

World Health Organisation (WHO) releases the Global Tuberculosis (TB) Report 2025

The report highlights TB to among top 10 causes of death worldwide and leading cause of death from a **single infectious agent**.

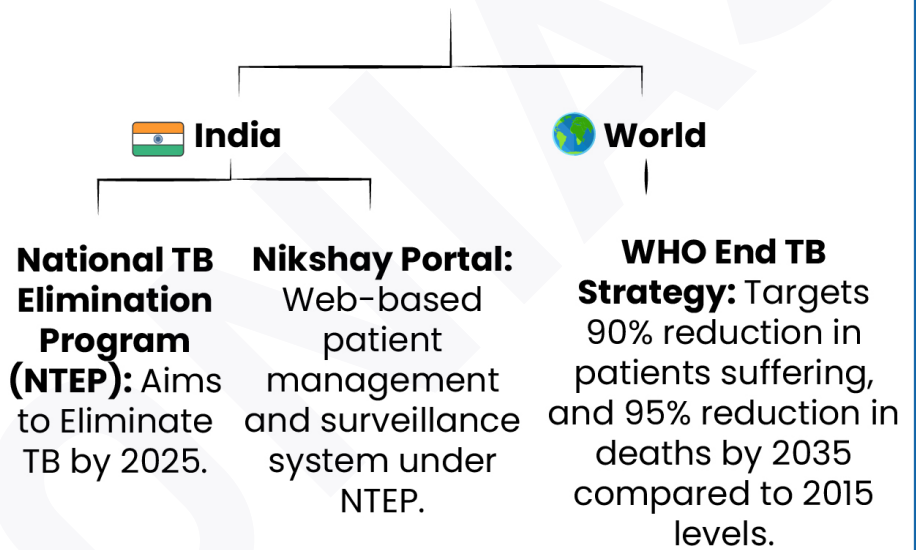
Other Key Findings

- ▶ **TB Burden:** In 2024, 87% of world's TB patients were concentrated in 30 countries, with the highest rates found in **India (25%)**.
- ▶ **Global TB Incidence Rate:** Net **reduction of 12%** from 2015-2024.
- ▶ **Global TB Deaths:** Net **reduction of 29%** from 2015-2024.
- ▶ **Multidrug-resistant TB (MDR-TB):** Remained a public health crisis and a health security threat.

About Tuberculosis (TB)

- ▶ It is a **contagious airborne disease** caused by a **bacterium called Mycobacterium tuberculosis**. It is **preventable and curable**.
- ▶ **Two Types:**
 - ⊕ **Pulmonary TB:** Most common form **affecting the lungs**, and is contagious spreading through **airborne droplets** through coughing or sneezing.
 - ⊕ **Extrapulmonary TB:** Occurs **outside the lungs**, affecting organs like lymph nodes, bones, brain, kidneys, or the pleura, less contagious and spreads within the body from lungs.
- ▶ **Treatment:** Treated with special antibiotics, most common being **rifampicin; isoniazid; pyrazinamide; and ethambutol**.
- ▶ **MDR-TB:** Form of TB that do not respond to rifampicin and isoniazid, the two most effective first-line TB drugs.

Key Initiatives taken to End Tuberculosis



Department of Agriculture and Farmers Welfare released the Draft Seeds Bill, 2025

Proposed Legislation seeks to replace the **Seeds Act, 1966** and **Seeds (Control) Order, 1983** aiming to ensure quality seeds, protect farmers' rights and promote ease of doing business.

Key Highlights of the Bill

- ▶ **Mandatory Registration:** No seed, except farmers' variety and the one produced exclusively for export purpose, shall be sold unless registered.
- ▶ **Regulation of the sale of seeds:** Seed varieties to conform to **Indian Minimum Seed Certification Standards**.
- ▶ **Central Seed Committee:** Constituted by the Central Government with its Headquarters in **New Delhi**.
 - ⊕ It shall offer advice on matters relating **seed programming, planning, seed development, production, storage, processing, export and imports, etc.**
- ▶ **State Seed Committees:** To be constituted by State Government consisting of Chairman and not more than 15 members appointed or nominated by State Government.
- ▶ **Registration Sub-Committees:** To recommend kind or variety of seeds for registration after scrutinising their claims.
- ▶ **National Register on Seed Varieties:** It is a **register of all Kinds or Varieties of seed** kept under the **control and management** of the Registrar.
- ▶ **Establishment of Central and State Seed Testing Laboratories:** Equipped with Seed Analysts and Inspectors.
- ▶ **Offences and Punishment:** Proposes stringent penal provisions with offences in three categories, namely, trivial, minor and major, with major offences carrying a maximum penalty of Rs. 30 lakh with imprisonment.



The Land Gap Report 2025 highlights reliance of governments' climate pledges on Land-Based Carbon Removal (LBCR)

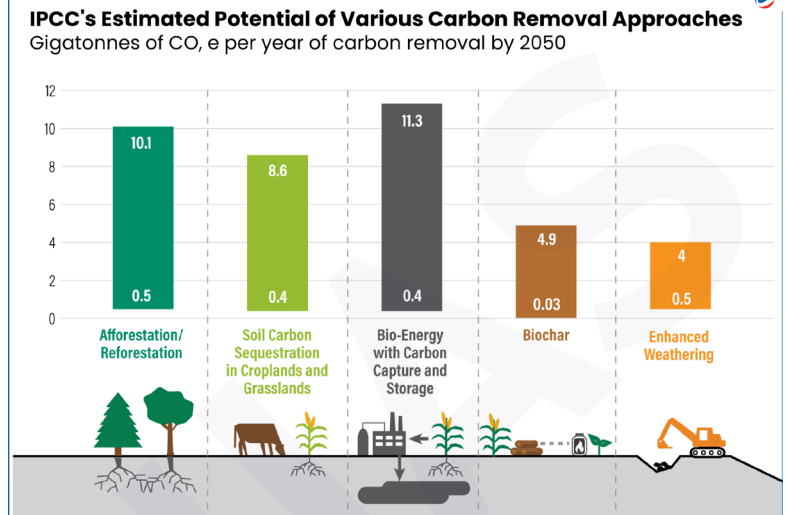
Present government climate pledges propose using approximately 1.01 billion ha of land for Land Based Carbon Removal.

About Land Based Carbon Removal (LBCR)

LBCR refers to strategies that use terrestrial ecosystems primarily forests, soils, wetlands, and agricultural landscapes to absorb and store carbon dioxide from the atmosphere.

Methods of LBCR

- **Reforestation and Afforestation:** According to the IPCC, reforestation and afforestation can **mitigate 0.5–10.1 gigatonnes of CO₂ per year**.
- **Soil Carbon Sequestration:** It refers to the process of capturing atmospheric CO₂ and storing it in soils in the form of soil organic carbon (SOC).
- **Bioenergy with Carbon Capture and Storage (BECCS):** In BECCS, energy crops like silvergrass are grown, which are burned as fuel for bioenergy, and the resulting CO₂ emissions are captured and stored underground.
- **Geologic Carbon Sequestration:** Captured CO₂ either from direct air capture or biogenic sources is injected deep underground into porous rock formations for long-term storage.
- **Biochar:** Burning biomass in an oxygen-limited environment producing more stable form of carbon, which can then be applied to soils – adding nutrients and increasing soil's carbon stocks.
- **Enhanced Weathering:** Accelerating the natural reaction between carbon dioxide and reactive sources, such as certain types of rocks, to increase carbon uptake.



Other Key Highlights of Land Gap Report

- **Land Gap:** Climate pledges rely excessively on LBCR requiring 1 billion ha of land.
 - ⊕ Land conversion at this scale would displace food production, threaten biodiversity, and disrupt livelihoods, leading to severe social and ecological trade-offs.
- **Forest Gap:** Difference between commitments to halt and reverse deforestation and forest degradation by 2030 – amounting to loss or degradation of around 20 million ha forest each year by 2030.

India highlighted that climate finance is a key barrier to climate ambitions

India issued statements on behalf of the BASIC (Brazil, South Africa, India and China) and the Like-Minded Developing Countries (LMDC) group at the UNFCCC CoP30, in Belém, Brazil and highlighted the importance of climate finance.

Key Highlights of India's Stand

India called for:

- **Definition:** A clear and universally agreed **definition of climate finance**;
- **Adaptation Finance:** Strengthened and **scaled-up public finance flows for adaptation**;
 - ⊕ **Adaptation Financing** needs to exceed nearly fifteen times current flows.
 - ⊕ Strong outcome on **Global Goal on Adaptation (GGA)**, introduced by Article 7 of 2015 Paris Agreement for enhancing adaptive capacity, strengthening resilience and reducing climate vulnerability.
- **Article 9.1:** Implementation of Article 9.1 of the Paris Agreement, reaffirming the **legal obligation of developed countries** to provide financial resources to assist developing countries in both mitigation and adaptation.
- **Climate Technology:** Strong outcome on the **Technology Implementation Programme** (outcome of first global stocktake of Paris Agreement), emphasizing that intellectual property and market barriers must not hinder technology transfer to developing nations.
- **Narrowing Development Gap between Global North and South:** **UNFCCC Just Transitions Work Programme** must result in action-oriented institutional arrangements, ensuring that equitable and inclusive climate transitions across economies.

Internationally Agreed Climate Finance Targets

- **Baku to Belem Roadmap to 1.3T:** At COP29, Parties agreed to the **New Collective Quantified Goal (NCQG)**, including a goal to mobilise at least \$300 billion per year by 2035 for developing countries.
 - ⊕ A broader goal was also set to reach at least **\$1.3 trillion in total** external finance per year by 2035.
- **Glassgow Climate Pact:** Commits developed nations to providing \$40bn in adaptation funding for developing nations by 2025.

Study offers a promising new method to repair spinal fractures using Stem Cells

As per the Study, stem cells extracted from **adipose tissue** (known as body fat) can help heal osteoporosis-related fractures seen in humans.

➤ **Osteoporosis** is a disease which makes bones weak and fragile.

About Stem Cells

➤ **Meaning:** They are **unspecialized cells** that can **self-renew indefinitely** and can also **differentiate into more mature cells** with **specialized functions**.

⊕ In humans, they have been identified in **inner cell mass of the early embryo**; in some tissues of **foetus, umbilical cord, placenta**; and in **several adult organs**.

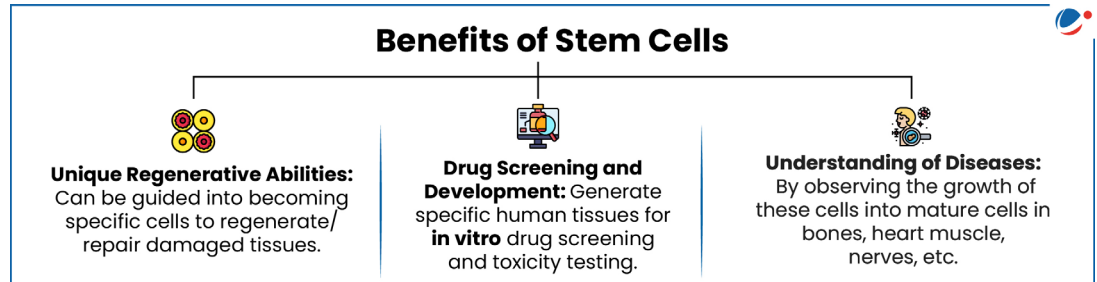
➤ **Key Types:** **Pluripotent** stem cells (embryonic stem cells and induced pluripotent stem cells) and **Nonembryonic/Somatic/Adult stem cells**.

⊕ **Pluripotent stem cells:**
Ability to differentiate into all cells of the adult body.

◆ **Embryonic Stem Cells (ESCs):** Found in the embryo (3- 5 days post fertilization and prior to implantation) containing an inner cell mass capable of generating to all the specialized tissues of human body.

◆ **Induced Pluripotent Stem Cells (iPSCs):** Created through the introduction of embryonic genes into a **somatic cell** (For E.g. Skin Cell) causing it to revert back to a "stem cell like" state.

⊕ **Adult Stem Cells (ASCs):** **Undifferentiated** cells found in tissue or organ and can differentiate to **yield the specialized cell types of that tissue or organ**. Key Types Include: Neural Stem Cells; Skin Stem Cells, etc.



Also In News



Anti-Defection Law

Recently Calcutta High Court **disqualified** an **MLA under Anti-Defection Law**.

About Anti Defection Law

➤ Inserted by **52nd Amendment Act, 1985** as **Tenth Schedule** to prevent political defections.

➤ **Grounds for Disqualification of Members:**

- ⊕ **Voluntarily giving up party membership.**
- ⊕ **Voting or abstaining from voting** contrary to party directions.
- ⊕ **Elected Member:** On joining any political party.
- ⊕ **Nominated Member:** On **joining a political party** after the expiry of six months.

➤ **Exception:**

⊕ **Merger:** If $\geq 2/3$ of party legislators agree to merge with another party.

➤ **Role of Speaker/Chairman:** Their Decision on questions of disqualification is final.

➤ **Judicial Review Over Speaker's Decisions:** Courts should have the authority to intervene if Speaker delays action. (**Kihoto Hollohan v. Zachillhu (1992)**).



Climate and Health Funders Coalition (CHFC)

The CHFC has committed an initial **\$300 million for integrated action** to tackle **climate change and its consequences on health**.

About CHFC

➤ It brings together **institutional and individual funders operating at international, national and regional levels to improve health and save lives**.

➤ **The committed funders currently include:** Bloomberg Philanthropies, Gates Foundation, etc.

➤ **Immediate focus:** Extreme heat, Air pollution, Climate sensitive infectious diseases, Critical climate and health data for decision makers.



Mudh-Nyoma Airbase

India has operationalised Mudh-Nyoma airbase in Ladakh, enhancing its defence preparedness along the **Line of Actual Control** with China.

About Mudh-Nyoma Airbase

➤ **Location:** Eastern Ladakh.

⊕ **Situated at a height of nearly 13,000 feet and very close to the Line of Actual Control (LAC).**

➤ **Importance:** Directly overlooks critical approaches including **Depsang Plains, Pangong Tso sector, and Chushul Valley**.

➤ **Built by:** Border Roads Organisation (BRO).

➤ **Fourth major airbase in Ladakh:** Complementing Leh, Kargil and Thoise.



Global Carbon Budget 2025

In 2025, India's emissions grew slower to 1.4%, due to monsoon cooling, and a growth in renewable energy, as per **Global Carbon Budget 2025 report**.

➤ The report is published by **Global Carbon Project**.

Key Highlights of Report

➤ **India is the third largest emitter** of carbon at 3.2 billion tonnes annually (2024), led by the U. S. (4.9 billion tonnes) and China (12 billion tonnes).

➤ **In per person terms**, it is 2.2 tonnes of carbon dioxide per year, the second lowest of 20 of the largest economies globally.

➤ **Coal is the major fuel type** contributing to India's emissions.





Declaration on Information Integrity on Climate Change

Global Initiative for Information Integrity on Climate Change launched the Declaration on Information Integrity on Climate Change at COP30.

- Announced at G20 Leaders Summit in 2024, the initiative is a dedicated **multilateral collaboration** among States and international organizations to **fund research and action promoting information integrity** on climate issues.
- It has also launched a Global Fund for Information Integrity on Climate Change.

About Declaration

- **The Declaration** recognises that Climate misinformation has become a climate crisis.
 - ⊕ **Climate misinformation** refers to false, misleading, or deceptive content about climate change, its causes, impacts, or solutions.
- It **commits governments to protect climate science** and ensure transparent public communication.



Atlantic Meridional Overturning Circulation (AMOC)

Iceland has declared the potential collapse of AMOC as a national security threat.

About AMOC

- AMOC is a **system of ocean currents** that circulates water within the Atlantic Ocean, bringing warm water north and cold water south.
- It is powered by the **differences in water temperature and salinity** and **distributes heat and nutrients** throughout the world's ocean basins.
- Its **weakening and collapse** can lead to:
 - ⊕ Cool Europe and change precipitation patterns in parts of Europe, South America, and Africa.
 - ⊕ Affect the timing of the Indian monsoon.
 - ⊕ Tropical rain belt to shift southward, resulting in droughts over the African Sahel.



Hepatitis A

Hepatitis A has been a **growing cause of acute liver failure in India.**
About Hepatitis A

- It is an **inflammation of the liver** that can cause mild to severe illness.
- **Transmitted through:** Ingestion of **contaminated food and water** or **through direct sexual contact** with an infectious person.
- **Recovery:** Almost everyone recovers **fully from hepatitis A with a lifelong immunity.**
 - ⊕ However, a very **small proportion of people infected with hepatitis A** could die from fulminant hepatitis.
- Unlike hepatitis B and C, **hepatitis A does not cause chronic liver disease.**
- **Vaccine is available for Hepatitis A and B** but is not available for hepatitis C.



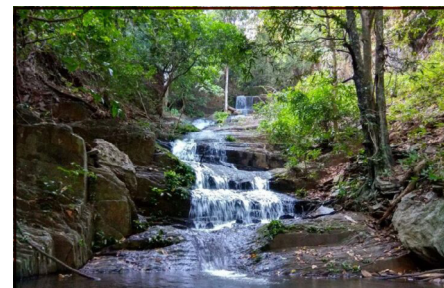
Saranda forest

Supreme Court directed the Jharkhand government to **notify Saranda Forest as wildlife sanctuary and conservation reserve.**

- It also prohibited any mining activity within a one-km radius of its boundary.

About Saranda Forest

- Saranda, known as the "land of seven hundred hills," is a lush Sal forest in Jharkhand.
- It is a **part of Chhotanagpur bio-geographic zone** and the landscape merges with forests of Odisha and Chhattisgarh.
- **Tribes:** Ho, Munda, Uraon, Santhal etc.
- **Chief rivers** draining the area include Karo, Koina, Lailor etc.
- Important for **movement of Central Indian elephant population** and is home to **unique orchids.**
- **Ligarda swamp** hosts rare vegetation, palms, wild bananas, ferns, and Piper species.



Place in News



Iran (Capital: Tehrān)

Iran is facing the **worst drought in around six decades**, with major dams in the country at critically low levels.

Political Features

- **Land Boundaries:** Armenia, Azerbaijan, and Turkmenistan (North); Afghanistan and Pakistan (East); Iraq and Turkey (West).
- **Water Boundaries:** Caspian Sea (North), Persian Gulf and Gulf of Oman (South).

Geographical Features

- **Major Mountains:** Zagros, Elbrus, etc.
- **Highest point:** Mt. Damavand.
- **Rivers/Water Bodies:** Kārūn, Sefid, etc.
 - ⊕ **Lake Urmia**, an endorheic salt lake, is the largest lake in Middle East.



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



JAIPUR



JODHPUR



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI