SIR GURUDAS MAHAVIDYALAYA

AFFILIATED TO UNIVERSITY OF CALCUTTA
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UN WATER
22 MARCH
WORLD WATER DAY
2023 Accelerating Change

… towards solving the water and sanitation crisis

Water Action Agenda

… a main outcome of the UN Water Conference, 2023 that opens on **World Water Day, 22 March 2023.**

WATER CRISIS IN INDIA

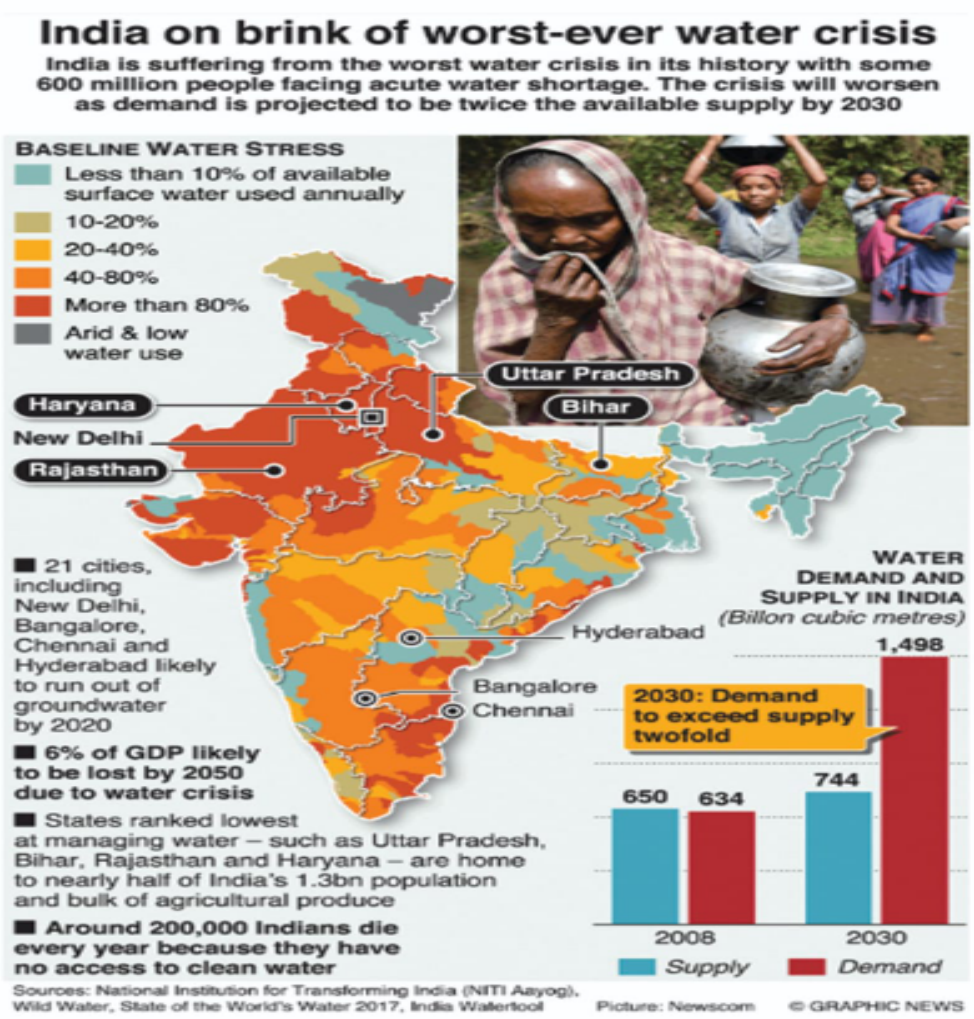
Water scarcity in India is an ongoing water crisis that affects nearly hundreds of million of people each year. In addition to affecting the huge rural and urban population, the water scarcity in India also extensively affects the ecosystem and agriculture. India has only 4% of the world's fresh water resources despite a population of over 1.4 billion people.In addition to the disproportionate availability of freshwater, water scarcity in India also results from drying up of rivers and their reservoirs in the summer months, right before the onset of the monsoons throughout the country.

- **Ecosystem crisis**

Water scarcity also threatens the lives of wild animals across India. Wild animals are forced to infiltrate villages and cities in India as they attempt to find potable water.

- **Agriculture crisis**

Water is essential to the popular occupation of agriculture in India. Farmers are unable to produce crops in the absence of water. The drought in 2019 even destroyed the supplementary crops in addition to the winter crops. The scarcity of water has rendered a lot of valuable farmland in India

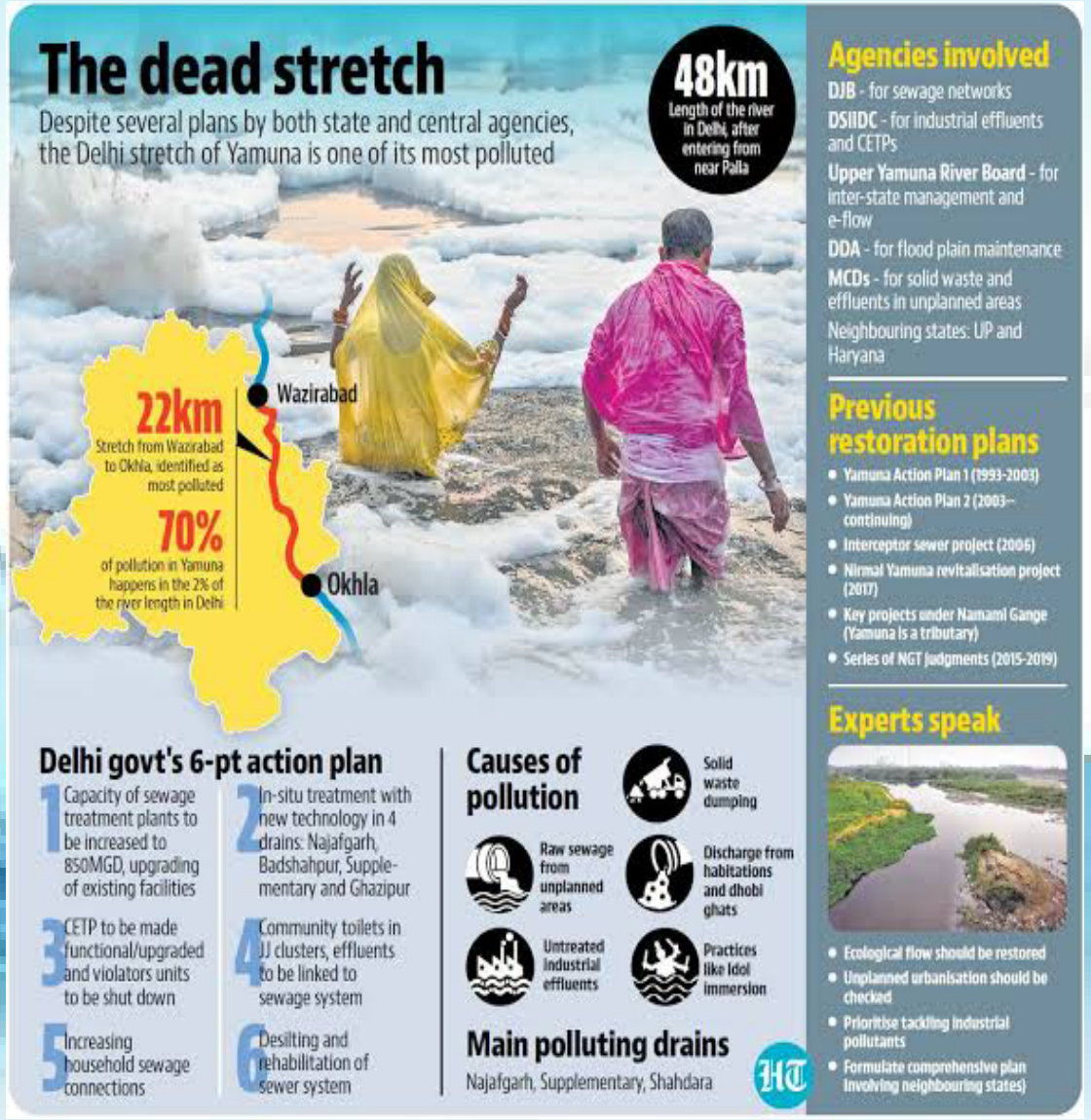


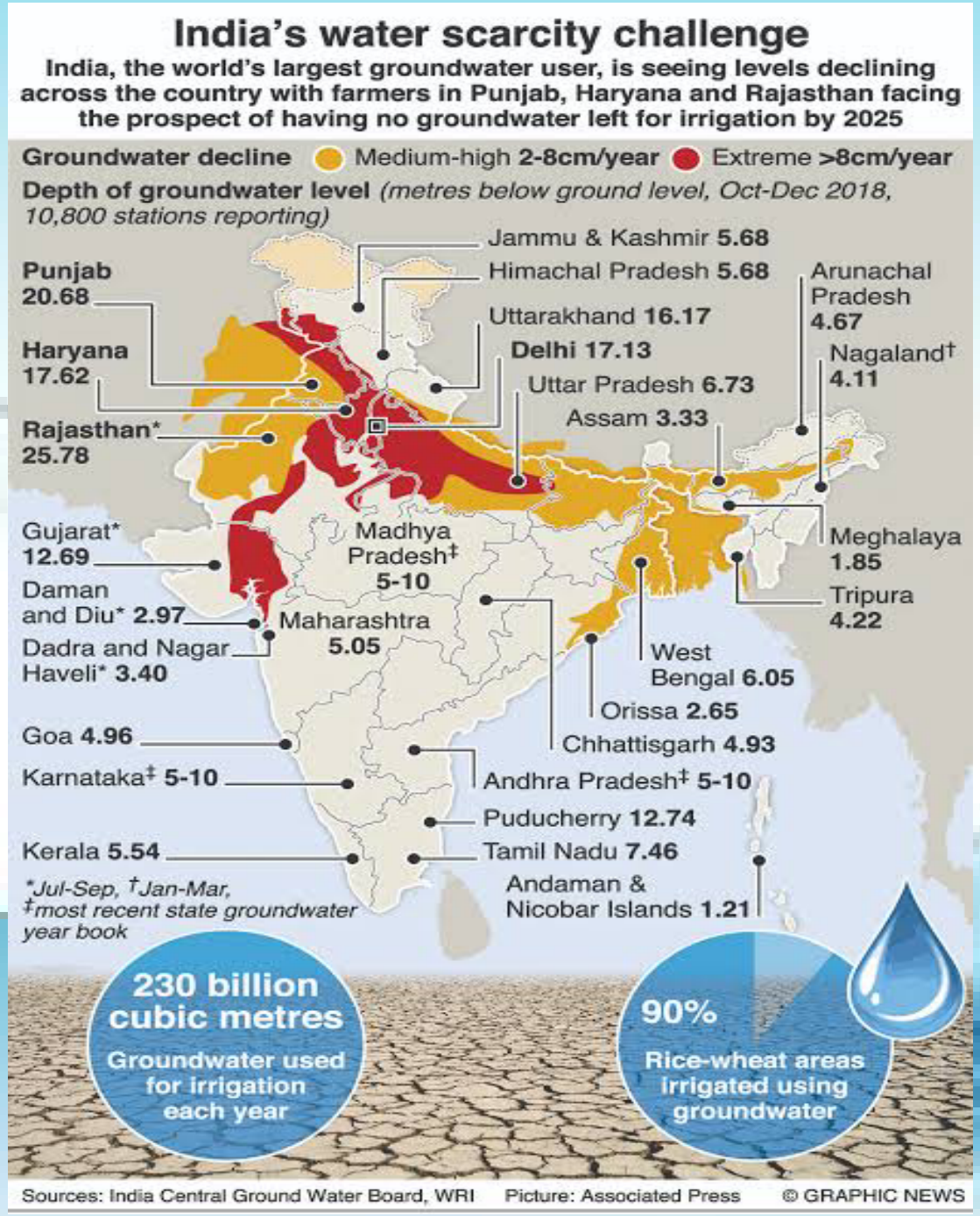
Groundwater extraction and irrigation

India is the world's biggest groundwater user, extracting 251 billion cubic metres (251 cubic kilometres; 203 million acre-feet; 60 cubic miles) of groundwater in 2010.

River pollution

Due to the lack of a long-term water management plan, many of the country's rivers either run dry or have been polluted. Although one of the most important river in India, Ganga is also the one that is most severely polluted. The pollution mostly results from untreated sewage from densely populated cities, industrial waste as well as due to religious ceremonies in and around the river. Although the Ganga Action Plan was launched in 1984 in a bid to clean the Ganga River within 25 years, the river is still highly polluted, with a high proportion of heavy metals and lethal chemicals that can even cause cancer.





Government and Non-governmental efforts to mitigate water crisis in India

- **Ministry of Jal Shakti combines the Department of Water Resources , River Development and Ganga Rejuvenation .**
- **Jal Shakti Ministry is responsible for managing the financial and technical resources, policy support and the pollution regulation.**
- **Government Efforts :**
  - **Jal Jeevan Mission**
  - **National Water Mission.**
  - **Atal Bhujal Yojana.**
- **Non-governmental efforts**

  Indian Organisation : **'FORCE'** and **'Safe Water Network'**

  International organisations : **'We are Water'** and **UNICEF**

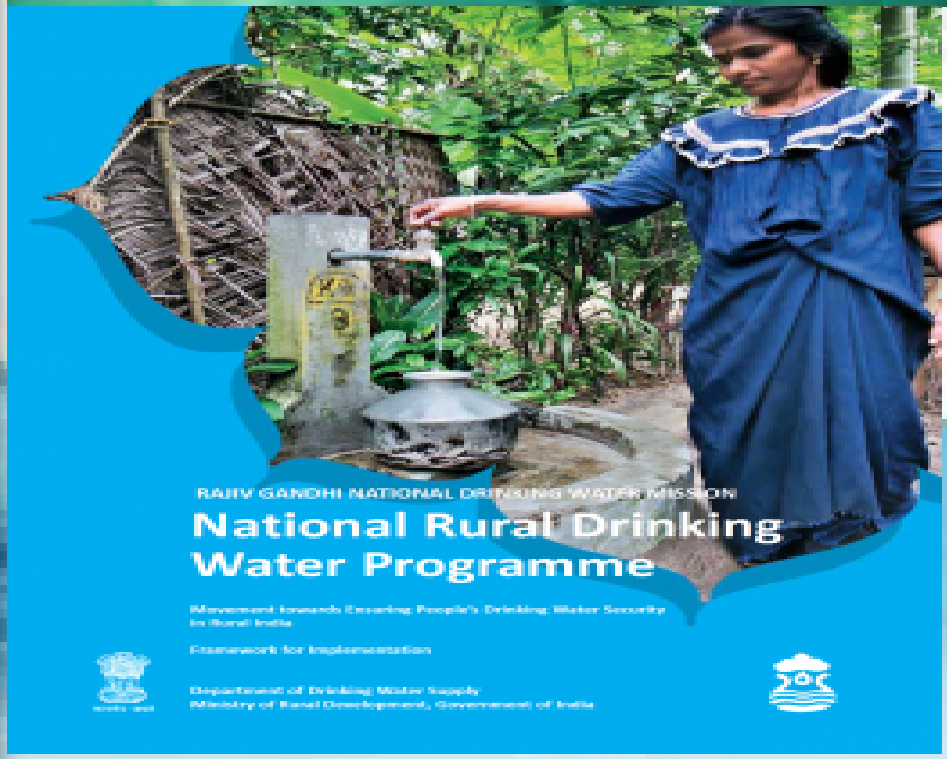
Towards Sustainable Conservation of Water

Atal Bhujal Yojana Launched

- Outlay of **Rs.6000 Crore** to be implemented over a period of **5 years (2020 – 25)**
- Aims to improve **ground water management** through community participation in **7 States**
- Will benefit nearly **8350 Gram** Panchayats in **78 districts** in these States
- Will promote participatory **Groundwater** management & **contribute in farmer's** income

JAL JEEVAN MISSION

- Piped Water Supply to all rural households by 2024
- Integrated demand & supply side management at local level
- Coverage with other Central & State Government Schemes
- Creation of local infrastructure & reuse of waste-water in Agriculture



REVIVING THE RIVER

Yamuna, the largest tributary of the Ganga, travels a distance of 22km through Delhi

The river's stretch in Delhi is barely **2%** of the length of the total river basin, but it contributes over 80% of the total pollution load in the entire river

An analysis by CSE of biological oxygen demand (BOD) indicates that nothing has changed in terms of pollution load in the river over the years

BOD load has gone up from about **129 tonnes** per day in 1982-83 to over **261 tonnes** per day in 2019

Money down the drain
(Cost of Yamuna cleanup by 2012)
Calculated by CSE on data received from the Yamuna Action Plan

Capital investments to clean Delhi stretch	₹ crore
YAP-I	17
YAP-extended	163
17 STPs with a capacity of 2330 MLD	750-1,000
15 common effluent treatment plants	256
Sewer rehabilitation	100
Total till 2005	**1286-1,536**
Interceptor project (proposed)	2,454
Total for 22km of Yamuna	**3,740-3,990**

Suggestions for improving water quality of Yamuna

- Provide water in the river for dilution of waste
- Maximise the utilisation of existing STPs
- Do not discharge treated effluents into the drains
- Recycle and reuse treated waste
- Treat sewage directly in open drains

Photo: AP

BOD load in the Yamuna's Delhi stretch between 1982 and 2012
In tonnes/day

Source: Centre for Science and Environment, 2012. State of India's Excreta Matters and Centre Pollution Control Board, 2013. Yamuna at a glance

ACTION PLAN

Eight ministries to work on specific issues for three years to carry forward these 21 action points under the **'Namami Gange'** programme:

- Taking up comprehensive measures to determine and maintain **environmental flow** of Ganga round the year
- Rehabilitation and upgradation of existing **sewage treatment facilities** and taking up new projects of sewage infrastructure
- Treatment of sewage and other **effluents flowing directly** into the river through various drains by adoption of suitable technology and financial models
- Tackling **industrial pollution**
- Promoting sanitation in rural areas on the banks of the river Ganga and development of select village panchayats as model panchayats to be christened as **'Ganga grams'**
- Tackling pollution coming from use of **chemical fertilisers and pesticides**
- Tackling **religious refuse** entering into the river, including cleaning of river surface and ghats
- Creating **model cremation ghats** on the banks of the river
- **River-front development and ghats** at selected seven places and also at other places of cultural significance
- Development of public amenities in **Char Dham Yatra and at Ganga Sagar**
- Engagement of **Ganga Task Force**
- Providing support to states for preparation of **Detailed Project Reports**
- Coordination between various ministries of the **central government and concerned state governments**; capacity building of state governments, urban local bodies and panchayati raj institutions
- GIS and **spatial mapping** of Ganga Basin
- **Research projects** including Ganga River Basin Management Plan
- Establishment of **National Ganga Monitoring Centre**
- Establishment of **Ganga Institute of River Sciences** at a suitable location along Ganga
- **Afforestation drive** for medicinal plants and native tree species
- Conserving diversity of Gangetic **aquatic life**
- Creation of **Ganga Vahini**
- Communication and **public outreach** activities

GANGA: THE LIFELINE OF INDIA

LENGTH
2,525km
(longest river of India)

It traverses a length of 450km in Uttarakhand, 1000km in UP, 405km in Bihar, 40km in Jharkhand, 520km in West Bengal and remaining 110km stretch touches the boundary between UP and Bihar

The Ganga River Basin supports nearly 43% of India's population

TRIBUTARIES/SUB-TRIBUTARIES
Yamuna, Ramganga, Gomti, Ghaghara, Gandak, Damodar, Kosi, Kali, Chambal, Sindh, Betwa, Ken, Tons, Sone and Kasia-Haldi

MAJOR CITIES LOCATED ON ITS BANK | Rishikesh, Haridwar, Roorkee (in Uttarakhand), Bijnor, Narora, Kanauj, Kanpur, Allahabad, Varanasi, Mirzapur (in UP), Patna, Bhagalpur (in Bihar), Bahrampur, Serampore, Howrah and Kolkata (in West Bengal)

Two phases of Ganga Action Plan (GAP) launched/ implemented to clean the river in the past 28 years:

GAP-I

It was launched in June, 1986 and declared closed in March, 2000

GAP-I covered 25 cities/ towns: 6 in UP, 4 in Bihar and 15 in West Bengal

Sanctioned cost of GAP-I
₹462.04cr

GAP-II

It was started in stages between 1993 and 1996; **implementation finally commenced on April 1, 2001**

GAP-II also covered main tributaries of Ganga
It covered 95 cities/towns

Sanctioned cost of GAP-II
₹2285.48cr

- Money spent on setting up sewage treatment plants, water pollution monitoring stations, protection of flood plains and creating public awareness
- **Ganga got the National River status in 2008-09**
- Government set up National Ganga River Basin Authority (NGRBA) in February, 2009 as a planning, financing, monitoring and coordinating body of the Centre and the states

'Be The Change, Encourage People to take Action in their own lives to change the way they use, Consume Water and Manage Water'

Water crisis solution and technologies

- **Desalination** :
  It involves treating sea water to remove its salt content, making it fit for drinking purpose.
- **Coastal reservoir**
  It is a fresh river water storage reservoir located on sea coast area near a river delta.
- **Irrigation Techniques**
  80% of the groundwater in India is used in agriculture for irrigation and Govt. promoting drip irrigation Technology.
- **Rain Water Harvesting**
  A technique used to conserve rainwater by collecting, storing, conveying and purifying of rainwater

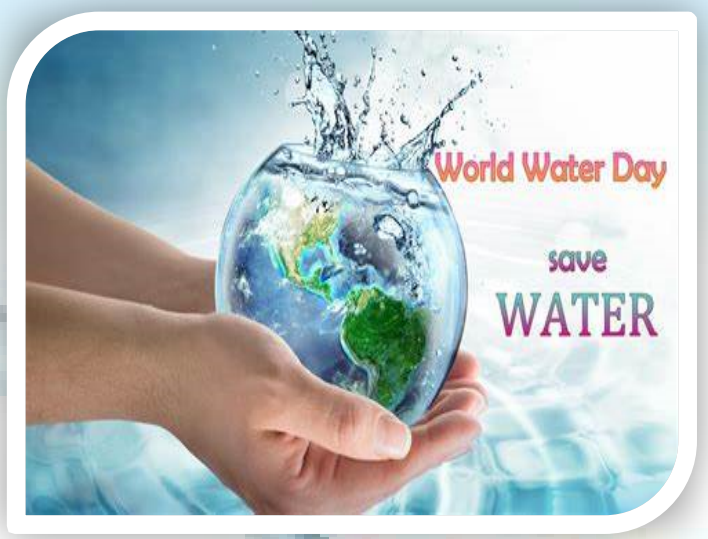
Water Action Agenda

It is designed to deliver rapid progress on internationally-agreed water and sanitation targets most notably Sustainable Development Goal 6 : water and sanitation for all by 2030.

- **Commit to action**: All stake holder across countries, should commit for implementation to achieve SDG 6 goals and targets.
- **Sustain and scale up implementation**
- **Follow-up and review processes:**

Showcasing successes and learning from what works and what does not.

Think before you let it drip.



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Thank you