

NEWS TODAY

Global warming is Increasingly Exacerbating Water Gaps: A Study

Water gaps are defined as the **difference between renewable water availability and water consumption** while maintaining adequate flows in aquatic environments.

Key Findings

- **Global**
 - ⊕ Water gaps of nearly **458 billion cubic meters per year** exist across all continents.
 - ⊕ The world will experience harsher conditions at 1.5°C warming, with even **more severe impacts at 3°C**.
 - ◆ However, **global warming will change precipitation patterns**, reducing water gaps in some countries E.g., **Nigeria**.
- **India-Specific findings**
 - ⊕ India is among the countries facing the **largest water gaps**, along with the US, China, etc., and is projected to see the most significant **increase under warming scenarios**.
 - ⊕ Water gaps are expected to rise the most in the **Ganges-Brahmaputra, Godavari River basins**, etc.

Status of water resources in India

- India holds **18% of the global population** but only **4% of its water resources**, with over **600 million** people already facing severe water shortages.
- By **2030, water demand is expected to double** the available supply, leading to severe scarcity and a potential **~6% GDP loss** (NITI Aayog).

Factors Driving Water Crisis

- Over Population, over extraction of ground water, water contamination and Pollution, Poor Water Management, climate change etc.

Measures Undertaken for Water Conservation

- **National Water Mission:** To ensure **integrated water resource management** helping to conserve water, minimize wastage etc.
- **Atal Bhujal Yojana:** It is a central sector scheme for **sustainable management of groundwater** with community participation.
- **Pradhan Mantri Krishi Sinchayee Yojana:** It emphasizes on **improving farm water use efficiency & sustainable water conservation practices**.
- **National Hydrology Project:** To improve the nation's **water resource management**.

India and Qatar elevate bilateral ties to strategic partnership

Elevation was done during state visit to India by Amir of Qatar with a **focus on strengthening cooperation in trade, energy, investments, technology, food security, and people-to-people ties**.

- Both sides also aimed to double bilateral trade to \$28 billion in five years.

Other Key outcomes of Visit:

- Two MoUs signed to strengthen the **strategic partnership**, covering **double taxation avoidance and fiscal evasion prevention**.
- Additional MoUs signed between Qatari Businessmen Association and CII, and between Invest Qatar and Invest India **to boost business and investment collaboration**.

India Qatar Ties

- **Economic Ties:** Bilateral trade is **USD 14.08 billion** (2023-24). (With an **effective trade deficit for India**).
 - ⊕ India was among Qatar's **top three export destinations** and is also among **top three sources of Qatar's imports (2022-23)**.
- **Energy Ties:** Qatar is India's largest LNG supplier, providing over **40% of imports**.
- **Defense Ties:** India-Qatar Defense Cooperation Agreement was extended for five years in 2018.
 - ⊕ **Bilateral Exercises:** Za'ir Al Bahr (Naval).
 - ⊕ India also regularly participates in the biennial Doha International Maritime Defense Exhibition and Conference (**DIMDEX**) in Qatar.
- **Cultural Relations:** Regular exchanges and activities under the **2012 Agreement on Cultural Cooperation**, with the **Indian Cultural Centre** active in Qatar.
 - ⊕ **People-to-People Ties:** A vibrant **Indian community of over 830,000** in Qatar strengthens cultural bonds.



Peatlands hold more carbon than all the world's forests yet dangerously under protected: Study

Peatlands are terrestrial wetland ecosystems in which waterlogged conditions prevent plant material from fully decomposing. Consequently, production of organic matter exceeds its decomposition, which results in a net accumulation of peat.

Key findings of Study:

- **Limited Protection:** Only 17% of peatlands fall within protected areas. Just over half of protected peatlands are under strict protection.
- **Protection Varies by Biome:** Boreal peatlands are 16% protected in comparison to temperate peatlands which are 27% protected.
 - ⊕ Tropical peatlands are also 27% protected with 8% strictly protected.
- **Regional and Country-Level Disparities:** China and India show higher peatland protection.
- **Underprotected Compared to Other Ecosystems:** Mangroves are 42% protected, salt Marshes are 50% protected while tropical forest is 38% protected.

Significance of Peatlands

- **Largest Carbon store on Land:** While occupying just 3% of Earth's land surface.
- **Natural Buffer:** Act as natural water filters and buffers for environmental disasters.
- **Biodiversity conservation and Livelihood Protection:** Home to diverse freshwater fish and endangered species, also provide food and fuel for local communities.

Threats to Peatlands

- **Drainage and Land conversion:** Damaged peatlands are a major source of greenhouse gas emissions, almost 5% of global anthropogenic CO2 emissions.
- **Overgrazing:** In mountainous areas peat can be vulnerable to degradation through overgrazing.
- **Peat Extraction:** Used as fuel and for horticulture, leading to habitat destruction.

Initiatives for Protecting Peatlands

- **Global peatland initiative** led by UN Environment programme for accelerating the conservation efforts.
- **Ramsar Convention, 1971:** An international treaty focused on wetland conservation, which includes important peatland ecosystems
- **Wetlands Rejuvenation Programme:** Initiated by MoEFCC in 2020, this program aims to rejuvenate over 500 wetlands across India.
- **Amrit Dharohar Scheme:** Launched with Union Budget 2023-24, Amrit Dharohar Scheme is a key initiative aimed at optimizing wetland utilization in India.

Soil Health Card Scheme (SHCS) completed 10 Years

The Scheme was introduced in 2015 at Suratgarh, Rajasthan to assist State Governments to issue soil health cards to all farmers in the country.

- SHCS has been merged in **Rashtriya Krishi Vikas Yojana (RKVY)** scheme as one of its components under name '**Soil Health & Fertility**' from the year **2022-23**.

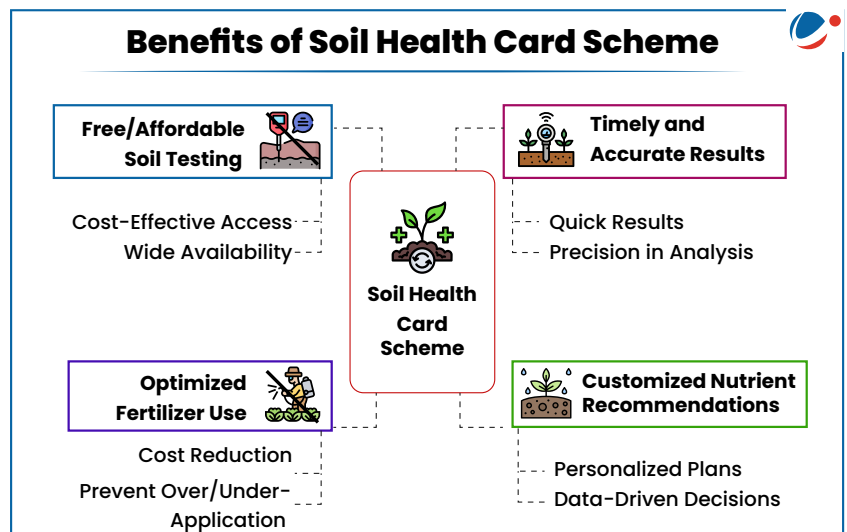
About SHCS:

- **Ministry:** Ministry of Agriculture and Farmers Welfare
- **Objective:**
 - ⊕ To issue soil health cards every two years to all farmers.
 - ⊕ To develop and promote soil test based nutrient management for enhancing nutrient use efficiency.
- **Features of Scheme:**
 - ⊕ **Soil Health Cards:** Provides information to farmers on **nutrient status of their soil** along with recommendations on **appropriate dosage of nutrients** to be applied for improving soil health.
 - ◆ Card contains status of soil with respect to 12 parameters, namely **N,P,K, S (Macro-nutrients); Zn, Fe, Cu, Mn, Bo (Micro-nutrients) ; and pH (Acidity or Basicity), EC (Electrical Conductivity) and OC (Organic Carbon).**
 - ⊕ Setting up of **Village level Soil Testing Labs** and **Soil Health Card Portal** to facilitate generation of SHCs in a uniform and standardized format.
 - **Implementation:** By Department of Agriculture of all the State /UTs

Key-achievements of SHCS

- **24.74 crore** Soil Health Cards (SHC) generated.
- **Number of SHC issued** to farmers increased from 16 lakh (2020-21) to 53 lakh(2024-25).
- **Soil and Land Use Survey of India** generated **1,987 village-level soil fertility maps** for 21 States and Union Territories.

Benefits of Soil Health Card Scheme



Three rare Kalyana Chalukya-Era Kannada inscriptions discovered in Telangana

The inscriptions are dated 1129 CE, 1130 CE, and 1132 CE during the reign of Emperor **Someswara-III Bhulokamalla**deva of the Kalyana Chalukya dynasty.

- **The first inscription** details the construction of the **Bijjeswara temple** and donations made by a local village chief.
- The **second and third** inscriptions record donations made to the temple.

About Kalyana Chalukya (or Later/western Chalukyas)

- Later Chalukyas are considered descendants of the **Chalukyas of Badami**. **Taila II** was the first king. He defeated **Rajaraja Chola** in 992 A.D
- They ruled the Deccan region from 973-1180 AD. Kalyan (Bidar district in Karnataka) was their capital.

Art and Culture

➤ Architecture

- ⊕ **Major Temples:** **Kasi Vishveshvara** at Lakkundi, **Mallikarjuna** at Kuruvatii, **Kalleshwara temple** at Bagali and **Mahádeva** at Itagi.
- ⊕ **Stepped wells:** Kalyana Chalukya also known for ornate **stepped wells (Pushkarni)** which functioned as **ritual bathing places**. e.g., **Manikesvara Temple** in Lakkundi.

➤ Literature:

- ⊕ **Sanskrit and Kannada literature** flourished during this period.
- ⊕ The literary luminaries of Kannada during this period were **Pampa, Ranna, Durgasimha, Nagavarma** etc.

➤ Religion:

- ⊕ **Various sects of Saivism**, which were prevalent during this period such as **Pashupata, Lakulisa & Kalamukha**.
- ⊕ The period also marked the advent of a new **social & religious movement** under the leadership of **Basavanna**.

The Supreme Court (SC) Issues Directions on Remission

In the **Re Policy Strategy for Grant of Bail** case, the SC issued directions regarding the power of appropriate Government to remit the whole/a part of sentence of convicts.

- **Section 432 of the CrPC & Section 473 of BNSS (Bharatiya Nagarik Suraksha Sanhita)** deal with the **remission powers of the appropriate government."**

Key Directions:

- **Obligation to Consider Eligible Convicts:** States/UT which has a **remission policy** is obliged to **consider eligible cases** for remission even **without the convict applying for it**.
 - ⊕ **States/UTs without a remission policy** are directed to formulate **within 2 months**.
- **Conditions for Remission:** Must be **reasonable, specific, & feasible**, considering nature of crime & public safety.
- **Revocation of Remission:** Requires **recorded reasons** for such decisions & an **opportunity for convict to respond**.

About Remission

- **Definition:** Remission refers to the **reduction or mitigation of a sentence** imposed on a person convicted of a crime without changing nature of the sentence.
- **Constitutional Provisions:**
 - ⊕ **Article 72 of Indian constitution** grants the **President** the power to grant **pardons, reprieves, respites, or remissions** of punishment, & to suspend or commute sentences.
 - ⊕ **Article 161** provides similar powers to the **Governor** for offenses under state laws.

Related Supreme Court Judgements

- **Mafabhai Motibhai Sagar Case (2024):** Order granting permanent remission cannot be withdrawn/cancelled without giving an opportunity of being heard to convict.
- **Mahender Singh Case (2007):** Convicts **do not have a fundamental right to remission** but they do have a legal entitlement to be considered for it.
- **Kehar Singh Case (1988):** Prisoners **cannot be denied chance for sentence remission**, as doing so would violate **rehabilitation principles**.

Also In News



Organization of the Petroleum Exporting Countries (OPEC)

Recently, Brazil approved entry into **OPEC+**.

About OPEC

- It is a **permanent intergovernmental organization** of **12 oil-exporting developing nations**.
 - ⊕ **India is not a member**.
- **Genesis:** It was created at the **Baghdad Conference in 1960**, by **Iran, Iraq, Kuwait, Saudi Arabia and Venezuela**.
- **Objective:** To co-ordinate and **unify petroleum policies** among Member Countries, in order to secure **fair and stable prices** for petroleum producers.
- **HQ:** Vienna (Austria)
- **OPEC+**
 - ⊕ In response to falling oil prices driven by significant increase in U.S. shale oil output, **OPEC signed an agreement** with 10 other oil-producing countries in 2016 to create **OPEC+**.



PLI Scheme for National Programme on Advanced Chemistry Cell (ACC) Battery Storage

Ministry of Heavy Industries signed an Agreement with Reliance New Energy Battery Limited under Production Linked Incentive (PLI) Scheme for ACC.

- ACC refers to **new generation advanced storage** technologies with much higher energy densities (both volumetric and gravimetric) than conventional ones
- **About Advanced Chemistry Cell (ACC) Scheme**
 - **Launch:** Approved by the Union Cabinet in 2021.
 - **Objective:** Enhance India's manufacturing capabilities of ACC by setting up of Giga scale ACC and battery manufacturing facilities in India with emphasis on maximum domestic value addition.
 - **Target:** Beneficiary firm has to ensure achieving a domestic value addition of at-least 25% and raise it to 60% within 5 Years
 - ⊕ While also making the mandatory investment of Rupee 225 crore /GWh for committed capacity within 2 Years.

Port of Call

Indian Naval Sailing Vessel (INSV) Tarini entered Port Stanley-the port of call as a part of Navika Sagar Parikrama II.

- Located on East Falkland, Port Stanley is the capital of the Falkland Islands.

About Port of Call

- It is an intermediate port where ships customarily stop for supplies, repairs, or transshipment of cargo.
- Ex- Aden, Honolulu and Singapore, etc.

Agricultural and Processed Food Products Export Development Authority (APEDA)

APEDA organized participation of Indian exporters at BIOFACH 2025 held in Germany.

- BIOFACH is world's leading trade fair for organic food.

About APEDA

- **Ministry:** Apex body for agricultural export promotion in India under Ministry of Commerce and Industry
- **Statutory body:** Established under Agricultural and Processed Food Products Export Development Authority Act, 1985.
- **Functions:**
 - ⊕ Development of industries relating to the scheduled products for export by way of providing financial assistance.
 - ⊕ Carrying out inspection of meat and meat products in slaughter houses, processing plants, storage premises.
 - ⊕ Functions as Secretariat to National Accreditation Board (NAB) for implementation of accreditation of Certification Bodies under National Programme for Organic Production (NPOP) for organic exports.

Distributed Denial-of-Service (DDoS)

Distributed Denial-of-Service (DDoS) has attacked Karnataka's Kaveri 2.0 portal.

About DDoS Attack

- It is an attempt to overload a website or network, with the aim of degrading its performance or even making it completely inaccessible.
- These are part of the broader category, denial-of-service attacks (DoS attacks), which includes all cyberattacks that slow or stop applications or network services.
 - ⊕ DDoS attacks are unique in that they send attack traffic from multiple sources at once.
- DDoS attackers often leverage the use of a botnet (a group of hijacked internet-connected devices).

United Nations Human Settlements Programme (UN-Habitat)

C40 Cities & UN-Habitat have announced a landmark partnership to transform urban planning.

- It will launch an Urban Planning Accelerator to cut city emissions by 25% by 2050 while promoting safer, fairer, & inclusive urban spaces.

About UN Habitat

- **Launch:** 1978
- **Mission:** To promote socially & environmentally sustainable towns and cities, ensuring adequate shelter for all.
- **Role:** Through initiatives like New Urban Agenda, it seeks to make cities inclusive, safe, resilient, & sustainable.

About C40

- C40 is a global network of nearly 100 mayors of world's leading cities that are united in action to confront climate crisis.

Solar Coronal Holes

A new study estimates the physical parameters of thermal & magnetic field structures of solar coronal holes.

About Solar Coronal Holes:

- Coronal holes appear as dark areas in the solar corona in extreme ultraviolet (EUV) & soft x-ray solar images.
- They appear dark because they are cooler, less dense regions than the surrounding plasma.
- These are regions of open, unipolar magnetic fields allowing high-speed solar wind to escape into space.
- Coronal holes can develop at any time and location on the Sun.

Bacterial cellulose

A study published in Science Advances reveals Bacterial Cellulose acts as a 'Band-Aid' for Plant healing.

About Bacterial Cellulose

- It is a natural polymer produced by certain types of bacteria.
- It has a unique structure with high purity, strength, and water-holding capacity.
- **Application:** Medicine (Wound dressing etc.), food (Packaging, Preservation etc.), cosmetics, agriculture etc.

About Cellulose:

- Cellulose is the most abundant extracellular structural polysaccharide in plants and most abundant biomolecule in the biosphere.
 - ⊕ Humans cannot digest cellulose due to absence of enzyme cellulase. Cattle and termites can digest cellulose through symbiotic microorganisms in their gut that secrete cellulase.

Place in News



Republic of Costa Rica (Capital: San José)

Costa Rica agrees to be transit hub for Indian immigrants deported from US

Political Features

- **Location:** Central American Isthmus
- **Borders:** Nicaragua (North), Panama (Southeast), the Caribbean Sea (North East), and the Pacific Ocean (South West).

Geographical Features

- **Major Mountain ranges:** Cordillera Volcánica (North), Cordillera de Talamanca (South).
- **Highest Point:** Mount Chirripó (12,530 feet)
- **Notable Volcanoes:** Irazú, Poás, Arenal.
- **Climate:** Hot and humid tropical

