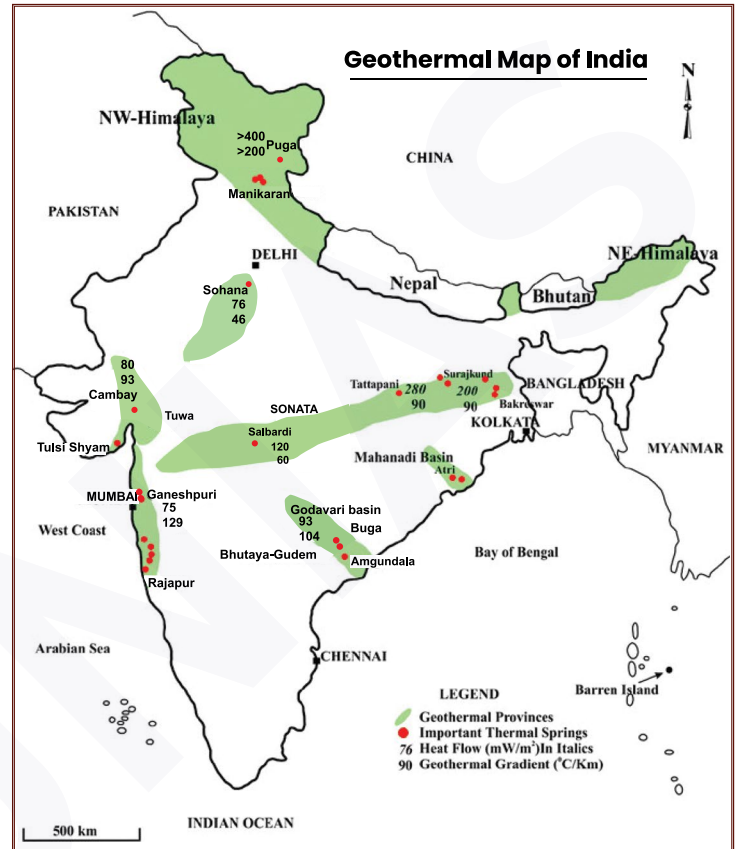


NEWS TODAY

Geothermal Power Potential of 10,600 MW identified in India

Information was given by Minister of New & Renewable Energy in Lok Sabha.

- **Geothermal Energy is renewable heat energy generated and stored in earth.** Geothermal technology extracts this energy/heat for direct heating and cooling, or **convert it into electricity.**
 - ⊕ This internal heat/thermal energy is generated from **radioactive decay and continual heat loss** from earth's formation.
- **Advantages of Geothermal Energy**
 - ⊕ **Clean & inexpensive** renewable energy
 - ⊕ Ability to **operate year-round** at high capacity factors
- **Disadvantages/issues of Geothermal Energy:**
 - ⊕ **Possible land subsidence, high transportation charges** of energy (Due to remote plant location).
 - ⊕ **Possible release of toxic chemicals** e.g. mercury, arsenic, boron, and antimony.
 - ⊕ **Other Issues:** Higher capital costs, techno-economic viability issue due to remote location
- **Steps Taken in India:**
 - ⊕ **Renewable Energy Research & Technology Development Programme (RE-RTD)**
 - ⊕ **100% financial support by MNRE to government/non-profit** research organizations and up to 70% to industry, startups etc.
 - ⊕ **Renewable Energy Technology Action Platform** under US - India Strategic Clean Energy Partnership.
 - ⊕ **Mission on Advanced and High-Impact Research (MAHIR)**



Role of Technology in Disaster Management & Risk Reduction (DMRR)

Recently, advancement in geospatial technology based on AI, Machine Learning and IoT have been widely used in DMRR.

Use of Technologies in DMRR

- **Disaster prediction and early warning systems:** Remote sensing, ML, GIS or drones can be used to collect and process data. AI is used for disaster modeling, usually through deep learning. **E.g. Google Disaster Alerts**
 - **Event simulation:** Objective is to prepare and train people. Key technologies for event simulation are Augmented Reality (AR) and Virtual Reality (VR). **E.g. Mobile Learning Hub Philippines.**
 - **Disaster detection:** Social media platforms as an important source of information and means of communication during disasters. **E.g. Earthquake detection through X**
 - **Search and rescue:** Identify people in critical need through satellite imagery or social media posts. Use of drones for Delivery of Medical Supplies and Aid etc.
 - **Emergency communication:** AI powered chatbots can be powerful tools for **managing and communicating with public during disasters.** **E.g Covid-19 chatbots launched by WHO**
- Steps taken:**

 - **Forecasting of Natural Disasters by ISRO:** E.g. Flood Early Warning System in Assam
 - **INSAT-3D satellite:** Will aid search and rescue needs
 - **GEMINI device:** Developed by INCOIS for disaster warnings to fishermen in ocean.
 - **SATARK web based Platform:** By Odisha State Disaster Mitigation Authority
 - **Connecting Business initiative (CBI):** Joint initiative of UNDP and United Nations Office for the Coordination of Humanitarian Affairs (OCHA)

Challenges in use of Technology: Digital Divide, Biased AI, High implementation costs, & Security breaches.

Bangladesh Prime Minister resigns after 15 years in power

Her resignation came after **weeks of student protests (Demanding removal of a quota system)** were met with violent suppression.

- These protests also **witnessed some anti-India sentiments** due to India's long support for current government and limited interactions with opposition.
- Her resignation has led to **political vacuum and uncertainty in Bangladesh.**

Possible Impact of this uncertainty on India-Bangladesh Relations

- **Economic repercussions:** Current instability may impact existing rail, road, and trans-shipment and other infrastructure projects.
 - ⊕ Can lead to further delay to **pending Free Trade Agreement.**
- **Border Management and illegal Migration:** Possible repercussions on **geostrategic border with North East India.**
 - ⊕ Economic uncertainty, violence & security concerns may result in **illegal migration into India.**
- **Regional Security Concerns:** This political uncertainty may lead to potential disruption to regional security and counterterrorism efforts.
- **Neighbourhood Relations:** With Afghanistan under Taliban and pro-China Maldives, this development adds concerns to India's neighborhood & bilateral relations.
- **China Factor:** unlike current regime, opposition in Bangladesh is largely **pro-Pakistan and pro-China.**

Significance of India- Bangladesh relations:

- **Important trade partners:** Bangladesh is India's biggest trade partner in South Asia (Bilateral trade at USD 14.01 billion (2023-24)).
- **Security and Border Management:** For tackling illicit drug & human trafficking, fake currency etc.
- **Enhanced Connectivity:** E.g. inauguration of **Akhaura-Agartala cross-border rail link**
- **Regional Co-operation:** Through **engagement at multilateral platforms like SAARC, BIMSTEC, BBIN etc.**

Five years of abrogation of Articles 370 and 35(A)

In 2019, The President of India promulgated- '**Constitution (Application to Jammu and Kashmir) Order, 2019**', stating that provisions of the Indian Constitution are applicable in the State.

- **Article 370:** Except for defence, foreign affairs, finance and communications, Parliament needed the state government's concurrence for applying all other laws.
- **Article 35A:** It **stemmed from Article 370** and gave powers to the J&K Assembly to define permanent residents of the state, their special rights, and privileges.
- Last year, the **Supreme Court upheld the government's action** to abrogate Article 370.

Impact of revocation

- **Reduction in Terrorism and Violence**
 - ⊕ **Net Estimated infiltration reduced** from 143 (2018) to 14 (2022).
 - ⊕ **Terrorist Initiated incidents declined** from 228 (2018) to 125 (2022).
 - ⊕ **Security personnel killings declined** from 91 (2018) to 32 (2022).
- **Ending exclusive property rights:** Abrogation enabled Centre to notify new land laws for the J&K.
- **Local Government:** Constitutional status to local government through application of 73rd and 74th Amendments of Constitution to J&K.
 - ⊕ **Record voter turnouts at Block Development Council (98.3%),** in first election after abrogation.
- **No separate symbols/laws:** J&K no longer has its own flag, constitution, and its own penal code (called the Ranbir Penal Code).



Oilfields (Regulation and Development) Amendment Bill, 2024 introduced in Rajya Sabha

It seeks to amend the **Oilfields (Regulation and Development) Act, 1948**.

- Originally, **oilfields, mines and minerals** were regulated together through the **Mines and Minerals (Regulation and Development) Act, 1948**.
- In **1957, the Mines and Minerals (Development and Regulation) Act** was enacted for development and regulation of mines and minerals.

Key features of the bill

- Broadening the **scope of the expression mineral oils**.
 - ⊕ Mineral oil means any **naturally occurring hydrocarbon**, including crude oil, natural gas, petroleum, condensate, coal bed methane, oil shale, shale gas, etc.
- Introducing the **concept of "petroleum lease"**.
 - ⊕ It means a lease for the purpose of prospecting, exploration, development, production, making merchantable, carrying away or disposing of mineral oils.
- Delinking of **petroleum operations from mining operations**.
- Providing for **efficacious dispute resolution and decriminalizing** the provisions of the Act.

Significance of the Amendment

- Ensuring **Energy access, security and affordability**.
- **Reduce import dependence** by increasing the domestic production of oil and gas.
- **Attract investment in the sector** to infuse capital and technology that promotes ease of doing business, prospects for exploration, etc.
- **Energy Transition** through use of next-generation cleaner fuels.
- **Robust enforcement mechanism** for ensuring compliance.

Union Agriculture minister announced Rs 18,000 cr for 100 export oriented horticulture clusters

These clusters will be set up in the next five years to boost farm income.

About Horticulture Cluster (HC)

- It is defined as a **regional/ geographical concentration** of targeted horticulture crops.
- **Benefits of HC**
 - ⊕ **Reduce harvest and post-harvest losses**, facilitates innovative technologies
 - ⊕ Facilitate stakeholders in the **global value chains**.
 - ⊕ Offers **specialization in production, post-harvest management, marketing and exports**.

Status of horticulture in India

- It contributes about **33% to the agriculture Gross Value Added (GVA)**.
- India ranks **2nd in fruits and vegetable production** in the world after China.
- production in the country in 2022-23 is about **355.48 Million Tonnes**.
- India's share in the **global market is nearly 1% only**.

Challenges: Lack of high-quality seedlings and rootstock, persistent pests, climate change affecting crop productivity and overall financial viability

Steps Taken by the government

- **Mission for Integrated Development of Horticulture (MIDH)** for the holistic growth of the horticulture sector.
- **Coordinated programme on Horticulture Assessment and Management using geoinformatics (CHAMAN)** to develop and firm up scientific methodology for estimation of area and production under horticulture crops.
- **Capital Investment Subsidy Scheme** for construction/ expansion/ modernization of Cold Storages/Storages of Horticulture Products.

Also in News



Methanotrophs

Agharkar Research Institute has described India's first cultures of indigenous methanotrophs named *Methylococcus oryzae*.

- Name '**methane eating cucumbers**' has been given to this novel genus.

About Methanotrophs (Methane-utilizing bacteria)

- These bacteria **oxidize methane** and build up their biomass.
- **Habitat:** Wetlands, rice fields, ponds and other water bodies
- **Biofiltering:** These bacteria can **oxidize methane produced** in anaerobic environments.
 - ⊕ When oxygen is present in soils, **atmospheric methane** is also oxidized.
 - ⊕ These bacteria are **natural methane mitigating agents**.
- **Significance:** Tackling Global Warming by reducing methane concentration in soil & atmosphere.



Zinc Air Batteries

CSIR has developed a form of durable Zinc air battery for energy solutions in remote sub-zero conditions.

Zinc Air Batteries

- Type of metal-air battery that consists of a **zinc negative electrode** and an **air (oxygen) positive electrode**.
- **CSIR developed Zinc air Battery:**
 - ⊕ It has been developed by **combining an efficient durable cathode catalyst and an anti-freezing electrolyte** fabricated for zinc-air batteries.
 - ⊕ It used **CoFe/Fe₃C alloy/carbide hybrid structure** which enhances durability and efficacy in both liquid and solid-state zinc-air batteries.
 - ⊕ **Benefits:**
 - ◆ Portable, flexible, lightweight and can be **used in extreme cold conditions**.



Astra Mark 1 missiles

Air Force approves production of 200 Astra Mark 1 missile

About Astra Missiles

- It is a **Beyond Visual Range (BVR) class of Air-to-Air Missile (AAM)** system designed to be mounted on fighter aircraft.
 - ⊕ The **ASTRA Mk-I Weapon System integrated with SU-30 Mk-I aircraft** is being inducted into the Indian Air Force (IAF).
- It has range from **80 to 110 km**.
- The missile is designed to engage and destroy highly manoeuvring **supersonic aircraft**.
- It is developed by the **Defence Research and Development Organisation** and manufactured by **Bharat Dynamics Limited**.



Mudra Loans

The Finance Minister held that the non-performing assets (NPA) associated with Mudra loans have come down to **3.4% (2023-24)** from **4.77% (2020-21)**.

Mudra (Micro Units Development & Refinance Agency) Loans

- Given by **Commercial Banks, RRBs, Small Finance Banks, MFIs and NBFCs** to the **non-corporate, non-farm small/micro enterprises**.
- Given under the **Pradhan Mantri MUDRA Yojana (PMMY), 2015**.
 - ⊕ **PMMY aims to bring small entrepreneurs within the formal financial system.**
- Classified into **three categories: Shishu, Kishor, Tarun**.
 - ⊕ In Budget 2024, the **limit of MUDRA loans** has been increased from **Rs 10 lakh to Rs 20 lakh** for those who have successfully repaid loans taken under tarun.



Front Running

SEBI notifies norms for mutual funds for preventing fraudulent transactions and front running.

Front Running

- Refers to **usage of non-public information** to directly or indirectly buy or sell securities, or enters into options or futures contracts, **in advance of a substantial order**. (Securities and Exchange Board of India (SEBI))
- It **undermines confidence in the financial markets and creates an uneven playing field** for other investors.
- It is **illegal** in India.



Demand for Grants

Lok Sabha recently passed **outstanding Demands for Grants** from Union Budget 2024-25

About Demand for Grants:

- Form in which **estimates of expenditure from Consolidated fund** included in budget are presented to Lok Sabha.
 - ⊕ DFGs are submitted in pursuance of **Article 113** of Constitution.
- **Article 113 (iii)** says No demand for a grant shall be made except on the **recommendation of the President**.
- Once DFGs are approved (with or without modifications), they become part of the **Appropriation Bill**.
- Bill once passed, **allows government to withdraw funds** from **Consolidated Fund of India** to meet its expenses and liability.



PARIVESH Portal

Centre's PARIVESH portal crosses 50,000 clearances milestone

About Parivesh Portal

- Parivesh stands for **Pro Active and Responsive Facilitation** by **Interactive and Virtuous Environmental Single-window Hub**.
- Developed by Ministry of Environment, Forest and Climate Change through **NIC**.
- **Objective:** Acts as a **single window portal** for Environment, Forest, Wildlife and Coastal Regulation Zone (CRZ) clearances and **monitor their subsequent compliance** across nation.



World Craft City (WCC)

Recognition of Srinagar as **World Craft City (WCC)** by the World Crafts Council has provided opportunities to the craftsmen to enhance their skills and roots.

- Srinagar is **one of four WCC in India** (others being Jaipur, Mamallapuram, and Mysore), and among 60 around the globe.

WCC

- Launched in **2014** by **World Crafts Council- International**.
- Establishes a **dynamic network** of craft cities across the globe, aligning with the principles of creative economy.
- Recognizes the **role of local authorities, craftspeople, and communities** in cultural, economic, and social development worldwide.

Personality in news



Siddhu Murmu

Recently, Sidhu Murmu and his brother Kanhu Murmu were remembered on their death anniversary.

About Sidhu Murmu

- Sidhu Murmu along with Kanhu Murmu were **Santhal (A tribe) leaders**.
- **Contribution**
 - ⊕ **Santhal Revolt (1855-56):** Considered as **first peasant movement**, was led by Sidhu and Kanhu along with Chand and Bairab
 - ◆ Revolt was aimed to get rid of oppressive '**Dikus**' (**Outsiders viz. Britishers, Money lenders**).
 - ⊕ **Santhal Parganas Tenancy Act (1876):** Passed after the revolt made transfer of land from **Santhals to outsiders illegal**.
- **Achievement:**
 - ⊕ **Hul Diwas (30th June)** is celebrated in Jharkhand to remember the sacrifice of Sidhu-Kanhu.
- **Values:** Courage, Bravery, Heroism etc.

