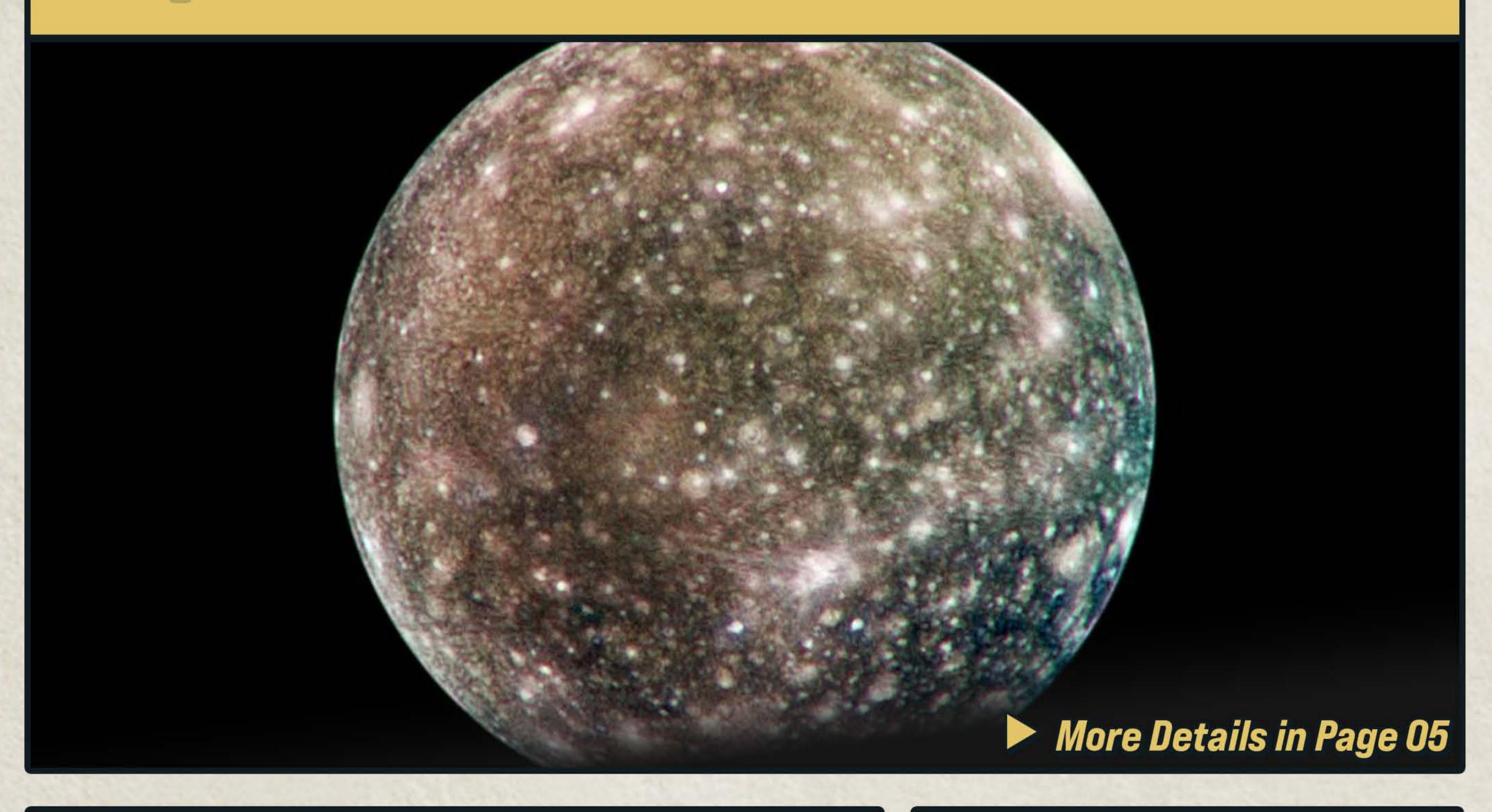
## CHECK PARTIES

April 01-06, 2024

## Evidence of Ozone (03) found on Jupiter's moon Callisto





### HIGHLIGHTS

- WADA
- National
   Maritime Day
- InternationalYear ofMillets







### MHA extends NGO registration validity under FCRA until June 30

#### Why in News?

- Ministry of Home Affairs (MHA) extends FCRA registration validity for NGOs.
- Validity extended for NGOs with pending renewal applications expiring before June 30.

#### Key Provisions of FCRA:

- Registration: NGOs must register with MHA to receive foreign donations, valid for 5 years with renewal option.
- Registrations granted to entities with specific cultural, economic, educational, religious, and social programs.
- Prohibited Recipients: Certain individuals like election candidates, newspaper editors, judges, and government servants are barred from receiving foreign donations.
- Utilization of Funds: Donations must be used for intended purposes as per FCRA regulations.
- Reporting: NGOs must file annual returns and cannot transfer funds to other organizations.



#### Significance of FCRA:

Regulates foreign donations to safeguard internal security.

Facilitates streamlined process for NGOs to receive foreign funds.

Ensures donations are received from legitimate sources and used for lawful purposes.



# FAO hosts closing ceremony for International Year of Millets (IYM)

#### Why in News?

- FAO hosts closing ceremony for International Year of Millets (IYM).
- Event underscores millets' role in achieving sustainable development goals and its recognition as a 'Global Superfood'.
- India proposed the year 2023 as IYM to the United Nations.

#### About FAO

Genesis: Established in 1945

Hedquarters: Rome, Italy

Role: Specialized agency of the United Nations leading global efforts to combat hunger

Members: 195, including 194 countries (Including India) and the European Union

#### Reports Released by FAO

- The Impact of Disasters on Agriculture and Food Security
- State of Food and Agriculture (SOFA) Report 2023



#### About Millets

- Group of highly nutritious grains, drought-tolerant, primarily cultivated in arid and semi-arid regions of India
- Also known as "coarse cereals" or "cereals of the poor"
- Nutritionally superior to wheat and rice
- India, Niger, and China are the largest producers
- Significance:

Adaptive to various ecological conditions

Low Glycemic Index (GI), aiding in diabetes prevention

Rich in minerals like iron, zinc, and calcium; gluten-free

#### India's Initiatives to Promote Millets:

Implementation of the Production Linked Incentive Scheme for Food Processing Industry for Millet-based products (PLISMBP) by the Ministry of Food Processing Industries.

Inclusion of millets under the **Poshan Abhiyan** of the **Ministry of Women and Child Development**.

Establishment of an **Export Promotion Forum** dedicated to **promoting millets in the international market**.



## Evidence of Ozone (03) found on Jupiter's moon Callisto

#### Why in News?

Scientists discovered evidence of Ozone (O3) on Jupiter's moon Callisto while investigating the chemical evolution of Sulphur dioxide (SO2) with Ultraviolet (UV) irradiation.

#### About Ozone (03) and its Significance

- Ozone is composed of three oxygen atoms and is an unstable compound that can be easily formed and broken down.
- In the **Stratosphere** (around 15-35 km above ground), the O3 layer acts as an invisible shield, protecting from harmful UV radiation from the Sun.
  - UV rays can damage DNA, trigger mutations, and cause skin cancer and cataracts in humans.
  - UV light also inhibits plant growth and has detrimental effects on various organisms.
- However, Ozone found near the surface of the Earth is considered a pollutant with negative effects on humans, plants, and animals.

#### About Callisto

- Callisto, Jupiter's second-largest moon, was discovered by Galileo Galilei.
- It is the third-largest moon in the solar system. Jupiter has 95 officially recognized moons, with Ganymede being the largest.
- Callisto is the most heavily cratered object in our solar system.and Belagavi division



## Arunachal Pradesh (AP) firmly integrated with India: External Affairs Minister

#### Why in News?

China renamed 30 places in Arunachal Pradesh, calling it 'South Tibet'.

India responds firmly, affirming Arunachal Pradesh's integral status within India.

#### India-China Border Disputes

- Line of Actual Control (LAC) serves as the boundary between India and China, but it lacks formal demarcation.
- India views the LAC as 3,488 km long, while China estimates it to be around 2,000 km.

#### LAC Sectors:

1. Western Sector (Ladakh):

India recognizes the Johnson Line (1865) as the border, while China asserts the McDonald Line (1899) as accurate.

2. Middle Sector (Himachal Pradesh and Uttarakhand):

Predominantly undisputed area.

#### 3. Eastern Sector (Arunachal Pradesh and Sikkim):

China lays claim to Arunachal Pradesh, considering it part of the Tibetan Autonomous Region.

LAC alignment in this region follows the **McMahon** Line established during the **Shimla Convention of 1914.** 



#### Key Dispute Resolution Initiatives:

- 1993 Agreement on Maintenance of Peace and Tranquility along the LAC.
- 1996 Agreement on Confidence-Building Measures in the Military Field Along the LAC.
- 2013 Border Defense Cooperation Agreement.



# India's coal and lignite production reaches record high in FY 2023-24

#### Why in News?

Union Minister of Coal reports significant growth in coal and lignite production, attributing it to favorable government support.

#### Significance of the Achievement:

- Boosts energy security.
- Saves India's foreign exchange reserves.
- Aims to replace coal imports for power generation by 2025-26.

#### Current Status of Coal Sector in India:

- India ranks 5th in coal reserves and 2nd in coal consumption globally.
- Coal India Limited (CIL) remains the largest producer, accounting for over 70% of coal production.
- lmport of coal stood at 217.75 million tonnes in FY 2023-24, dominated by non-coking coal.



#### Challenges Faced by the Coal Sector:

- Unseasonal and prolonged rainfall in coal-rich regions.
- Non-payment of dues by power sector consumers.
- Labor and industrial relations issues.
- Challenges related to land acquisition and environmental concerns.
- Lower coal quality with high ash and sulfur content.
- Technological obsolescence leading to productivity issues and safety hazards.

#### Key Reforms in the Coal Sector:

- Coal Mines Special Provisions Act, 2015: Ensures transparent auction processes.
- Mines and Minerals (Development and Regulation) Amendment Act, 2021: Allows for composite Prospecting Licence-cum-Mining Lease (PL-cum-ML).
- Ending captive mining regime: Facilitates commercial mining and sale of excess production.
- Single Window Clearances: Streamlines operationalization of coal mines.



# Taiwan hit by 7.4 magnitude earthquake, largest in 25 years

#### Why in News?

Taiwan struck by 7.4 magnitude earthquake, the most significant in 25 years.

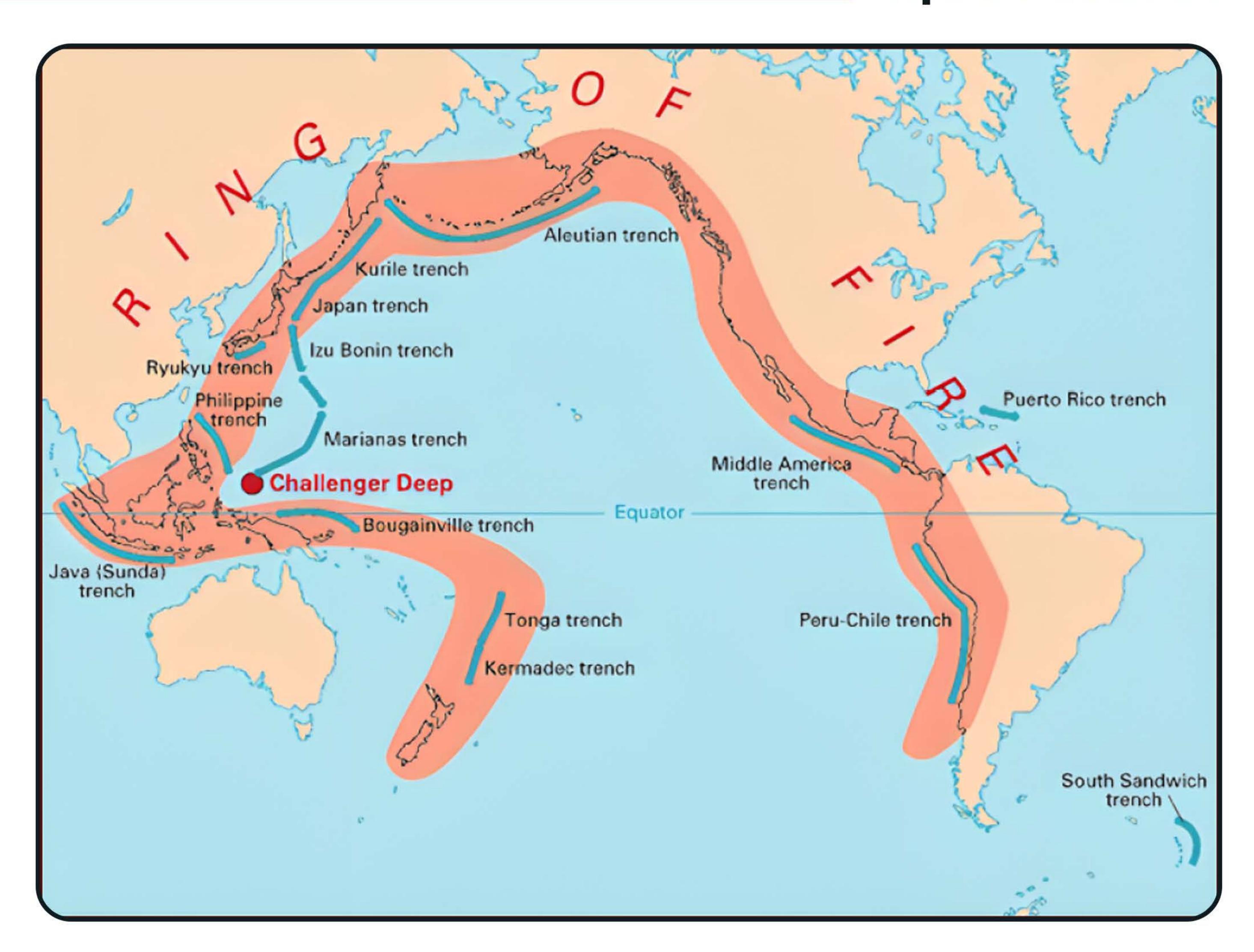
#### Details of the Earthquake

- The quake resulted from **reverse faulting** near the boundary between the **Eurasia and Philippine Sea plates**.
- Reverse faulting occurs due to compressional forces, causing a split between two sections of rock in Earth's crust.

#### Taiwan's Seismic Vulnerability

- Taiwan is prone to earthquakes due to its location along the Pacific "Ring of Fire" or Circum-Pacific Belt.
- The Ring of Fire is a **horseshoe-shaped area** of volcanoes and seismic activity around the Pacific Ocean.
- Roughly 90% of all earthquakes and 75% of active volcanoes on Earth occur along the Ring of Fire.
- It is the result of **plate tectonics**, marking the meeting points of various tectonic plates, including the **Pacific, Juan de Fuca, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates**.
- Much volcanic activity occurs along subduction zones, where **one plate is subducted under another,** producing magma that erupts as a volcano.
- A portion of the Ring of Fire, particularly the border between the **Pacific and North American Plates,** is a **transform boundary** where plates move **sideways** past one another, leading to numerous earthquakes as tension in Earth's crust builds up and is released.

### Apr 01-06 2024



## IMD warns of more tornadoes in northern Bengal

#### Why in News?

Increased occurrences of tornadoes across India have been observed in recent years.

#### Details about Tornadoes

- Tornadoes are land-based vertical columns of violently rotating air that extend from thunderstorms to the ground.
- They can have wind speeds ranging from 105 to 322 km/hr.
- Tornadoes typically develop from severe thunderstorms in warm, moist, and unstable air along and ahead of cold fronts.
- Thunderstorms are severe local storms associated with thunder, lightning, heavy rain, hail, and strong winds.

#### Global Distribution of Tornadoes

Tornadoes are most common in the United States, Argentina, and Bangladesh.



#### Tornadoes in India

- In India, tornadoes are reported primarily in the eastern states of West Bengal, Odisha, and Jharkhand during the pre-monsoon period.
- Factors such as a warming Bay of Bengal, heated land, and unusual wind patterns could contribute to their formation.

#### India's Tropical Cyclones

India is also known for the formation of tropical cyclones, which are another type of severe weather phenomenon.

Parameters	Tropical Cyclones	Tornadoes
Size and Scale	Can extend over hundreds of miles, affecting vast areas	Typically only a few hundred yards in diameter
Wind Shear	Require minimal values of tropospheric vertical shear	Require significant vertical shear of horizontal winds
Temperature Gradient	Generated in regions with near-zero horizontal temperature gradient	Produced in areas with large temperature gradients
Area of Formation	Primarily observed as an oceanic phenomenon	Mainly formed over land
Time-Scale	Typically last for several days	Typically last only for a few minutes
Impact	Cause heavy rainfall, storm surges, and widespread flooding	Result in localized destruction



## Report on Minimizing Power Costs and Achieving Net-Zero Emissions

#### Why in News?

- "Synchronizing energy transitions toward possible Net Zero for India: Affordable and clean energy for All" Report.
- The report, launched by the Office of the Principal Scientific Adviser to the Government of India, comprehensively studies methods for minimizing the cost of power at the consumer end and aims to work out an optimum mix for all sources of power, targeting net-zero emissions.

#### Key Highlights of the Report

- Coal is projected to remain the backbone of the Indian energy system for the next two decades.
- Achieving net-zero emissions by 2070 requires substantial nuclear power and renewable energy (RE) generation.
- Refurbishing, recycling, and mineral recovery will be crucial for meeting future mineral demands.
- **Exploration of carbon dioxide technologies,** including bioenergy with carbon capture and storage, and carbon capture, utilization, and sequestration (CCUS), is necessary.



#### Key Recommendations

- Conduct life cycle assessments of alternate energy systems and link incentives to the net mitigation provided by them.
- Invest in the **development of renewable and battery technologies** based on domestically available mineral resources, such as vanadium-based flow batteries for stationary applications and EV charging infrastructure.
- Implement regulatory changes to reflect hydrogen blending limits into natural gas networks.
- Establish **uranium storage facilities** to ensure resilience to disruptions in nuclear power supply.

#### India's Net-Zero Target

- India committed to reaching net zero emissions by 2070 at COP 26 in 2021.
- Indian Railways targets net zero carbon emissions by 2030.



# CAR-T cell therapy for cancer launched by the President

#### Collaboration for CAR-T Cell Therapy

Developed through collaboration between the Indian Institute of Technology, Bombay, Tata Memorial Hospital, and ImmunoACT.

#### About CAR-T Cell Therapy

Description: Modifies immune cells, specifically T-cells, into potent cancer fighters known as CAR-T cells.

#### Process:

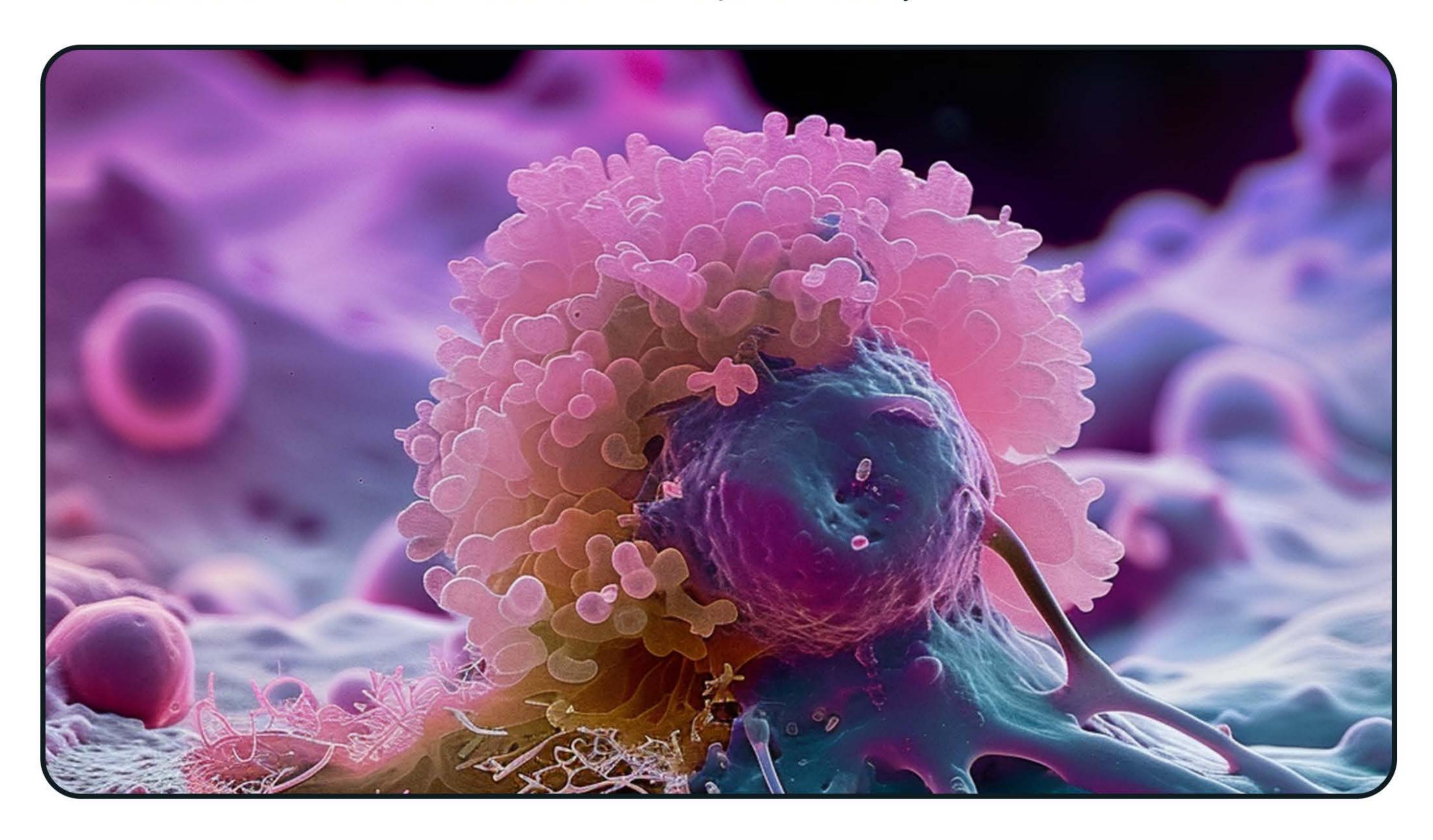
T-cells extracted from patient blood.

Lab modification involves adding a gene for a man-made receptor called CAR.

CARs help T-cells recognize and attach to specific proteins on cancer cells.

#### Application:

Modified CAR-T cells reintroduced into the patient's body.

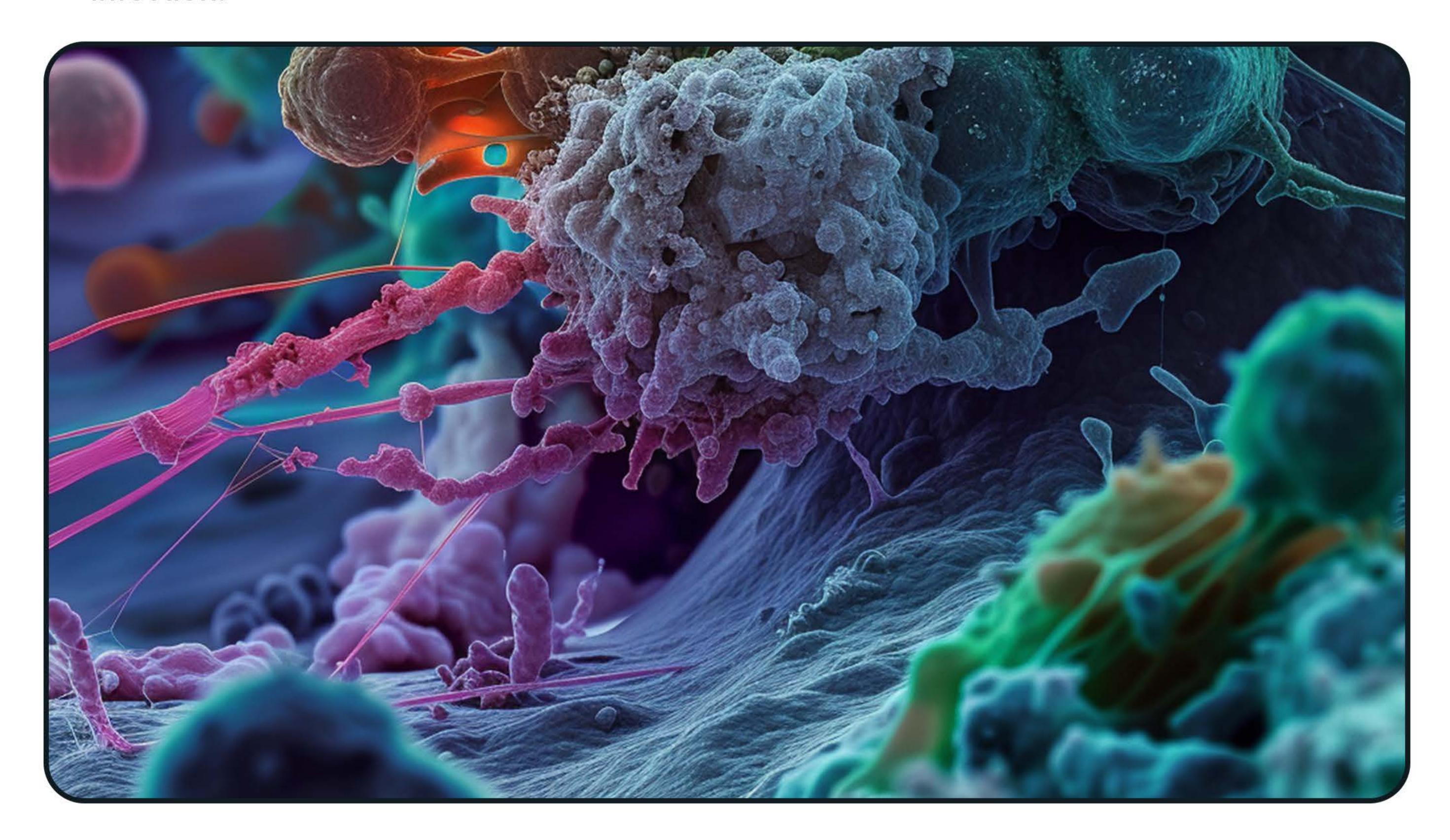


#### Benefits of CAR-T Cell Therapy

- Extended Treatment: Can treat cancer for a prolonged period.
- Potential Cure: Has the potential to completely cure specific cancers.
- Short Treatment Time: Requires shorter treatment duration and leads to rapid recovery.

#### Challenges of CAR-T Cell Therapy

- Treatment specific: Therapy for one cancer type may not work for another.
- Side Effects: Can have adverse effects on the nervous system and increase the risk of infection.



### Glacial Lake Outburst Floods (GLOFs)

#### Uttarakhand's Response to Glacial Lake Hazards - Why in News?

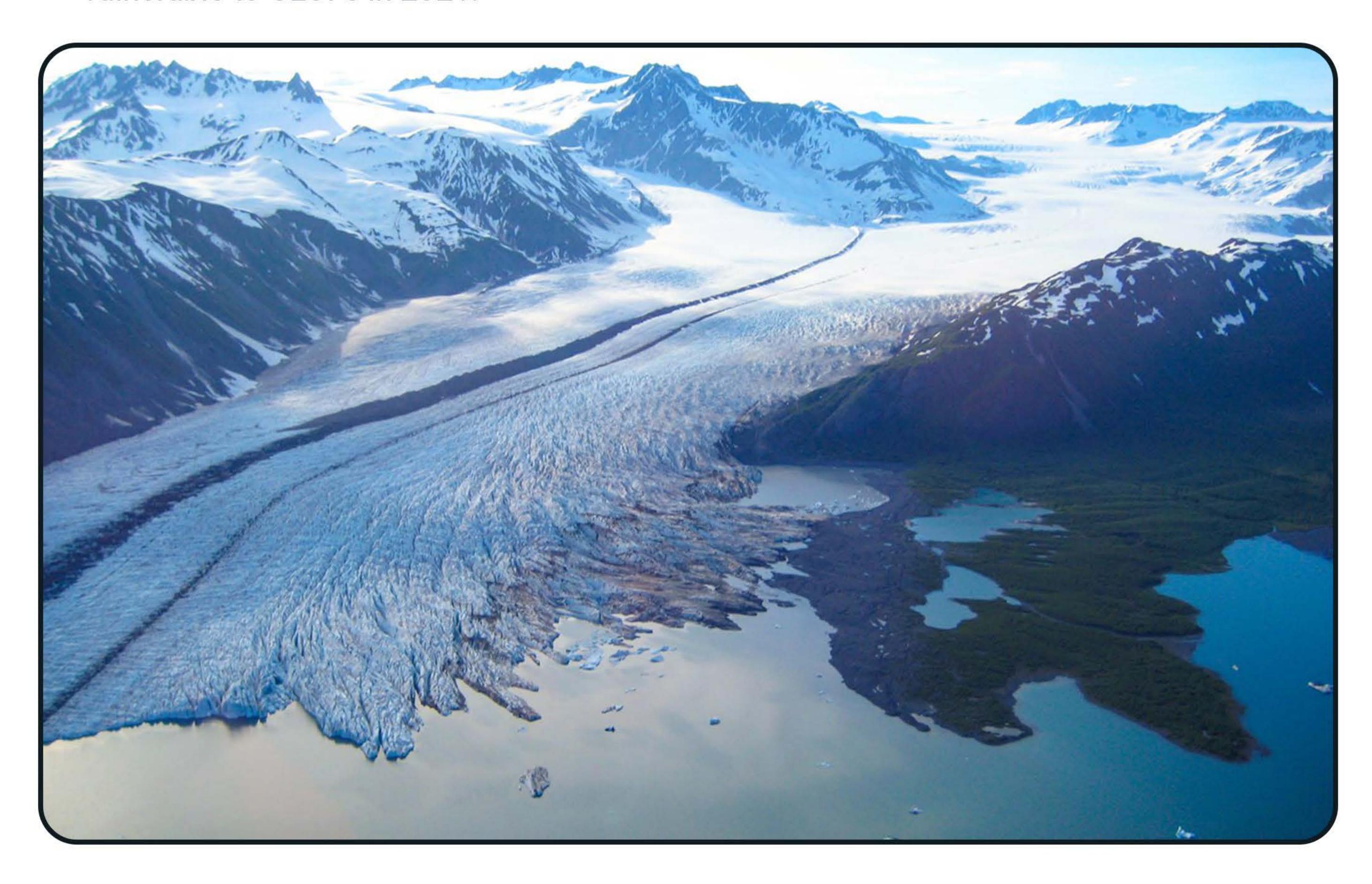
State Government of Uttarakhand forms two expert teams to assess the risk posed by five potentially hazardous glacial lakes in the region.

#### Understanding GLOFs (Glacial Lake Outburst Floods)

- Definition: Sudden release of water from glacial lakes, often triggered by various factors.
- Example: GLOF in Sikkim (Oct 2023) caused by the bursting of South Lhonak Lake.
- Recognition: GLOFs are identified as potential climatological disasters in India's National Disaster Management Plan (NDMP) 2019.

#### GLOF Vulnerability in India

- Affected Regions: Himalayan states and Union Territories, including Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, and Sikkim.
- Findings: Geological Survey of India identified 13 out of 486 glacial lakes in Uttarakhand as vulnerable to GLOFs in 2021.

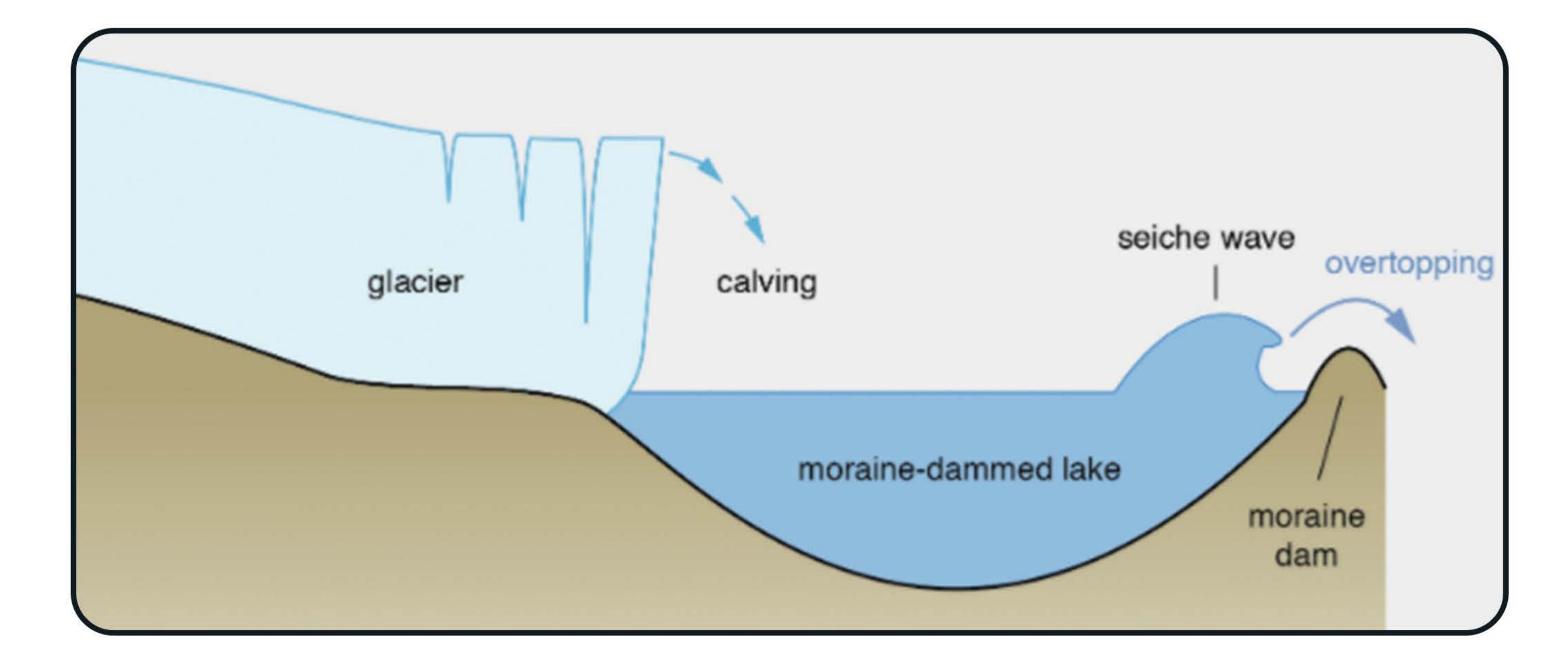


#### Causes of GLOFs

- Geological Factors: Earthquakes, breaches in moraine dams, etc.
- Morphological Factors: Mass movements into glacial lakes, water seepage through glacial structures, etc.
- Physical Factors: Excessive precipitation, cryoseism (non-tectonic seismic events in the glacial cryosphere), etc.
- Anthropogenic Factors: Climate change, global warming, etc.

#### Strategies for GLOF Risk Management

- Hazard Zonation and Mapping: Identifying and mapping high-risk areas.
- Remote Sensing and GIS Technology: Monitoring glacial lakes using advanced technologies.
- Regulations: Imposing restrictions on construction activities in hazard-prone zones.



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## UNHRC adopted first Resolution of its kind for Intersex Rights

#### Resolution on Intersex Rights at UNHRC - Why in News?

Adoption of a resolution at the 55th Session of the United Nations Human Rights Council (UNHRC) addressing discrimination and violence against intersex individuals.

#### Key Points of the Resolution

- Combat Discrimination: Urges states to combat discrimination, violence, and harmful practices against individuals with innate variations in sex characteristics.
- Address Root Causes: Calls for addressing the root causes of discrimination and violence, promoting the highest attainable standard of physical and mental health for intersex individuals.

#### Understanding Intersex Individuals

- Definition: Individuals born with sex characteristics that do not conform to typical binary notions of male or female bodies.
- Gender Identity and Sexual Orientation: May have any gender identity or sexual orientation, distinct from their biological characteristics.
- Prevalence: Estimates suggest up to 1.7% of the population are born with intersex traits.
- Different from Transgenders: Intersex individuals differ from transgender individuals, who have unambiguous sexual characteristics but may identify with a gender different from their biological sex.



#### Challenges Faced by Intersex People

- Human Rights Violations: Subjected to human rights violations due to their physical characteristics.
- Stereotypes and Pathologization: Society has created harmful stereotypes and pathologization towards intersex individuals.
- lssues Faced: Including infanticide, coercive medical interventions, discrimination, and legal recognition challenges.

#### **About UNHRC**

- Establishment: Established in 2006 by the General Assembly, replacing the United Nations Commission on Human Rights.
- Mandate: Main intergovernmental body within the United Nations for promoting and protecting human rights.
- Functions: Reviews human rights records of all UN Member States, authorizes commissions of inquiry, and conducts fact-finding missions on war crimes and crimes against humanity.
- Membership: Consists of 47 Member States.



### India has highest failed dope tests: WADA

#### High Rate of Failed Dope Tests in India

- Statistics by WADA: India tops the list of countries with the highest percentage of failed dope tests among those with over 2000 tests conducted.
- Definition of Doping: Doping involves the use of substances or physiological mediators not naturally present in the body to enhance athletes' performance during competition.
- Causes of Doping: Reasons include the spotlight on sports, recovery from injuries, technological advancements, a win-at-all-costs mentality, and lack of awareness about prohibited substances.
- Methods Used: Doping methods encompass manipulation of blood and blood components, chemical and physical manipulation, and gene doping.
- Impact on Sport Ethics:

Undermines fair play and the spirit of sport.

Contradicts values like perseverance and courage.

Alters the nature of sports as an educational and health-promoting activity.

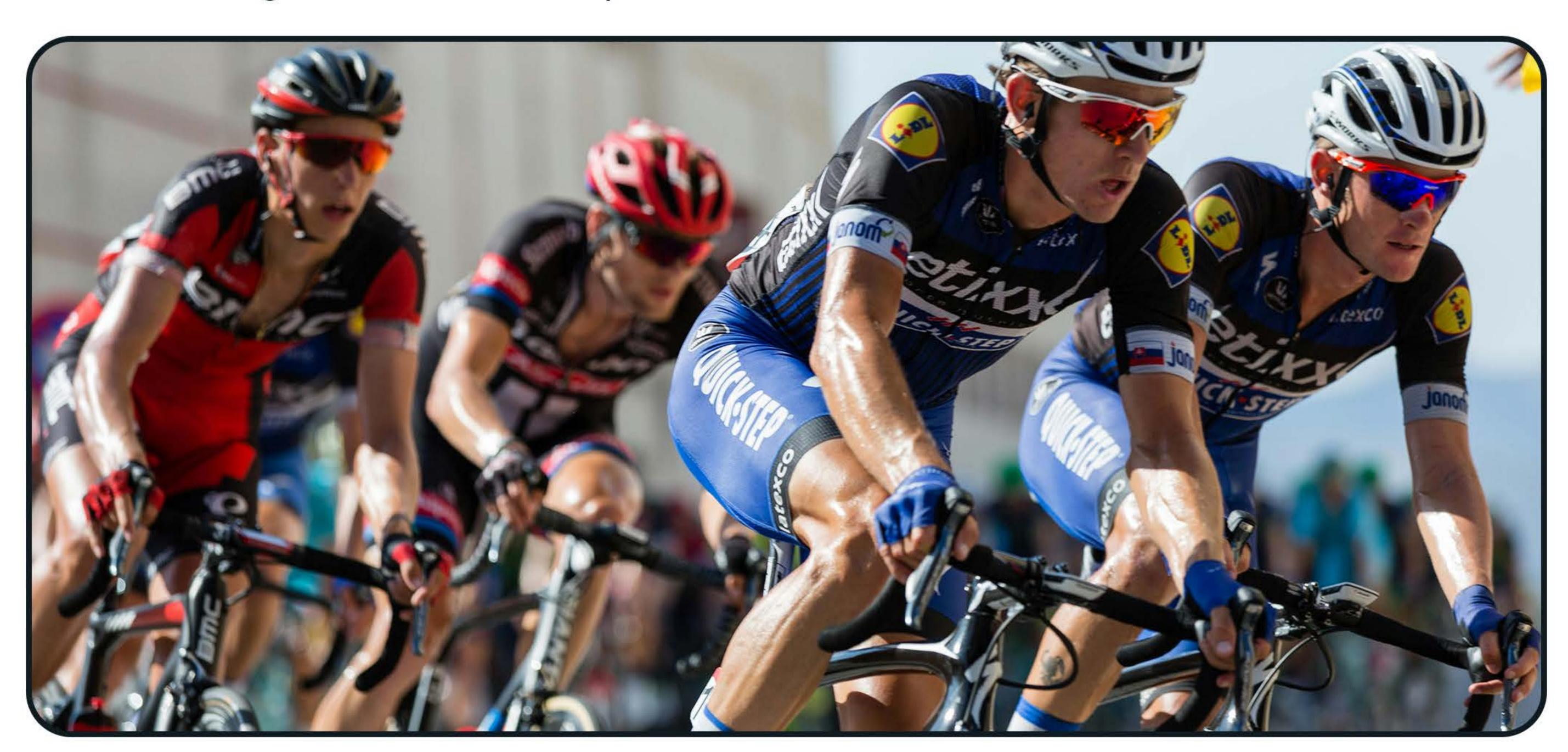
Rewards wrongdoers who engage in doping.

#### **₩** Way Forward:

Implement effective anti-doping programs.

Establish anti-doping helplines for athletes.

Provide regular information on prohibited substances.



#### Anti-doping Agencies

#### World Anti-Doping Agency (WADA):

Established in 1999 to lead towards doping-free sport.

Aims to develop, harmonize, and coordinate anti-doping rules and policies worldwide.

Monitors compliance with the World Anti-Doping Program.

#### National Anti-Doping Agency (NADA):

Established in 2005 as an autonomous organization.

Conducts anti-doping awareness programs in collaboration with the Sports Authority of India and National Sports Federations.



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### One Nation, One Election

#### Why in News?

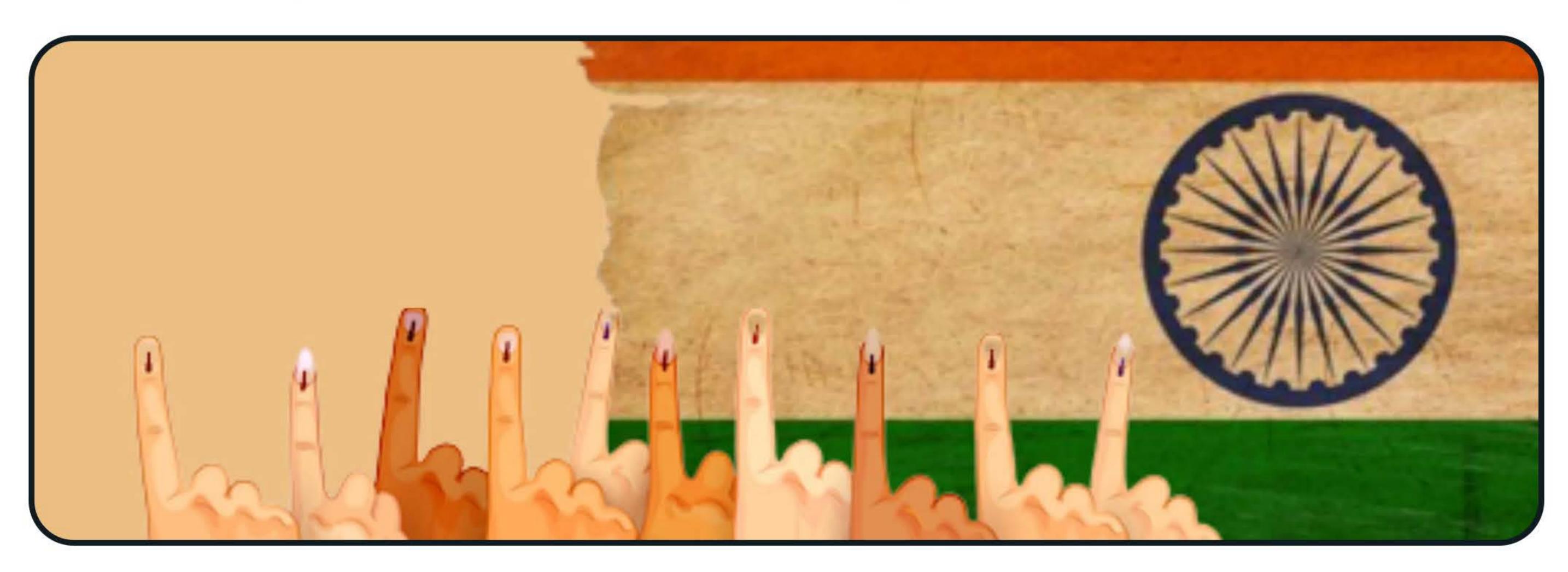
The High-level Committee (HLC) on One Nation, One Election has submitted its report to the Indian government, suggesting that simultaneous elections could fundamentally transform both the electoral process and overall governance.

#### Key recommendations

- Aim to implement simultaneous elections by 2029.
- Two-step constitutional amendment process proposed.
- First step involves synchronizing Lok Sabha and State Assembly elections.
- Second step aims to align elections for municipalities and panchayats.
- Proposal includes inserting Article 324A for single electoral roll and ID.
- Fresh elections in case of a hung house to complete term.
- Rejects Germany model allowing no-confidence motion against government.

#### Benefits of Simultaneous Election

- Reduce significant expenditure associated with annual elections.
- Prevent prolonged imposition of the Model Code of Conduct.
- Minimize disruptions to public life caused by frequent polls.
- Free up crucial manpower for other essential tasks.
- Enable governments to focus more on governance rather than constant election campaigning.
- Reduce disruption to essential services, mitigating policy paralysis.



#### Issues with Simultaneous Election

- One Nation, One Election may undermine federalism, a core constitutional principle.
- Coordinating schedules and resources poses significant logistical challenges for all levels of government.
- Synchronizing elections could overlook regional variations.
- Premature dissolution due to a vote of no-confidence is a concern.
- Practical difficulties may arise for the Election Commission.
- There's a risk of disadvantaging regional parties, potentially favoring dominant national parties or the incumbent at the Center.



### Agni-V Ballistic Missile

#### Why in News?

Under 'Mission Divyastra', DRDO successfully tests an Agni V ballistic missile equipped with Multiple Independently targetable Re-entry Vehicle (MIRV) technology.

#### Integrated Guided Missile Development Programme (IGMDP)

- IGMDP: Ministry of Defence program for missile R&D.
- Started in 1982-83 under Dr. APJ Abdul Kalam.
- Nodal agencies: DRDO and Ordnance Factories Board.

#### 5 missiles developed under IGMDP

- Prithvi: Short-range surface-to-surface ballistic missile
- Trishul: Short-range surface-to-air missile for low-level targets
- Nag: Anti-tank guided missile
- Akash: Medium-range surface-to-air missile
- Agni: Series of surface-to-surface ballistic missiles with varying ranges

#### Agni missiles with their range

- Agni-I: Range of 700-800 km
- Agni-II: Range of 2000 km
- Agni-III: Range of 3000 km
- Agni-IV: Range of 4000 km
- Agni-V: Range of 5000 km; Intercontinental range ballistic missile with three solid fuel stages



### National Maritime Day - 5th April

#### National Maritime Day

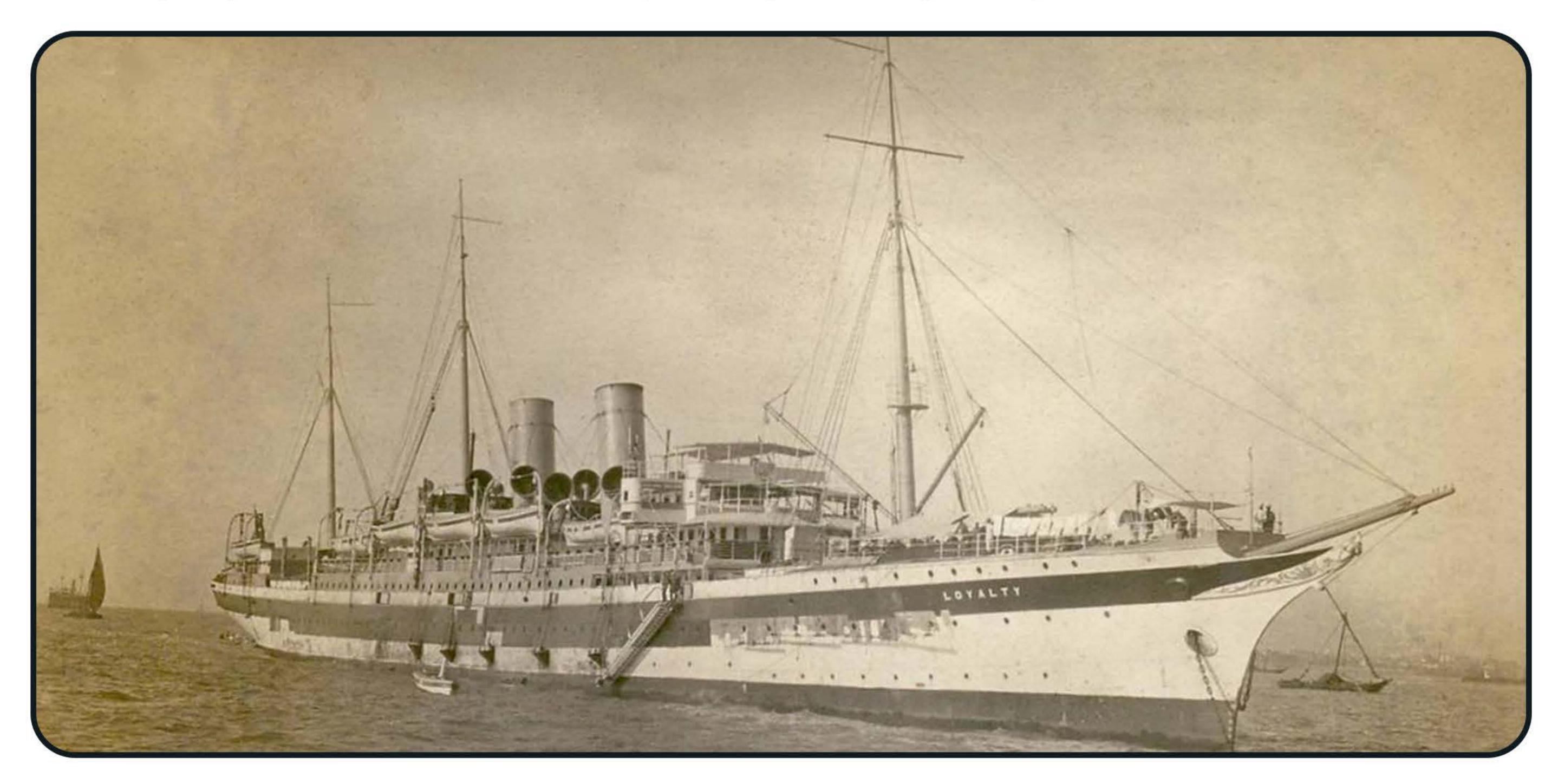
This day is celebrated to honor the departure of the first Indian-owned vessel, "S S Loyalty," on its inaugural journey from Mumbai to London in 1919.

#### Awards

- Varuna Awards are presented on India's National Maritime Day.
- The award includes a statue of Lord Varuna and a Citation.
- The 'NMD Award of Excellence' is also bestowed, comprising a trophy and a citation.
- Another honor, the "Outstanding Contribution to Maritime Education and Training" award, includes a trophy and a citation.

#### Present State of Maritime Transportation in India

- India ranks as the 16th largest maritime country.
- Manages 95% of trade by volume and 68% by value.
- Jawaharlal Nehru Port Trust is the largest major port.
- Mudra is the largest private port.
- India holds over 30% of the global market share in the ship-breaking industry.
- Alang, Gujarat, hosts the world's largest ship-breaking facility.



#### Maritime Domain Challenges

- Security challenges include piracy, maritime terrorism, and smuggling.
- Maritime disputes exist with neighbouring countries.
- Marine ecosystems face pollution, oil spills, and overfishing.
- There is a requirement for modernized ports and maritime infrastructure.
- Skill gaps and training needs are present in the maritime sector.



### Forex Reserves

#### Why in News?

India's foreign exchange reserves surged by USD 10.47 billion to reach USD 636.095 billion for the week ending March 8th.

#### Foreign Exchange Reserves (Forex Reserve)

- Foreign exchange reserves consist of assets like foreign currencies, gold reserves, and treasury bills held by a central bank or monetary authority.
- The Reserve Bank of India (RBI) serves as the custodian of these reserves.
- The composition includes reserves with the International Monetary Fund (IMF) in the Reserve Tranche Position, Special Drawing Rights, gold, and foreign currency assets.

#### Role of the Foreign Exchange Reserve

- Backup funds ensure currency stabilization during rapid devaluation or insolvency.
- Selling dollars in the Indian market mitigates depreciation of the Rupee.
- Sufficient forex reserves bolster the international image by ensuring payment reliability.
- Forex reserves attract foreign trade and foster a positive reputation with trading partners.



## ILO Report: 'Profits and Poverty: The economics of forced labour'

#### Why in News?

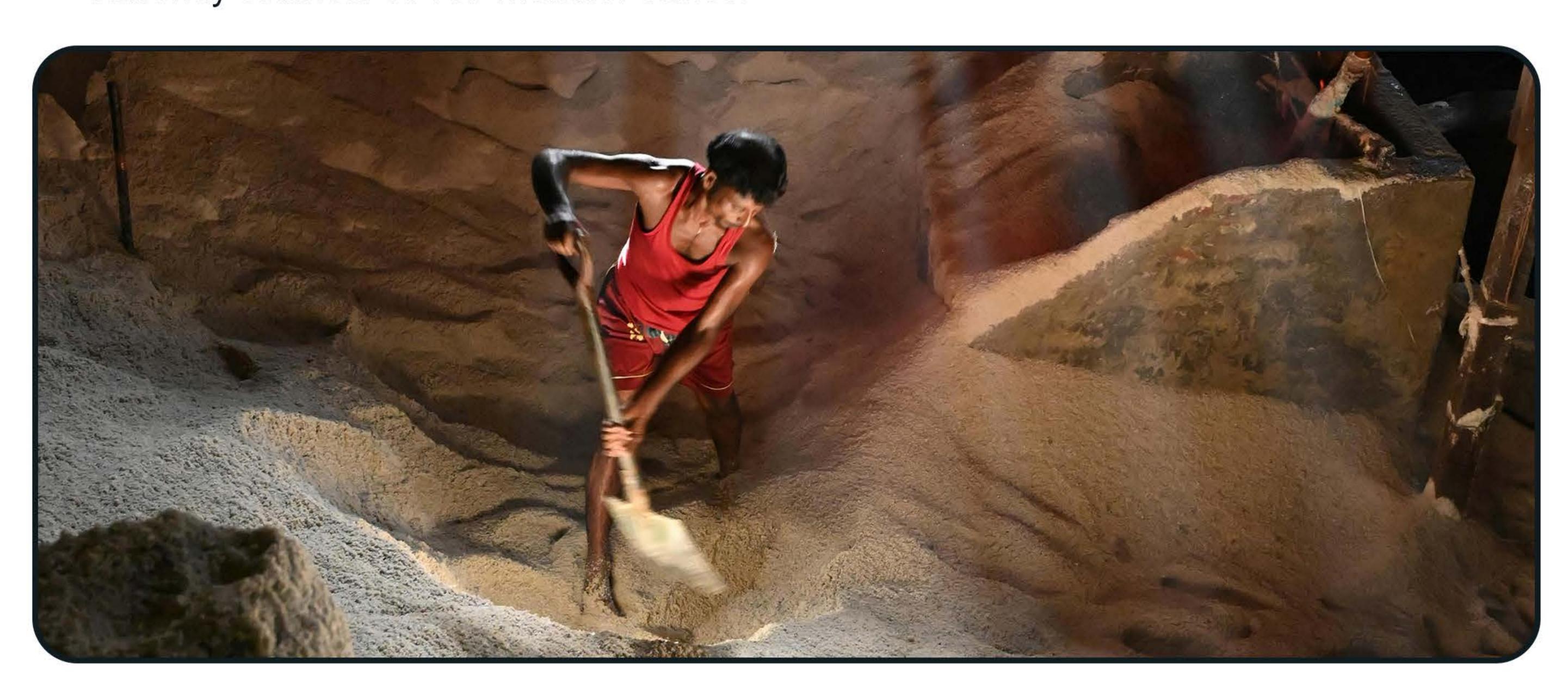
A study released in Geneva by the ILO reveals that forced labor generates illegal profits amounting to \$36 billion annually.

#### Key Findings

- Traffickers and criminals earn nearly \$10,000 per victim, up from \$8,269 a decade ago.
- Forced commercial sexual exploitation generates over two-thirds (73%) of total illegal profits.
- Despite comprising only 27% of victims, it accounts for 73% of illegal profits.
- In 2021, there were 27.6 million people engaged in forced labor worldwide.
- This equates to 3.5 individuals per 1,000 globally.

#### International Labour Organisation

- Established in 1919 under the Treaty of Versailles.
- Became a specialized agency of the United Nations in 1946.
- Headquarters located in Geneva, Switzerland.
- Currently consists of 187 member states.



#### Objectives of ILO

- Promote and uphold standards and fundamental principles and rights at work.
- Expand opportunities for both women and men to secure decent employment and income.
- Improve the coverage and effectiveness of social protection for all individuals.
- Strengthen tripartism and social dialogue initiatives.

#### Core Conventions of the ILO

#### Key international agreements:

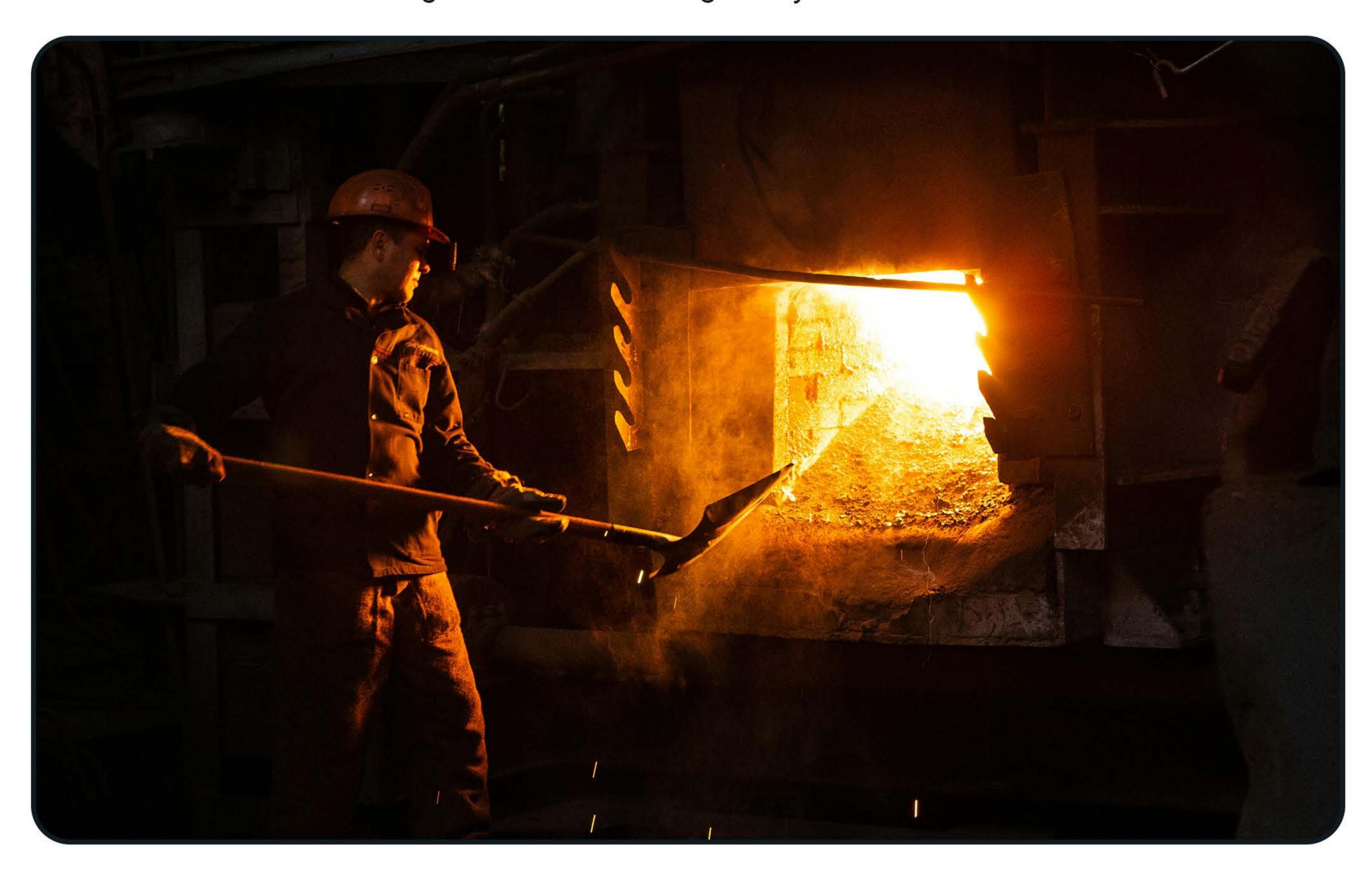
Forced Labour Convention Abolition of Forced Labour Convention Equal Remuneration Convention

#### Also included:

Discrimination (Employment Occupation) Convention Minimum Age Convention Worst Forms of Child Labour Convention

#### Additionally, significant conventions:

Freedom of Association and Protection of Right to Organised Convention Right to Organise and Collective Bargaining Convention Address various labor rights and standards globally.





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