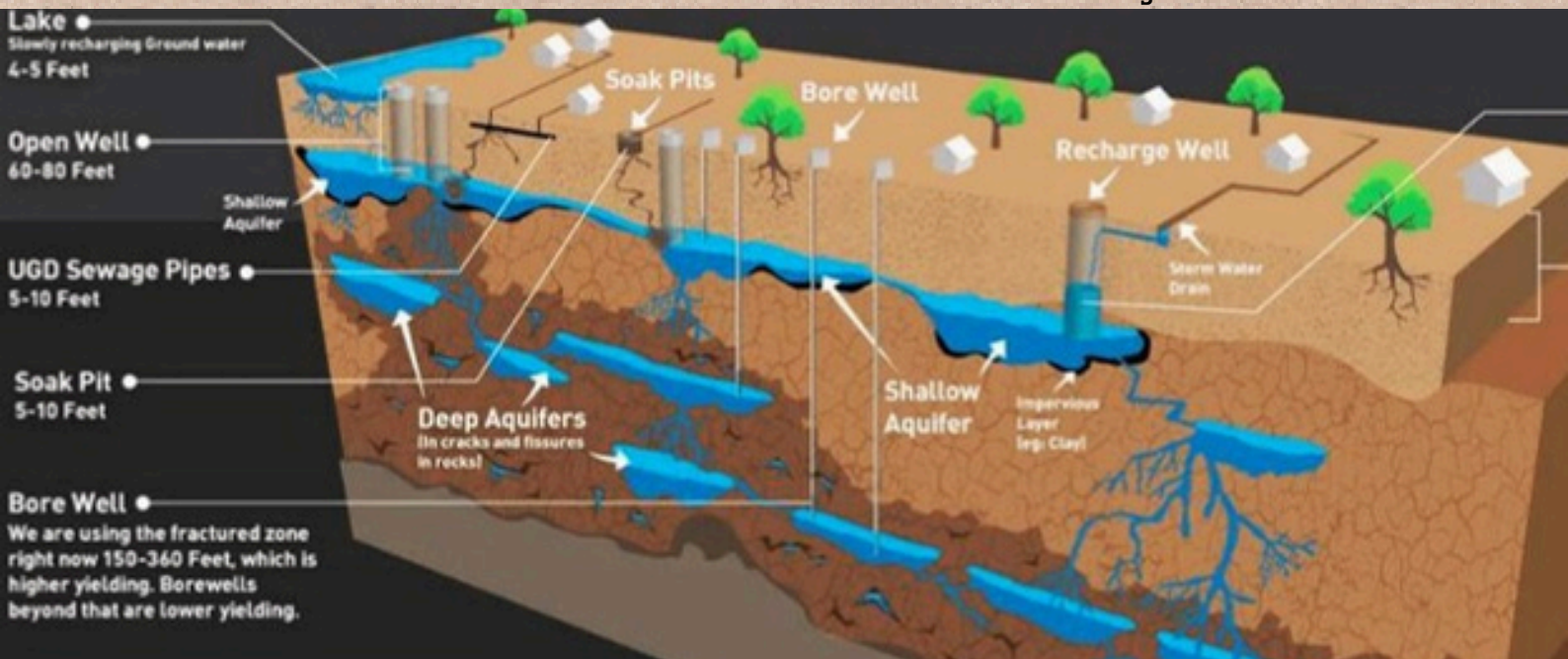
Two case study of two cities has been presented, firstly, Lahore, Pakistan and secondly, Nayagarh, Odisha. The city of Lahore in Pakistan saw rapid decline in the groundwater table due to rapid urbanisation and groundwater abstraction at an unsustainable rate. Herein, researchers constructed four large diameter recharge wells within the city of Lahore to measure the efficiency of recharge wells. Study was attached with a recharge well gave the highest and astonishing results. From a small capacity, high amount of recharge was received due to construction of a recharge well adjacent to the recharge structure. This indeed shows the efficiency of recharge wells in meting out the problem of groundwater recharge.

These case studies highlight the importance of recharge wells and showcase how the high rate of abstraction can be counter meted in broadly two following ways. Firstly, by increasing awareness regarding water harvesting and wastage. Secondly, by building recharge structures to artificially increase the rate of groundwater recharge. These two steps simultaneously can help out with low groundwater by slowing the rate of abstraction and increasing the rate of groundwater recharge. Out of the many proposed recharge structures, recharge wells are more common and less expensive to construct. They vary in size depending on the type of soil & soil depth, hydrological & hydrogeological conditions, and the amount of surface runoff available for groundwater recharge. Recharge wells apart from recharging groundwater can also play a crucial role in mitigating floods in urban areas. Torrential downpours tend to overwhelm drainage systems leading to the flooding of urban areas. Construction of recharge wells in these areas can help capture the excess water and channel it underground, reducing the surface runoff and alleviating the stress on the drainage systems. This helps in prevention of flooding while also ensuring that the captured water is put

to beneficial use. They are generally constructed for recharging aquifers deep below and are constructed 1 to 2 m wide and 6 to 8 m deep. All contaminants are removed from the well and the excavated pit is filled with pebbles and boulders while ensuring that the water to be recharged is stilt free as far as possible. The cost of constructing a recharge well varies on the shape and size desired to be constructed. The cost for construction of a recharge well of depth 6 m and diameter of 1 m usually turns up to the tune of Rs 25,000 to 35,000. Some people often argue against the construction of recharge wells citing the huge initial investment and the maintenance costs related with its construction however, on the science of recharge wells, it is well established that their benefits outweigh their costs.

However, steps taken to restore the groundwater level can also be counter-productive if the quality of the water to be recharged is contaminated or impure. The quality of the groundwater is conditional to the quality of the water stored by recharge structures. Thereby, the water collected from the first rain is not harvested or stored to recharge groundwater as they accumulate within them all the atmospheric pollutants when they rain down. Therefore, it is important to maintain the water quality by implementing appropriate measures such as preventing runoff from nearby agricultural lands, and restricting the release of domestic wastes, sewage, etc. One another challenge that is posed in construction of a recharge well is the technical expertise required for the design, construction and maintenance of recharge wells. Skilful labour is required while constructing a recharge well as it involves precise techniques such as identifying the correct catchment area, ensuring proper drainage and constructing the well to reach the aquifer. Moreover, the construction requires specific materials like cement rings, boulders and gravel which only skilled labourers are accustomed for use.

Nonetheless, the advancements in technology have been useful in enhancing the effectiveness of recharge wells. Satellite data and remote sensing technologies can help identify optimal locations for constructing recharge wells by analysing soil types, groundwater levels and the hydrological conditions. These monitoring systems can also provide real-time data on groundwater levels and the performance of recharge wells, enabling timely maintenance and adjustments, if any. The integration of recharge wells with broader water management system is essential. This includes combining of recharge wells with rainwater harvesting systems, waste water recycling, and reviving of wetlands and water bodies. A holistic approach that takes into account the entire water cycle can also maximise the benefits of recharge wells while ensuring sustianable water manaagement.



THE CAUVERY RIVER'S WATER CRISIS: A DEEP DIVE INTO CHALLENGES AND SOLUTIONS

About the Cauvery River

The Cauvery River, often referred to as the "Ganges of the South," is one of India's major rivers, flowing through the states of Karnataka and Tamil Nadu. Originating from the Brahmagiri Hills in Karnataka, it traverses a distance of about 800 kilometers before emptying into the Bay of Bengal. The river is not only a vital source of water for agriculture, industry, and drinking purposes, but it also holds significant cultural and religious importance for the people living along its banks.

The Political Rift: Disputes Between Karnataka and Tamil Nadu

The Cauvery water dispute is one of the oldest and most contentious issues between the states of Karnataka and Tamil Nadu. The origin of the dispute traces back to the late 1800s, when agreements were reached between the princely state of Mysore (now part of Karnataka) and the Madras Presidency (now Tamil Nadu).with agreements made in 1892 and 1924. These agreements aimed to regulate the sharing of Cauvery water between the states. However, post-independence, the rapid growth in population and industrialization led to increased demand for water, exacerbating the conflict.

Karnataka, being the upper riparian state, controls the river's flow into Tamil Nadu, the lower riparian state. The dispute centers around the amount of water to be released from Karnataka's reservoirs to Tamil Nadu, especially during drought years.

Insights into Significant Agreements in Cauvery Water Crisis

Cauvery Water Disputes Tribunal (CWDT) Award (2007): After 17 years of deliberation, the CWDT allocated water among Karnataka, Tamil Nadu, Kerala, and Puducherry. The CWDT was constituted in 1990 to address the water-sharing disputes among Tamil Nadu, Karnataka, Kerala, and Puducherry. The tribunal's final award in 2007 allocated water based on the availability of 740 TMC in a typical year. The tribunal's decisions have been pivotal in managing the distribution of Cauvery water, although they have not completely resolved the tensions.

Supreme Court Verdict (2018): The Supreme Court modified the CWDT's award, reducing Tamil Nadu's share and increasing Karnataka's share slightly.

In 2023, Tamil Nadu approached the Supreme Court to compel Karnataka to release water as per the CWDT's award. The court mandated Karnataka to release 10,000 cusecs of water to Tamil Nadu for a 15-day period.

The tribunal and subsequent Supreme Court rulings have attempted to resolve the issue, but political and regional tensions persist, periodically leading to public unrest and protests. The problem arises every monsoon when to the drying of the Cauvery River, including global warming and El-Nino, which affect the South West monsoon rains in India.

Reasons for the River's Decline

Several factors contribute to the drying up of the Cauvery River:

1. Over-extraction: Both states heavily depend on Cauvery water for irrigation, leading to over-extraction and reduced flow.
2. Deforestation: The catchment areas have witnessed significant deforestation, reducing rainfall absorption and increasing soil erosion.
3. Climate Change: Irregular monsoons and prolonged droughts have affected the river's flow.
4. Urbanization: Unregulated urban growth has led to pollution and encroachment on riverbanks, further straining the river's health.

Proposed Solutions for the Cauvery Crisis

Addressing the Cauvery water crisis requires a multi-faceted approach:

1. Rainwater Harvesting: Implement large-scale rainwater harvesting projects to replenish groundwater levels.
2. Efficient Irrigation: Promote drip and sprinkler irrigation systems to reduce water wastage in agriculture.
3. Afforestation: Reforest the catchment areas to enhance rainfall absorption and reduce soil erosion.
4. Water Management Policies: Enforce stricter water management policies and encourage states to adopt sustainable practices.
5. Inter-state Cooperation: Foster collaboration between Karnataka and Tamil Nadu to ensure equitable water distribution and conflict resolution.

Some solutions for the Cauvery Crisis based on the recommendations from ATREE researchers:

1. Hold Big Polluters Accountable: Implement strict regulations and penalties for major polluters in urban areas.
2. Invest in Sewage Treatment and Solid Waste Management: Enhance infrastructure for treating sewage and managing solid waste in cities.
3. Restore Riparian and Flood-Plain Ecosystems: Focus on restoring ecosystems that include grasslands, scrublands, and wetlands instead of just planting trees.
4. Tie Watershed Development Funds to Sustainable Practices: Ensure that funds are used for reducing groundwater and canal water abstraction.
5. Promote Less Water-Intensive Crops: Encourage the cultivation of crops that require less water.
6. Implement Drip Irrigation: Use drip irrigation systems to conserve water and improve efficiency in agriculture.

The Cauvery Calling Campaign by Isha Foundation

The Cauvery Calling Campaign, initiated by the Isha Foundation, is a significant effort aimed at revitalizing the Cauvery River. This campaign proposes to plant 242 crore (2.42 billion) trees along the river basin, covering 83,000 square kilometers across Karnataka and Tamil Nadu. The initiative focuses on promoting agroforestry, where farmers are encouraged to plant trees on their farmland, which can enhance soil fertility,

increase groundwater levels, and provide additional income sources. The idea is that the increased tree cover will lead to greater water transpiration and moisture cycling, and hence more rainfall, bringing an end to the seasonal drying-up of sections of the Cauvery.

While there have been controversies regarding clarification sought for their plan of action and writ petition filed to restrain Isha Outreach Foundation from collecting public funds for th "Ceauvery Calling Project", which involves planting of tree saplings along the Cauvery river bed. Nevertheless, As of June 2024, the Cauvery Calling movement has planted 111 million trees and helped 218,000 farmers transition to tree-based agriculture.

The campaign's holistic approach aims to address multiple issues simultaneously—environmental degradation, water scarcity, and farmers' livelihoods. By involving local communities and leveraging modern agricultural practices, Cauvery Calling aspires to create a sustainable model for river rejuvenation and water conservation.

Hope for a Sustainable Future

The Cauvery River water dispute reignited in March due to a severe drought, largely attributed to the El Niño climate phenomenon. Bengaluru, Karnataka's capital, has been significantly impacted, with nearly 7,000 of its 13,900 boreholes drying up. This complex issue demands coordinated efforts from all stakeholders. Despite the political tensions between Karnataka and Tamil Nadu, there is hope through efficient water management, afforestation, and community-driven initiatives like the Cauvery Calling Campaign. With dedicated action and sustained commitment, the health of the Cauvery River can be restored, ensuring its vitality for future generations.

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