Quick-Fix Water Management

For Prelims: Amrit Sarovar Mission, Atal Bhujal Yojana, Quick-fix Water Solutions

For Mains: Water Scarcity and related Steps taken, Water Resources, Conservation of Resources

Source: DTE

Why in News?

Recently, India's increasing water stress has been met with a growing inclination towards **quick-fix solutions by non-profits and civil society organizations.**

- However, these quick fixes **may not be sustainable in the long run.** It's essential to examine these quick fixes carefully and ensure we adopt strategies that can last for the future.

What are Quick-fix Water Solutions?

- **About:**
  - Quick-fix water solutions refer to **immediate and often temporary measures implemented to address water-related issues**, particularly in **regions facing water scarcity or challenges in water management.**
- **Various Interventions:**
  - **River Widening, Deepening, and Straightening:** Modifying natural watercourses to increase **water-carrying capacity.**
  - **Water Harvesting Competitions:** Encouraging communities to **harvest rainwater** and adopt water-saving practices.
    - Limited impact without comprehensive water management strategies.
  - **Tree Planting Along Riverbanks:** Stabilizes **soil and prevents erosion.**
    - May not fully address larger water management issues.
  - **Quick Infrastructure Development:** Rapid construction of water facilities like **sewage treatment plants and water grids.**
  - **Artificial Recharge of Aquifers:** Injecting **water into underground aquifers to replenish groundwater levels.**
    - Requires sustainable management to combat depletion.
  - **Desalination Plants:** Converting **seawater into freshwater to meet coastal water needs.**
    - Energy-intensive and expensive, making it less viable in some areas.
- **Quick-fix Water Solutions Initiatives:**
  - **Jalyukt Shivar Abhiyan:**
    - Maharashtra government initiative (2014) aimed to make the state **drought-free by 2019** through river widening, deepening, and straightening, check dams, and desilting.
    - Experts criticize it for being **unscientific, ecologically damaging, leading to erosion, biodiversity loss, and increased flood risk.**

- **Water Cups:**
    - A competition initiated by a non-profit organization in 2016 incentivized Maharashtra villages to harvest water for **drought-proofing.**
    - Critics question the validity and sustainability, as it overlooked water quality, groundwater impact, social equity, and maintenance mechanisms.

What are the Challenges in Quick-Fix Solutions in Water Management?

- **Environmental Impacts:**
    - Rapid interventions like river widening and deepening can lead to **ecological damage.**
    - Erosion, sedimentation, and loss of biodiversity can result from hasty projects.
- **Limited Community Engagement:**
    - Quick-fix approaches may lack adequate participation and consultation with stakeholders.
    - Neglecting the social dimension can lead to resistance and conflicts.
- **Funding Dependency:**
    - Relying on **corporate social responsibility (CSR)** funding can limit decision-making freedom.
    - Prioritization of projects influenced by donor interests rather than community needs.
- **Neglecting Groundwater Management:**
    - Focus on surface water solutions may overlook the critical role of groundwater.
    - **Groundwater recharge and management** are crucial for sustainable water supply.
- **Conflicting Programs:**
    - Some state projects may not align with community and environmental interests.
    - Examples: riverfront development, centralized sewage treatment, massive water grids.
- **Shift from Critical Engagement:**
    - A shift in mindset from **in-depth analysis and understanding to a "techno-managerial approach."**
        - This means placing too much emphasis on technical knowledge and problem-solving, which can lead to overlooking important **socio-economic and ecological aspects related to water management.**

What are the Government Initiatives Tackle India's Water Crisis?

- **Amrit Sarovar Mission:**
    - **Amrit Sarovar Mission** launched on April 24, 2022, the mission aims to develop and **rejuvenate 75 water bodies** in each district as part of the Azadi ka Amrit Mahotsav **celebration.**
    - The mission seeks to improve **water storage and quality in local water bodies,** contributing to better water availability and ecosystem health.
- **Atal Bhujal Yojana:**
    - This scheme targets certain **water-stressed areas in Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh.**
    - The primary objective of **Atal Bhujal Yojana** is to manage demand for groundwater through scientific means, involving **local communities for sustainable groundwater management.**
- **Central Ground Water Authority (CGWA):**
    - CGWA **regulates and controls groundwater usage** by industries, mining projects, and infrastructure projects across the country.
    - CGWA and States issue **No Objection Certificates (NOCs)** for groundwater extraction in line with guidelines, ensuring responsible water usage.
- **National Aquifer Mapping Program (NAQUIM):**
    - **Central Ground Water Board** is implementing **NAQUIM** to map **aquifers in the country, covering an area of 25.15 lakh sq km.**
    - The study reports and management plans are shared with States/UTs to facilitate informed interventions.
- **Master Plan for Artificial Recharge to Groundwater- 2020:**
    - Prepared in collaboration with States/UTs, the Master Plan outlines the construction of about **1.42 crore Rain Water Harvesting and artificial recharge structures.**
    - The plan targets harnessing **185 billion Cubic Meters (BCM) of water, promoting**

water conservation and recharge.

Way Forward

- Embrace **comprehensive and sustainable water management strategies** that address both immediate needs and long-term challenges.
- Foster **meaningful engagement with local communities, incorporating their perspectives** and knowledge in water management decisions.
- Prioritize **investments in water infrastructure** and capacity-building programs to build resilience against future water crises.
- Establish robust monitoring and evaluation frameworks to assess the effectiveness and impact of water management initiatives.
- Promote **responsible groundwater management and conservation practices** to ensure water availability for future generations.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 Which one of the following ancient towns is well known for its elaborate system of water harvesting and management by building a series of dams and channelizing water into connected reservoirs? (2021)

(a) Dholavira
(b) Kalibangan
(c) Rakhigarhi
(d) Ropar

Ans: (a)

Q.2 With reference to 'Water Credit', consider the following statements: (2021)

1. It puts microfinance tools to work in the water and sanitation sector.
2. It is a global initiative launched under the aegis of the World Health Organization and the World Bank.
3. It aims to enable the poor people to meet their water needs without depending on subsidies.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Ans: (c)

Mains

Q.1 What are the salient features of the Jal Shakti Abhiyan launched by the Government of India for water conservation and water security? **(2020)**

Q.2 Suggest measures to improve water storage and irrigation system to make its judicious use under the depleting scenario. **(2020)**