BACKGROUNDERS
Press Information Bureau
Government of India

Strengthening Groundwater Management for India's Water Future

January 22, 2026

Key Takeaways

- India has a network of **43,228 groundwater level monitoring stations**, **712 Jal Shakti Kendras**, and **53,264 Atal Jal Water Quality Monitoring Stations**
- Initiatives such as the **Jal Shakti Abhiyan: Catch the Rain (JSA: CTR)**, **Jal Sanchay Jan Bhagidari (JSJB)**, **Atal Bhujal Yojana (Atal Jal)**, and **Mission Amrit Sarovar** are showing significant progress in **groundwater management**.
- Effective groundwater management is essential for advancing the **Sustainable Development Goals**, particularly **SDG 6**, **SDG 11**, and **SDG 12**.

Introduction

Groundwater comprises nearly 99% of Earth's liquid freshwater and offers substantial social, economic, and environmental benefits, including climate resilience. **In India, the groundwater serves as the primary foundation of agricultural activity and drinking water supply, meeting nearly 62% of irrigation needs, 85% of rural consumption, and 50% of urban demand**. Rapid population growth, agrarian intensification, industrial expansion, and urbanisation have collectively intensified pressure on groundwater systems in the country. In this context, the adoption of scientifically informed and sustainable groundwater management practices has become imperative. While water governance lies within the purview of State Governments, the Central Government, notably through the Ministry of Jal Shakti and associated ministries, plays a facilitative role by extending coordinated technical and financial support through various schemes and programmes, designed to reinforce conservation, regulation, and enduring groundwater management across the nation.

Groundwater Management for Sustainability and Long-term Security

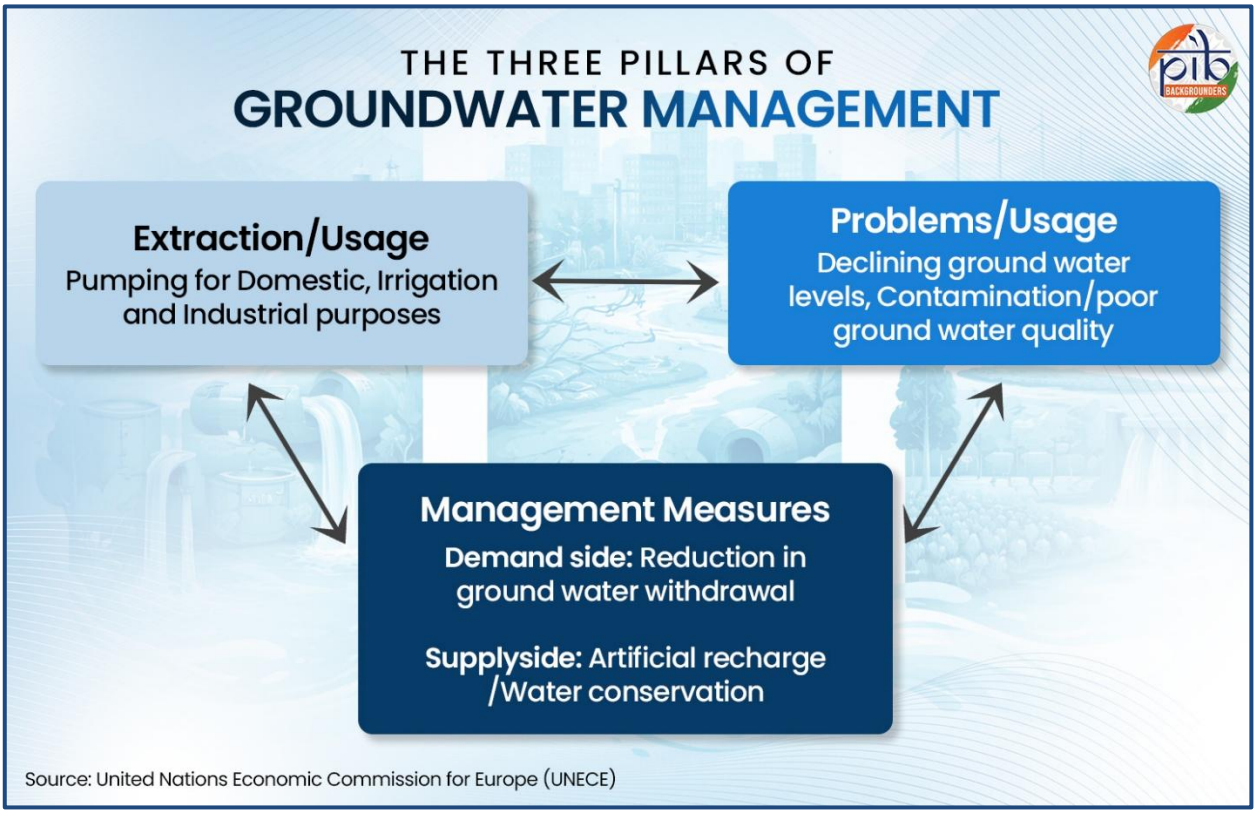
Understanding Groundwater

Groundwater is a freshwater that seeps into soil and rocks, where it is stored underground before naturally emerging or being drawn for human use. It maintains water levels in many rivers and streams, and it strongly influences the habitats of wetlands for plants and animals. The underground layer that can store and transmit ground water in sufficient quantities is called as Aquifer. The water from aquifers can flow out naturally, contributing to springs, streams and rivers or it may be pumped through dug wells, tube well and borewells.

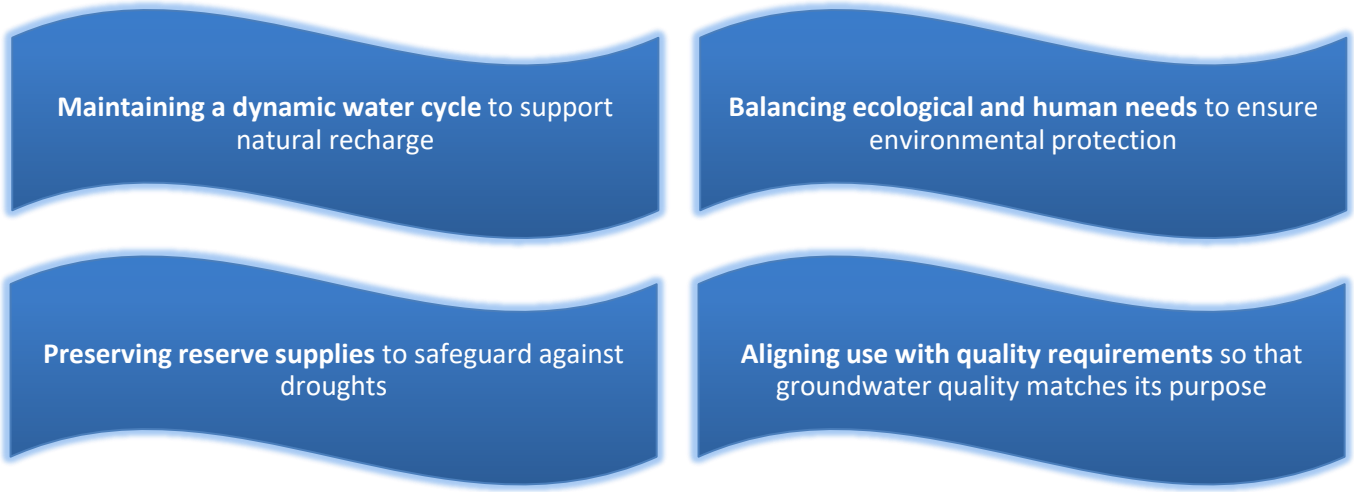
Groundwater Management - Elements and Priorities

Groundwater management is a part of integrated water resources management and protection. The core foundations in groundwater management are the functions and uses of groundwater (aquifers), the problems and pressures

(threats) acting upon them, and the impact of management measures on the overall functioning of the sustainability of the groundwater system.



As per the United Nations Educational, Scientific and Cultural Organization (UNESCO), effective groundwater management needs **4 key priorities** to ensure sustainable and balanced use of groundwater resources:



Necessity for Groundwater Management

India possesses extensive groundwater reserves whose physical characteristics and availability vary widely across regions, yet in recent decades these resources have faced growing stress from excessive extraction, declining quality, and limited regulation, raising serious concerns about long-term sustainability.

- **Rising pressure on groundwater systems:** Intensive and largely unregulated pumping has led to rapid and widespread declines in water tables across many parts of the country, signifying growing dependence on subsurface sources.

- **Degradation of water quality:** Contamination arising from mining activities, industrial effluents, and agricultural practices, combined with naturally occurring elements such as arsenic and fluoride, has progressively impaired groundwater quality, posing long-term environmental and public health risks.
- **Drivers of uncontrolled abstraction:** The sharp increase in groundwater extraction has been driven by the availability of affordable drilling techniques and pumping technologies, enabling even small farmers and low-income households to construct and operate private tube wells.

The growing groundwater crisis has strengthened the Government's commitment to effective management, reaffirmed by India's **COP 21 commitment** to climate resilience and long-term growth. Effective groundwater management is vital for achieving the **Sustainable Development Goals**, especially **SDG 6**, **SDG 11**, and **SDG 12**.

SDG 6: Clean Water and Sanitation

Ensure universal access to water and sanitation through sustainable management practices.

SDG 11: Sustainable Cities and Communities

One of the focus areas of **Target 11.5** of **SDG 11** is to reduce economic losses caused by water-related disasters.

SDG 12: Responsible Consumption and Production

One focus of **Target 12.4** of **SDG 12** is to reduce the release of wastes into water through environmentally sound management.

Government Initiatives Strengthening Groundwater Management

In response to escalating groundwater stress and the need for sustainable water security, the Government of India has launched a **comprehensive set of policies, programmes, and community-driven initiatives** aimed at strengthening **groundwater management**, enhancing **recharge and conservation**, improving **scientific assessment**, and promoting **participatory and outcome-oriented groundwater management** across India.

Model Groundwater (Regulation and Control of Development and Management) Bill

Groundwater resources require effective regulation and management to prevent indiscriminate extraction and to promote sustainable practices such as rainwater harvesting and artificial recharge. In light of these considerations, the Central Government prepared a Model Groundwater Bill to provide a regulatory framework for the control and management of groundwater resources by States.

⇒ The Model Bill has been shared with all States and Union Territories, and so far, **21 of them have adopted it**, including **Bihar, Punjab, Haryana, and Himachal Pradesh**.

⇒ The Centre actively engages with State governments to promote **prudent regulation and sustainable management of groundwater resources**.

⇒ This engagement is undertaken through **regular correspondence, seminars, conferences of State Water Ministers and Chief Secretaries**, and deliberations under the **National Interdepartmental Steering Committee (NISC) on Groundwater**, chaired by the Secretary, Department of Water Resources.

21

States/UTs have adopted the Bill

The Bill promotes **effective control** and **sustainable use of groundwater resources**

Jal Shakti Abhiyan: Catch the Rain (JSA: CTR)

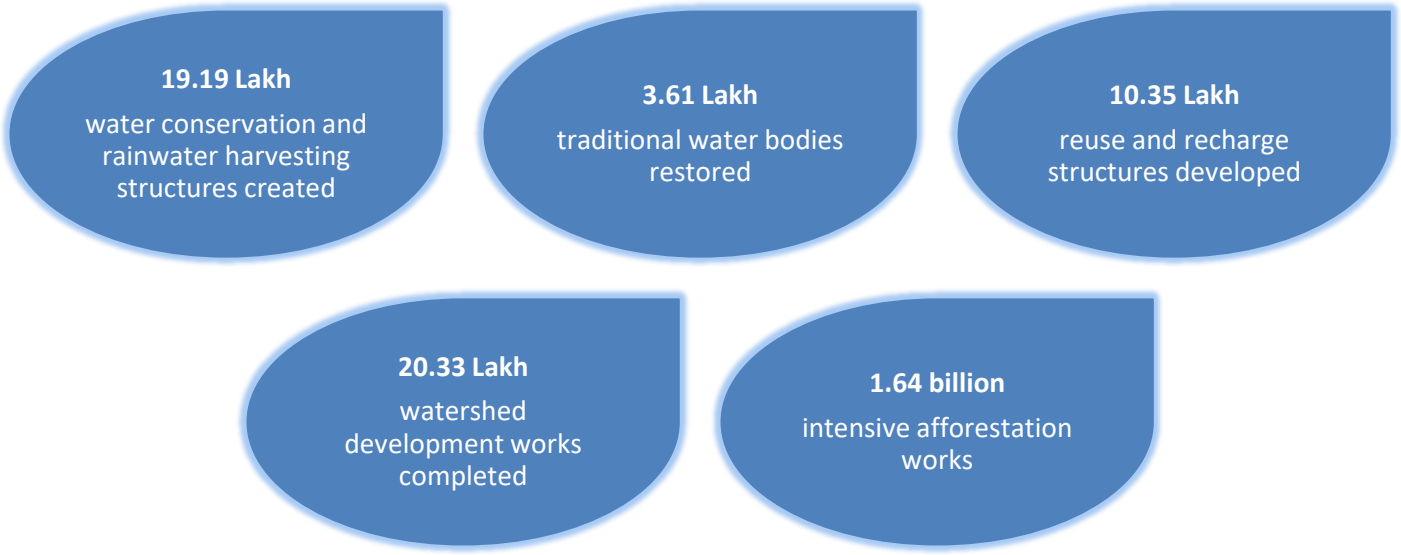
The **JSA: CTR** campaign was launched on **22 March 2021**, coinciding with **World Water Day**. The campaign works towards building nationwide awareness and nurturing collective action on water conservation, strengthening the message that **every drop counts**. It encourages citizens across the country to contribute to the preservation of India's water future through practical measures and community-level engagement.

⇒ Five focused interventions, of JSA: CTR, include **(i)** water conservation and rainwater harvesting; **(ii)** identification, geo-tagging, and preparation of an inventory of all water bodies, along with scientific planning for water

conservation; **(iii)** setting up **Jal Shakti Kendras** in all districts; **(iv)** concentrated afforestation; and **(v)** awareness generation.

⇒ One of the key interventions under the JSA: CTR is the **revitalisation of abandoned and defunct borewells for enhancing groundwater recharge,** supported by other focused interventions implemented across the country.

⇒ **Progress under JSA: CTR**, since March 2021 to January 2026:



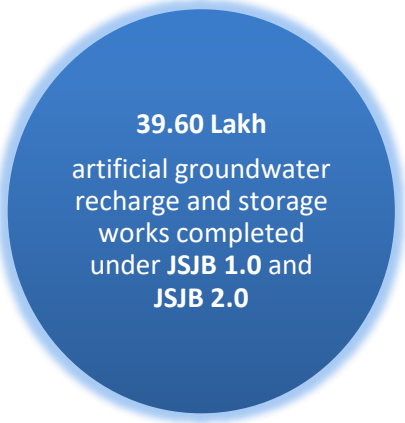
Jal Sanchay Jan Bhagidari (JSJB)

The **Jal Sanchay Jan Bhagidari (JSJB)** initiative was launched under the **JSA: CTR** campaign on **6 September 2024**.

⇒ The initiative seeks to improve groundwater recharge through measures such as rainwater harvesting, aquifer recharge, borewell recharge, and recharge shafts.

⇒ It is designed as a **scalable and sustainable model** to address declining groundwater levels at the local level and integrates **advanced monitoring systems** to support groundwater recharge and promote **responsible groundwater management** and **sustainable water use**.

⇒ As of 22 January 2026, the **total number of artificial groundwater recharge and storage works** completed cumulatively under **JSJB 1.0** and **JSJB 2.0** stands at **39,60,333**.



National Aquifer Mapping and Management Programme (NAQUIM)

⇒ To support **effective groundwater management** in the country, the **NAQUIM (2012-2023)** programme was undertaken with the objectives of:

- Characterising aquifers based on hydrogeological properties
- Assessing groundwater availability and quality
- Preparing detailed aquifer maps
- Developing sustainable groundwater management strategies

⇒ **NAQUIM 2.0:** Building on the experience of **NAQUIM**, the **Central Ground Water Board (CGWB)** implements **NAQUIM 2.0 (2023-Present)** to strengthen **groundwater management** by:

- Providing high-granularity data density on groundwater levels and quality

- Delivering issue-based scientific inputs up to the Panchayat level
- The programme targets **water-stressed**, **coastal**, **urban**, **spring-shed**, **industrial and mining**, **command**, **deep aquifer**, **auto flow**, and **poor-quality groundwater areas**, with **area-specific and user-focused outputs**.

⇒ Progress under **NAQUIM Programme:**

NAQUIM (2012-2023)	NAQUIM 2.0 (2023-Present)	
Out of the country's total area of **33 lakh sq. km**, the entire **mappable area of 25 lakh sq. km** was covered	During 2023–24, a total of 68 studies (38,600 Sq.km area) were completed. In 2024–25, a total of 35 studies (21,524 Sq.km area) were completed. During the current year (2025-26), 40 studies were undertaken, covering an area of 16,700 Sq.km.	High resolution aquifer mapping through heliborne geophysical surveys completed in 97,165 sq. km, encompassing 92 blocks across Rajasthan, Gujarat, and Haryana.

Master Plan for Artificial Recharge to Groundwater-2020

⇒ The Master Plan for Artificial Recharge to Groundwater 2020 promotes **terrain-specific recharge techniques** based on water availability and aquifer storage capacity.

⇒ It addresses **regional groundwater challenges**, including overextraction, arid zone scarcity, low retention in hills, and urban recharge constraints.

⇒ In **rural areas**, emphasis is placed on **surface spreading and subsurface recharge methods** to utilise surplus monsoon runoff effectively.

⇒ In **urban, hilly, and coastal regions**, priority is given to **rainwater conservation through rooftop harvesting and allied measures**.

⇒ The Plan also provides a broad outline for the construction of around **1.42 crore rainwater harvesting and artificial recharge structures** in the country to **channel 185 BCM (Billion cubic meter)** groundwater recharge.

The Plan outlines **construction of 1.42 crore rain water harvesting and artificial recharge structures** channeling **185 BCM ground water recharge**

Atal Bhujal Yojana (Atal Jal)

Atal Bhujal Yojana (Atal Jal) focuses on promoting **community-led sustainable groundwater management** in **water-stressed areas** of **7 States**, namely **Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh**. Launched on **25 December 2019**, the scheme supports water source sustainability for the **Jal Jeevan Mission**. It also supports the Government's goal of **doubling farmers' income** and encourages responsible water use within communities. It further facilitates creating awareness, building local capacity, coordinating with other government schemes, and promoting improved agricultural practices.

⇒ Under the scheme, **incentives to State Governments** are supported by a **strong database**, **scientific planning**, and **community involvement** for appropriate investments.

⇒ Under the **Project Implementation Plan of five years**, the total financial outlay of **₹6,000 crore** is distributed between **Component A (₹1,400 crore)** for institutional strengthening and **Component B (₹4,600 crore)** for incentive-based outcomes, reflecting a strong results-oriented design.

⇒ Progress under Atal Bhujal Yojana, as on 20 January 2026:

State	Improvement in Rate of Groundwater Decline *(m/year)*	Area under Efficient Water Use *(Ha)*	Digital Water Level Recorder (DWLR) Installed	Digital / Analog Water Level Indicators Installed
Gujarat	20	58,470.19	828	2001
Haryana	18	1,77,454.25	1,165	1669
Karnataka	23	1,86,595.22	970	410
Madhya Pradesh	5	13,493.24	669	670
Maharashtra	16	1,31,372.06	1,129	1133
Rajasthan	20	74,352.07	960	1144
Uttar Pradesh	6	26,945.97	550	392
Total	**108**	**6,68,683.00**	**6271**	**7419**

Source: Ministry of Jal Shakti

Mission Amrit Sarovar

Launched on **24 April 2022**, **Mission Amrit Sarovar** supports the creation of Amrit Sarovars (ponds) across all districts in the country. Each pond is planned to have a minimum area of **one acre (0.4 hectare)** and a water storage capacity of about **10,000 cubic metres**.

⇒ The mission aspires to enhance water conservation, expand irrigated area, and improve **groundwater levels**, with the **rejuvenation and construction of Amrit Sarovars** supporting natural **groundwater recharge**.

⇒ Progress under Mission Amrit Sarovar, as on 22 January 2026:

Phase 1 (April 2022 - August 2023)

During this phase, a total of **68,827 Sarovars** were completed

Phase 2 (September 2023 - Ongoing)

16,091 Sarovars were identified	Work has commenced on **1,994 Sarovars**

India's Groundwater Infrastructure for Monitoring, Restoring, and Knowledge Support

⇒ **India has a network of 43,228 groundwater level monitoring stations**, comprising stations operated by the **Central Ground Water Board (CGWB)**. The **CGWB** regularly monitors **groundwater levels** nationwide through its **regional network of observation wells**.

For monitoring groundwater levels, the **CGWB** operates a dedicated network known as the **National Hydrograph Network Stations (NHNS)**.

This network includes open dug wells and specially constructed bore or tube wells, known as **piezometers**, used for measuring water levels.

Groundwater monitoring wells are mainly used to measure groundwater levels and understand how water flows underground. They are also used to collect water samples to assess groundwater quality.

In addition, these wells help evaluate the properties of underground layers that store and transmit water. Such monitoring wells are also known as **observation wells**.

⇒ Under the **Atal Bhujal Yojana (Atal Jal),** an extensive monitoring, recharge, and data infrastructure has been established to support sustainable groundwater management (as on 30 December 2025):

Infrastructure	Availability Status
Water Quality Monitoring Stations	53,264
Artificial Recharge and Water Conservation Structures	97,742
Piezometer (Atal Jal)	6,519
Rain Gauge Stations	8,201
Water Flow Meters	32,286
Well Registered	15,03,711
Water Quality Monitoring (Through Field Testing Kit)	1,15,358

Ministry of Jal Shakti

⇒ **Jal Shakti Kendra (JSK)** functions as a district-level technical guidance centre, advising stakeholders on **rainwater harvesting** and serving as a **knowledge hub** for disseminating information and providing technical support on **water conservation practices**. As of 30 December 2025, a total of **712 Jal Shakti Kendras (JSKs)** are operational across India.

Conclusion

Groundwater is central to India's **water security**, sustaining agriculture, drinking water supply, ecosystems, and agricultural activity, yet increasing pressures from **overextraction**, **quality degradation**, and **climate variability** have made **sustainable groundwater management** imperative. In response, India has **embraced** a comprehensive and multi-layered approach combining **policy reform**, **scientific assessment**, **infrastructure creation**, and **community participation**, led by the **Ministry of Jal Shakti**.

Key initiatives such as the **Model Bill on Groundwater**, **Jal Shakti Abhiyan: Catch the Rain**, **Jal Sanchay Jan Bhagidari**, **NAQUIM 2.0**, the **Master Plan for Artificial Recharge to Groundwater 2020**, **Atal Bhujal Yojana**, and **Mission Amrit Sarovar jointly** reinforce recharge, monitoring, regulation, and demand side management.

Supported by an extensive network of **groundwater monitoring stations**, **advanced data systems**, and **local knowledge centres**, these efforts mark a transition towards scientifically informed, participatory, and outcome-oriented groundwater governance, establishing a durable framework for **long term sustainability**, **climate resilience**, and the achievement of national development goals.

References

Parliament of India

- https://sansad.in/getFile/loksabhaquestions/annex/184/AS292_TrM9KV.pdf?source=pqals
- https://sansad.in/getFile/annex/269/AU109_JyaRxc.pdf?source=pqars
- https://sansad.in/getFile/loksabhaquestions/annex/185/AU1986_6mBwr2.pdf?source=pqals
- https://sansad.in/getFile/loksabhaquestions/annex/185/AU1907_ncHZ2c.pdf?source=pqals

Comptroller and Auditor General of India

- https://cag.gov.in/webroot/uploads/download_audit_report/2021/Report%20No.%209%20of%202021_GWMR_English-061c19df1d9dff7.23091105.pdf

Economic Advisory Council to the Prime Minister (EAC-PM), Government of India

- https://eacpm.gov.in/wp-content/uploads/2024/05/Addressing_Groundwater_Depletion_in_India.pdf

Ministry of Jal Shakti

- https://jsactr.mowr.gov.in/

- https://jsactr.mowr.gov.in/PublicDashboard.aspx
- https://jsactr.mowr.gov.in/Public_Dash_2021/DashBoard.aspx
- https://jsactr.mowr.gov.in/JSJB/DashboardJsjb.aspx
- https://jsactr.mowr.gov.in/website/help-documents/Concept-Note-Jal-Shakti-Kendras-for-MIS-Portal.pdf
- https://jsactr.mowr.gov.in/website/JSA_StateWiseJSK.aspx
- https://ataljal-mis.mowr.gov.in/About/About
- https://ataljal-mis.mowr.gov.in/Dashboard/Dashboard?clear=1724931558704
- https://ataljal-mis.mowr.gov.in/mapview/Public_View#
- https://jalshakti-data.gov.in/JSDV/groundwatermap
- https://nwm.gov.in/amrit-sarovar
- https://amritsarovar.gov.in/login
- https://amritsarovar.gov.in/AmrutSarovarDocuments/AmritSarovarGuidelinesPhase2.pdf
- https://jsactr.mowr.gov.in/website/help-documents/Advisory_07_10_2024_V2.pdf
- https://www.jalshakti-dowr.gov.in/static/uploads/2024/05/fc00cd887135cf39b2005ccf1539e0e5.pdf
- https://www.jalshakti-dowr.gov.in/offerings/schemes-and-services/details/atal-bhujal-yojna-ANyETNtQWa
- https://ncog.gov.in/AmritSarovar/Amrit_Sarovar_December_2023.pdf
- https://cgwb.gov.in/en/ground-water-level-monitoring

Ministry of Electronics and Information Technology

- https://ncog.gov.in/AmritSarovar/Amrit_Sarovar_December_2023.pdf

Central Ground Water Board (CGWB), Ministry of Jal Shakti

- https://cgwb.gov.in/en/aquifer-mapping
- https://cgwb.gov.in/en/ground-water-level-monitoring
- https://cgwb.gov.in/cgwbpnm/public/uploads/documents/16861332625184477 6file.pdf
- https://cgwb.gov.in/cgwbpnm/public/uploads/documents/17357169591419696804file.pdf
- https://cgwb.gov.in/cgwbpnm/public/uploads/documents/17471215523155300 12file.pdf
- https://cgwa-noc.gov.in/LandingPage/LatestUpdate/NCDGWR2023.pdf

Central Water Commission (CWC), Ministry of Jal Shakti

- https://cwc.gov.in/sites/default/files/sq-50-merge.pdf

Press Information Bureau

- https://www.pib.gov.in/PressReleasePage.aspx?PRID=2200351&reg=3&lang=2
- https://www.pib.gov.in/PressReleasePage.aspx?PRID=1842727&reg=3&lang=2
- https://www.pib.gov.in/PressReleasePage.aspx?PRID=2113865&reg=3&lang=2
- https://www.pib.gov.in/PressNoteDetails.aspx?NoteId=152136&ModuleId=3&reg=3&lang=2
- https://www.pib.gov.in/newsite/PrintRelease.aspx?relid=196118&reg=3&lang=2
- https://www.pib.gov.in/PressReleasePage.aspx?PRID=2122478&reg=3&lang=2

United Nations

- https://www.un.org/sustainabledevelopment/water-and-sanitation/
- https://www.un.org/sustainabledevelopment/cities/
- https://www.un.org/sustainabledevelopment/sustainable-consumption-production/

United Nations Educational Scientific and Cultural Organization (UNESCO)

- https://www.un.org/sites/un2.un.org/files/un_world_water_dev._report_2022.pdf
- https://unesdoc.unesco.org/ark:/48223/pf0000379093

United Nations Economic Commission for Europe (UNECE)

- https://unece.org/DAM/env/water/publications/assessment/guidelinesgroundwater.pdf

World Bank

- https://documents1.worldbank.org/curated/en/697581528428694246/pdf/India-PAD-126071-IN-05162018.pdf

United States Department of the Interior, U.S. Geological Survey (USGS)

- https://pubs.usgs.gov/circ/circ1186/pdf/circ1186.pdf
- https://www.usgs.gov/faqs/what-groundwater

U.S. Environmental Protection Agency (US EPA)

- https://www.epa.gov/sites/default/files/documents/groundwater.pdf

California Department of Water Resources

- https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards/Monitoring-Introduction

PIB Research