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State of Water Resources in India

Data Guide – March 2024

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Introduction

Sustainable Development Goal 6 is: Access to Clean Water and Sanitation. **Ensuring access to clean and safe water for all is therefore a universal development goal.**

Some of the targets (by the year 2030) under SDG 6 are:

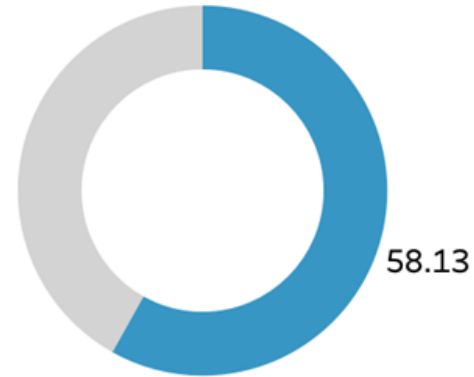
- 6.1: Achieve universal and equitable access to safe and affordable drinking water for all.
- 6.2: Achieve access to adequate and equitable sanitation and hygiene for all.
- 6.3: Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials.
- 6.4: Increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater.
- 6.5: Implement integrated water resources management at all levels.
- 6.6: Protect and restore water-related ecosystems.



Country Rank

115_{/165}

Score



UN Dashboard Status

Major Challenges Remain



Trend

Moderately Improving



Notes: As per UN Sustainable Development Report 2023

Definitions

- **GW** : GroundWater
- **BCM**: Billion Cubic Meters
- **MCM**: Million Cubic Meters
- **Stages of Development**: Percentage of GroundWater extracted out of total Annual extractable water available.
- **Safe**: Groundwater extraction is less than 70% of the total annually available.
- **Semi-Critical**: Groundwater extraction is between 70%-90% out of the total available to extract.
- **Critical**: Groundwater extraction is between 90%-100% out of the total available to extract.
- **Over-Exploited**: Groundwater extraction exceeds the annual replenishable groundwater recharge.
- **Salinity**: The term "salinity" refers to the concentrations of salts in water.
- **Service Delivery Points**: Rural Water Supply Sources, Delivery Points, Stand post, Public/Private water bodies.
- **Bacterial Contamination**: The presence of coliform bacteria, specifically E. coli (a type of coliform bacteria), in drinking water suggests the water may contain pathogens that can cause diarrhea, vomiting, cramps, nausea, headaches, fever, fatigue, and even death sometimes.
- **Chemical Contamination**: These contaminants may be naturally occurring or man-made. Examples of chemical contaminants include nitrogen, bleach, salts, pesticides, metals, toxins produced by bacteria, and human or animal drugs.

Data Sources

Sources:

- Central GroundWater Board (CGWB), Ministry of Jal Sakti, Department of Water Resources, Gol
- Gram Panchayat wise Tested Sources : Jal Jeevan Mission, Ministry of Jal Shakti
- Census on Water Bodies (2023), Ministry of Jal Shakti

About CGWB

Central GroundWater Board has a mandate to “Develop and disseminate technologies, and monitor and implement national policies for the scientific and sustainable development and management of India’s groundwater resources, including their exploration, assessment, conservation, augmentation, protection from pollution and distribution, based on principles of economic and ecological efficiency and equity”.

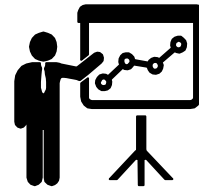
About Jal Jeevan Mission

Jal Jeevan Mission, is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India. The programme will also implement source sustainability measures such as recharge and reuse through grey water management, water conservation, rain water harvesting. The Jal Jeevan Mission is based on a community approach to water and include extensive information, education and communication as a key component of the mission.

State of Water Resources in India at a glance



2/3rd of India's annual groundwater recharge is dependent on rainfall.



Number of blocks categorized as **Over-Exploited** has **decreased** by **3.5** percentage point **and safe** blocks has **increased** by **1.8** percentage points, in the last two decades.



Punjab (0.37 MCM), Bihar (0.36 MCM) receive the most GW Recharge per sq. Km.



96% of rural habitations are covered with piped water supply (PWS). **42%** of these have fully Functional Household Tap Connection (FHTC).



87% of extracted groundwater extracted used for **Irrigation**.



84% of the Indian water bodies are used for Pisciculture (1126K), Irrigation (335K) and GW Recharge (244K).

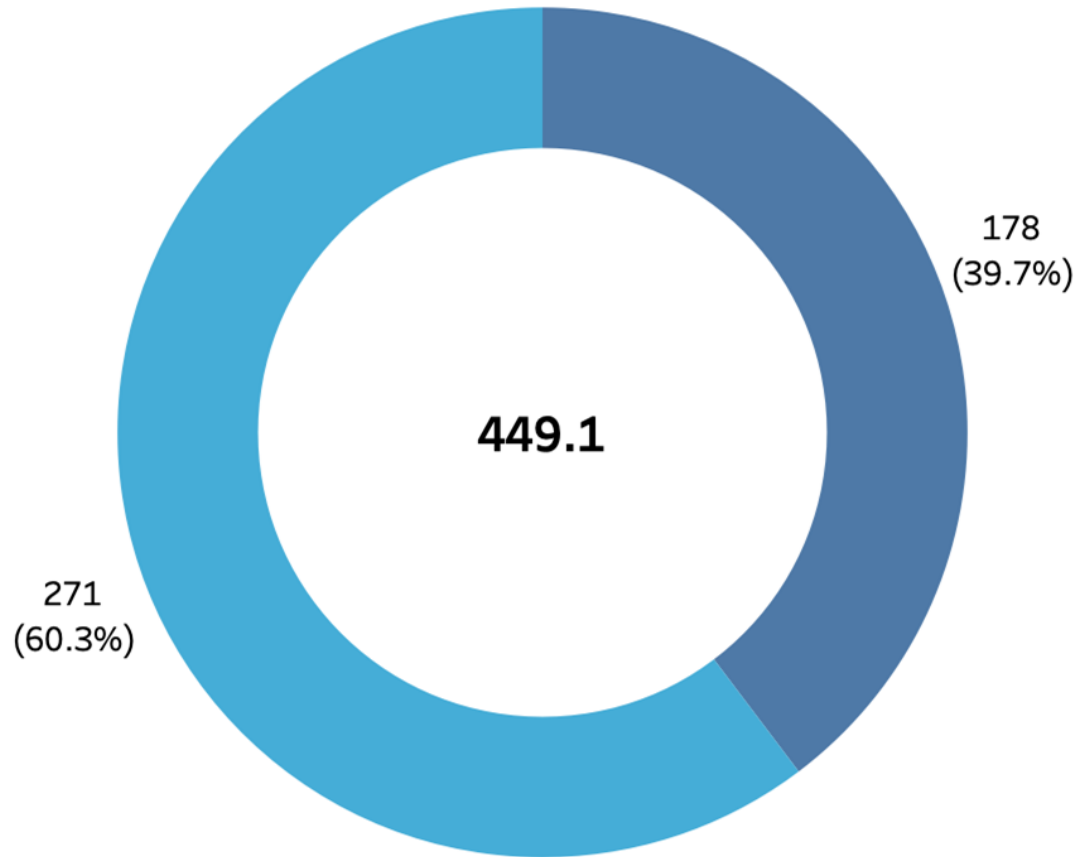
State of Water Resources in India

Annual groundwater recharge

Key Insights

- In 2023, India's annual groundwater recharge hit a **two-decade high** at 449 BCM.
- Groundwater recharge from rainfall and other sources is in the ratio of 3:2.
- Recharge was driven by rainfall in northeastern states, Jharkhand, and Kerala, while Chandigarh, Punjab, and Delhi saw significant recharge from other sources.
- Annual groundwater recharge is found high in the districts of UP, Bihar, West Bengal, Maharashtra and Andhra Pradesh of India. Top recharge districts include Sri Potti Sriramulu Nellore (Andhra Pradesh), Paschim Medinipur (West Bengal), and Lakhimpur Kheri (U.P).

Share of Groundwater Recharge by Sources - India (2023)



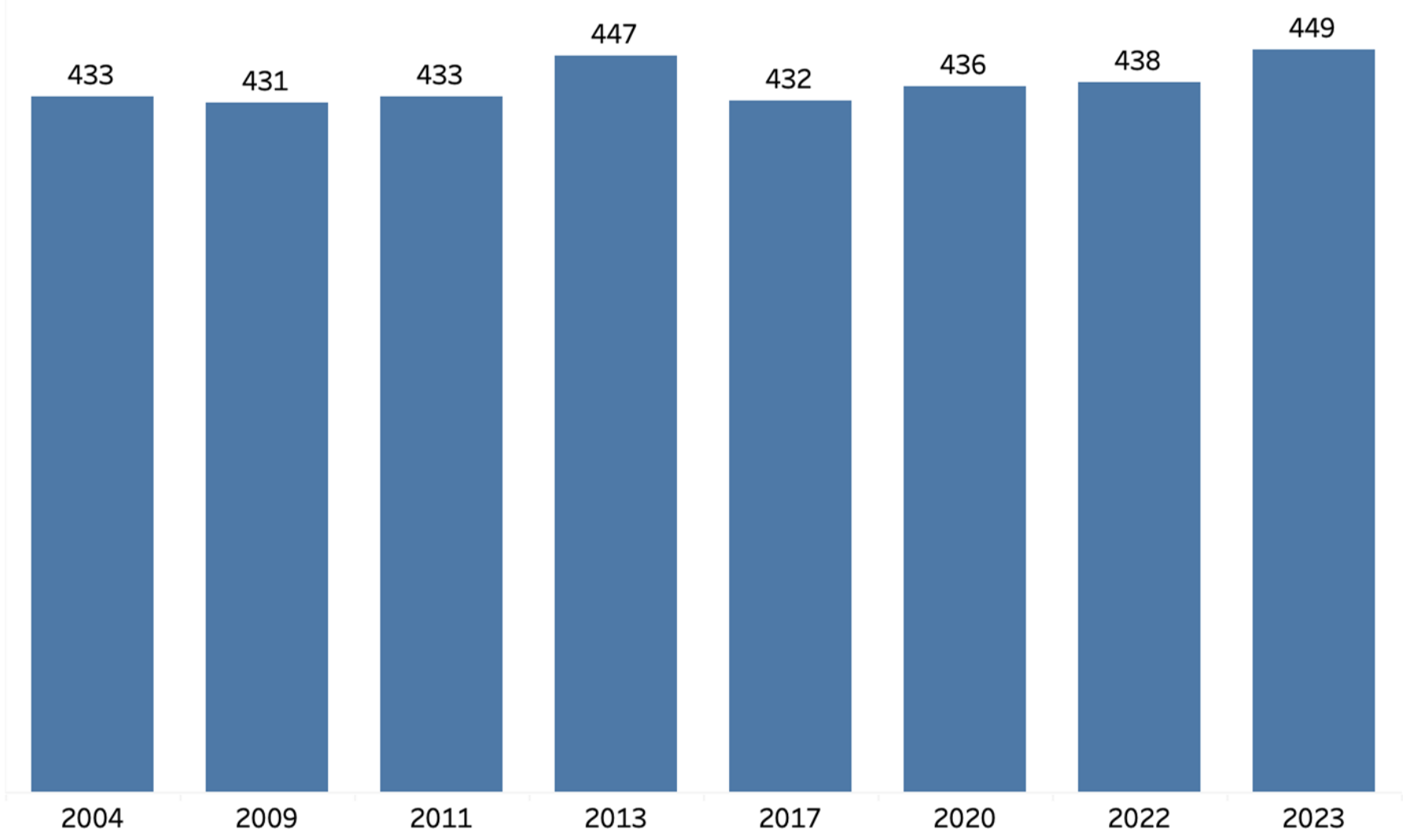
In 2023, India's total groundwater recharge was about 449 BCM.

Major source of recharge was through rainfall.

Almost **2/3rd** of the groundwater recharge (**60.3%**) was through **rainfall** and rest (39.7%) was through other sources.

■ Recharge From other Sources ■ Recharge From Rainfall

Total Annual Groundwater Recharge - India



In 2023, annual groundwater recharge demonstrated a significant improvement, reaching 449 BCM, marking a **3.7% increase in the last two decades.**

Previously, recharge rates had remained relatively stable with minor fluctuations.