NEXT IAS

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 23-01-2026

Table of Content

INDIA, EU TO INK NEW PACT ON DEFENCE AND SECURITY

Context

- As per a EU's senior diplomat, **India and the European Union** have agreed to **sign a new Security and Defence Partnership** covering maritime security, cybersecurity and counterterrorism.

About

- The partnership **will be signed during the visit** of European Commission President Ursula von der Leyen and European Council President Antonio Costa to India as chief guests at Republic Day celebrations.
- The leaders will **co-chair the 16th India-EU Summit** with Prime Minister Narendra Modi.
- The two sides also plan to conclude a **MoU on a comprehensive mobility framework,** to facilitate the movement of students, seasonal workers, researchers and highly skilled professionals, and promote research and innovation.
- The visit is centred around the **signing of a Free Trade Agreement (FTA),** which is still being finalised.

India-EU Relations

- **Political cooperation:** India-EU relations date to the early **1960s,** and a cooperation agreement signed in **1994** took the bilateral relationship beyond trade and economic cooperation.
  - **The first India-EU Summit, in 2000**, marked a landmark in the evolution of the relationship.
  - At the **5th India-EU Summit at The Hague in 2004**, the relationship was upgraded to a **'Strategic Partnership'.**
- **Economic cooperation:** India's bilateral trade in goods with the **EU was USD 137.41 billion in 2023-24**, making it the largest trading partner of India for goods.
  - **EU is India's largest trading partner** for goods, 17% of India's exports go to the EU and 9% of EU exports come to India.
- **India-EU Free Trade Agreement (FTA) Negotiations:** Its objective is to finalize a comprehensive trade agreement covering goods, services, investments, and geographical indications.
  - The EU and India are working to announce a **'Free Trade' Agreement (FTA)** during the visit of E.U. leaders Republic Day later this month.
- **Other areas of cooperation:**
  - **The India-EU Water Partnership (IEWP),** established in 2016, aims to enhance technological, scientific, and policy frameworks in water management.
  - **In 2020**, there was an **agreement for research and development cooperation** in the peaceful uses of nuclear energy between the **European Atomic Energy Community and the Government of India.**
  - India and the EU established the **Trade and Technology Council (TTC)** in 2023. The TTC is a forum for the two parties to collaborate on trade, technology, and security. The TTC's goals.
- **India's Two Levels of Engagement**
  - **EU as a bloc:** Regular summits, strategic dialogues on trade, tech, security, foreign policy.
  - **Bilateral with major EU members:** Deepening ties with France, Germany, Nordic and Eastern European countries.

Factors Shaping India-Europe Relations:

- **Geopolitical Shifts and Strategic Autonomy:** Return of war in Europe (Russia–Ukraine) and the global erosion of multilateralism.
  - Europe is seeking greater strategic autonomy from the US especially post-Trump era.
  - India aims to maintain a multipolar world order while diversifying its partnerships beyond the US, Russia, and China.
- **US Uncertainty:** The Trump administration's unpredictability regarding European security commitments has forced Europe to seek alternative partnerships and alliances. India, as a stable democracy with proven reliability, becomes strategically valuable.
- **Influence on Global Trade Norms:** Together, India and the EU account for nearly two billion people and over a quarter of global GDP, an economic mass capable of influencing global trade norms if aligned.
- **Trade and Economic Cooperation:** EU is one of India's largest trade and investment partners.
  - India and EU are keen on concluding India–EU Free Trade Agreement (FTA) and Investment Agreement.
  - IMEC (India–Middle East–Europe Corridor) provides opportunities for strategic connectivity and trade.

- **Technology and Digital Sovereignty:** Both have the shared interest in promoting digital technologies as public goods.
  - India can benefit from Europe's strengths in deep tech, semiconductors, and digital manufacturing.
- **Defence and Strategic Cooperation:** Europe is a key arms supplier to India.
  - India seeks joint development, co-production, and technology transfer.
  - Europe is rearming due to the Ukraine war; India is pursuing Atmanirbharta (self-reliance).
- **Indo-Pacific and Maritime Strategy:** Europe increasingly views the Indo-Pacific as a strategic priority.
  - India is working with France, Germany, and others to promote free and open Indo-Pacific.

Challenges in the India - EU Relations

- **India's Stand on Ukraine War:** Europe expects India to be more critical of Russia; India maintains strategic neutrality.
- **EU's Stand on Pakistan and Terrorism:** India expects the EU to hold Pakistan accountable for state-sponsored terrorism.
- **Slow Progress on Trade Agreements:** The India–EU Free Trade Agreement (FTA) negotiations have faced multiple deadlocks.
- **Carbon Border Adjustment Mechanism (CBAM)** imposed by the EU creates additional trade barriers for India.
- **Human Rights and Normative Pressure:** EU often adopts a prescriptive stance on India's internal matters.
  - India views this as interference in domestic affairs, causing diplomatic friction.
- **Regulatory and Standards Barriers:** EU's strict regulations on data privacy, digital taxation, environmental standards, and labour laws are hurdles for Indian exporters and tech firms.
- **Media stereotypes and limited public awareness in Europe with respect to India** hinder people-to-people ties.

Way Ahead

- **Fast-Track Trade and Investment Agreements:** EU and India must conclude the long-pending India–EU Free Trade Agreement and Investment Protection Agreement.
- **Deepen Strategic and Defence Cooperation:** Move beyond buyer-seller relationship to joint development and co-production of defence technologies.
- **Expand Mobility and Education Partnerships:** Finalise a comprehensive mobility agreement for skilled professionals, students, and researchers.
- **Build Resilient Supply Chains:** Diversify away from China by promoting trusted, transparent supply chains.
  - Leverage initiatives like IMEC (India-Middle East-Europe Corridor) for logistics, energy, and trade.
- **Enhance People-to-People and Cultural Ties:** Promote tourism, media engagement, and cultural exchanges to break stereotypes and deepen mutual understanding.

Conclusion

- The EAM's first official visit of 2026 to Europe signals that India has made a **conscious strategic choice** to elevate Europe from a secondary economic and political relationship to a **centerpiece of its foreign policy.**
- The FTA conclusion would create a t**rade corridor with deepened defense, technology, and supply chain integration.**
- The EU and India are **moving closer together** at a time when the rules-based international order is under unprecedented pressure through wars, coercion, and economic fragmentation.

Source: TH

PERIYAR'S CONTRIBUTIONS TO THE ANTI-CASTE STRUGGLE AND VAIKOM SATYAGRAHA

Context

- **Periyar and other reformist leaders** like him played a **pivotal role in the struggle against untouchability.**

About Periyar E. V. Ramasamy

- **Periyar E. V. Ramasamy (1879–1973)** was a social reformer, rationalist thinker, and political activist from **Tamil Nadu,** best known for leading the **Self-Respect Movement** and laying the ideological foundations of **Dravidian politics.**
- He rebelled against **Brahminical dominance and gender and caste inequality** in Tamil Nadu.
- E.V. Ramasamy promoted the principles of **rationalism, self-respect, women's rights and eradication of caste.**

About Vaikom Satyagraha

- **Cause:** The movement was initiated against the **practice of untouchability**.
  - In Vaikom in the **erstwhile Travancore princely State,** members of the lower castes, particularly Dalits, were denied the right to walk on roads leading to the **Vaikom Shiva Temple.**
- **Leadership:** It was led by **T.K. Madhavan, K. Kelappan,** and other prominent leaders.
  - **Mahatma Gandhi** also supported the cause, sending his advice, although he did not physically participate in the protests initially.
  - **E.V. Ramasamy Periyar** also lent support to the movement.
- **Protest:** Participants in the Satyagraha (non-violent resistance) demanded the right of Dalits to use public roads and approach the temple like other castes.
  - They engaged in peaceful marches and acts of civil disobedience, despite facing violent opposition from upper-caste groups.
- **Outcome:** After over a year of protest and negotiations, the Government eventually allowed Dalits to use the public roads leading to the temple, marking a victory for social equality and the end of caste-based discrimination in the region.
- **Significance:** The Vaikom Satyagraha played a vital role in the social reform movement in Kerala and was an important part of the broader struggle against untouchability and caste oppression in India.
  - It also marked the **first major organized movement against untouchability** in the Indian independence movement.

Post- Independence Abolition of Untouchability

- **Article 17 of the Constitution** (enforced on 26 January 1950) legally abolished untouchability.
- To operationalise this constitutional guarantee, the **Untouchability (Offences) Act, 1955 was passed.**
- In 1976, the Act was comprehensively amended and renamed as the Protection of Civil Rights (PCR) Act, to reflect its **focus on the enforcement of civil rights.**

Source: TH

GLOBAL WATER BANKRUPTCY: UN REPORT SIGNALS A POST-CRISIS ERA FOR GLOBAL AGRICULTURE

Context

- Recently, the 'Global Water Bankruptcy: Living Beyond Our Hydrological Means in the Post-Crisis Era' was published by the **United Nations University Institute for Water, Environment and Health (UNU-INWEH)** ahead of the **UN Water Conference (2026).**

What Is Water Bankruptcy?

- **Water bankruptcy** is a **persistent post-crisis condition** of a human–water system where long-term water use has **exceeded renewable inflows** and **safe depletion limits**, resulting in **irreversible or effectively irreversible degradation** of water and ecosystem functions.
- It means societies have **withdrawn more water than nature can replenish**, and **degraded water quality and ecosystems** to the point that previous levels of water availability **can no longer be restored**.
- It is a **systemic overspending of hydrological capital**, the water stored in aquifers, glaciers, rivers, soils, and wetlands accumulated over centuries.

How Does It Differ from Water Stress or Crisis?

	Description	
Water Stress	High demand relative to available supply, but recovery is possible through better management and conservation.	
Water Crisis	An acute and temporary emergency (e.g., drought, contamination, or supply disruption).	
Water	Long-term, structural overuse and degradation where recovery is physically or economically impossible.	Largely

Concerns & Issues: Patterns of Water Bankruptcy

- **Systemic Global Water Insecurity: 2.2 billion people** lack safely managed drinking water.
  - **3.5 billion people** lack safely managed sanitation.
  - **4 billion people** experience severe water scarcity for at least one month each year.
  - Nearly **75% of the world's population** lives in countries classified as **water-insecure** or **critically water-insecure**.

  - The world is **off-track to meet** Clean Water and Sanitation (**SDG 6**) by 2030, and the risks are **global, interconnected, and escalating**.
- **Declining Water Storage and Agricultural Stress:** Around **three billion people** and **over half of global food production** depend on regions where total water storage, including surface water, soil moisture, snow, ice, and groundwater is declining or unstable.
  - More than **170 million hectares of irrigated cropland** face **high or very high water stress**.
  - Simultaneously, **over 50% of global agricultural land** is moderately or severely degraded, reducing soil moisture retention and accelerating desertification.
  - Salinisation has further degraded over **100 million hectares** of cropland, undermining yields in major food-producing regions.

Global freshwater withdrawals over time

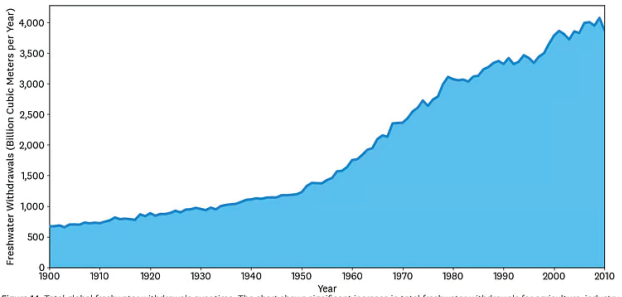


Figure 14. Total global freshwater withdrawals over time. The chart shows significant increase in total freshwater withdrawals for agriculture, industry and domestic uses across the globe during the 1900-2010 period. Increased water withdrawals are normally associated with the reduction of the water share of the environment, with major and often irreparable damages to natural capital. Chart produced using data from Our World in Data.

- **Visible Global Consequences:**
  - **Rivers dry up** before reaching the ocean (e.g., Colorado, Indus, Yellow Rivers).
  - **Shrinking lakes and glaciers** (e.g., Aral Sea, Lake Chad, Himalayan glaciers).
  - **Subsiding lands** and **salinized aquifers** due to over-pumping.
  - **Expanding deserts and dust storms** due to ecosystem collapse.
  - **Cities facing 'Day Zero'** scenarios where taps run dry (e.g., Cape Town, Chennai, Mexico City).
- **Challenges of Irreversibility and Equity:** The report stresses that **water bankruptcy is both an environmental and justice issue**.
  - Some damages (e.g., aquifer compaction, ecosystem extinction) are **irreversible**.
  - Others can only be repaired at **extraordinary economic and temporal costs**.
  - Managing water bankruptcy therefore requires **equitable burden-sharing**, ensuring access to basic water needs while compensating communities facing loss of livelihoods.
- **Outdated Global Water Governance:** The report critiques the existing **global water agenda**, focused mainly on **WASH (Water, Sanitation, and Hygiene)** targets; **Incremental efficiency improvements**; and **Generic Integrated Water Resources Management (IWRM)** frameworks.
  - These approaches are **no longer fit for purpose** in an era defined by **non-reversible water degradation** and **geopolitical fragmentation**.
- **Anthropogenic Droughts and Economic Losses:** Droughts are now **largely anthropogenic** in both cause and effect.
  - Between 2022 and 2023, **1.8 billion people** lived under drought conditions, and **global drought-related damages** have reached **$307 billion annually**, exceeding the GDP of many UN Member States.
  - These losses stem not only from reduced rainfall but also from decades of **land degradation**, **groundwater over-extraction**, and **outdated water infrastructure**.
- **Cryosphere Crisis:** The world has lost **over 30% of its glacier mass since 1970**, with several mountain ranges on course to lose glaciers entirely within decades.
  - Glaciers are disappearing, threatening **1.5 to 2 billion people** who rely on glacier-fed systems like the **Indus**, **Ganges-Brahmaputra**, **Yangtze**, **Yellow**, **Amu Darya**, and **Andean rivers**.

Reasons Behind Water Bankruptcy

- Overextraction of Water Resources;
- Climate Change and Altered Hydrology;
- Pollution and Water Quality Degradation;
- Loss of Natural Water Infrastructure;
- Unsustainable Economic and Urban Growth;
- Poor Governance and Fragmented Water Policies;
- Neglect of Justice and Equity in Water Distribution;

Key Suggestions and Recommendations

- **Acknowledge Water Bankruptcy:** Governments and international agencies need to **formally acknowledge** that many regions are **water-bankrupt**, operating beyond hydrological renewal limits.
  - There is a need to establish **scientific criteria**

and metrics for diagnosing water bankruptcy, measuring renewable inflows, depletion rates, and ecological collapse.

- **Transform Water Governance Systems:** W**ater governance needs to reset water rights and usage expectations**, just as financial bankruptcy resets debt and balance sheets.
  - Introduce mechanisms for **'hydrological restructuring'** reallocating water fairly and sustainably across sectors.
  - Build coordination between **local, national, and transboundary institutions** to manage shared water systems.
- **Focus on Justice and Equity:** Prioritize **basic human needs** and **environmental flows** even during scarcity.
  - Protect vulnerable populations from disproportionate water losses through **social protection, compensation, and livelihood transition programs**.
  - Create **social safety nets and retraining programs** to prevent unemployment and displacement.
  - Empower local communities with **legal and participatory rights** in water decision-making.
- **Rebuild Hydrological and Ecological Capital:** Prioritize the **restoration of wetlands, floodplains, aquifers, forests, and peatlands** that provide natural storage and filtration.
  - Integrate **Ecosystem-based Adaptation (EbA)** into national water strategies.
  - Enforce strict regulations against **aquifer overdrafting**, **river diversion beyond limits**, and **wetland conversion**.
- **Integrate Water Bankruptcy Management into Global Frameworks:** Embed water bankruptcy principles into **SDG 6** and link them with **climate (SDG 13)**, **biodiversity (SDG 15)**, and **peace (SDG 16)** goals.
- **Integration with Global Agendas and Conventions:** The report urges alignment of water governance with the **Rio Conventions** (Climate, Biodiversity, Desertification) and efforts to bridge divides between **Global North and South**, **urban and rural**, and **left and right political blocs**.
  - Water should be positioned as a **'bridge sector'** to rebuild cooperation amid the global fragmentation of multilateralism.

Source: DTE

WESTERN DISTURBANCE

Context

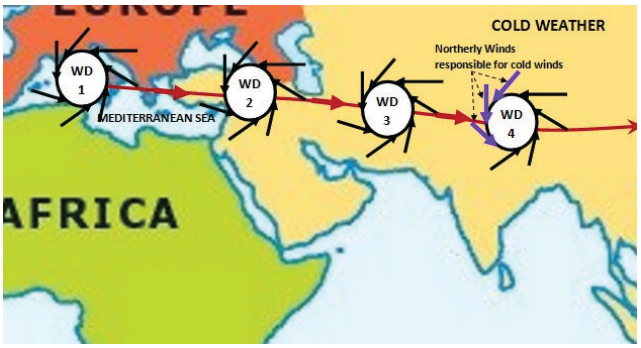
- A powerful Western Disturbance has arrived and impacted northern India by tonight, bringing widespread rainfall, heavy snowfall, and thunderstorms to the region.

What is a Western Disturbance?

- A Western Disturbance (WD) is an **extra-tropical weather system** that originates outside India and moves from west to east, bringing rain, snowfall, and storms to northern parts of the Indian subcontinent, especially during winter and early spring.
- **Origin and Formation:**
  - Western disturbances originate over the **Mediterranean region, Black Sea, or Caspian Sea.**
  - They form when **cold polar air interacts with warmer, moist air,** creating **low-pressure systems.**
  - These systems are carried eastward by westerly winds in the upper atmosphere, particularly the subtropical westerly jet stream.
- **Regions Affected in India:** Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Rajasthan and Western Uttar Pradesh.

How Western Disturbances Cause Rain and Snow?

- While travelling, **western disturbances accumulate moisture** from surrounding seas.
- When this **moist air encounters the Himalayan mountains,** or is forced upward due to temperature contrasts, it rises and cools.
- **Cooling leads to condensation**, forming clouds that result in rainfall in plains and snowfall in higher altitudes.



Significance of Western Disturbances

- 30% of annual **precipitation over the North West Indian region** (J & K, Ladakh, Himachal Pradesh

&Uttarakhand) is received during winter and it is mostly associated with Western Disturbances.

- Precipitation associated with Western Disturbances (WDs) **influences Himalayan climate, glaciers,** snow-water storage, flora, fauna, agricultural crops and human inhabitants etc.
- Winter rainfall from western disturbances is vital for rabi crops, especially **wheat, Mustard, Barley.** Adequate rainfall **improves soil moisture, crop yield, and food security.**

Associated Hazards

- Intense precipitation in the form of snow, rain or hail leading to **landslides, avalanches and damage of agriculture** and manmade structures.
- **Dense to very dense fog events** leading to interruption in aviation / rail / road transport services.
- **Cold Wave and Severe Cold Day** conditions after the passage of western disturbances.

Concluding remarks

- Western disturbances remain a vital component of North India's winter climate system, providing much-needed rainfall and snowfall.
- However, their increasing intensity due to a warmer atmosphere is raising the risk of extreme rainfall, crop damage, urban flooding, and avalanches, making better forecasting and preparedness increasingly important.

Source: IT

NECESSITY FOR GROUNDWATER MANAGEMENT IN INDIA

In News

Recently ,it has been highlighted that Population growth and development are straining groundwater, requiring sustainable management.

Groundwater

- Groundwater is freshwater stored underground in soil and rocks, which sustains rivers, streams, and wetland habitats.
- Layers that store and transmit this water are called aquifers.
- Groundwater can naturally feed springs and rivers or be extracted through wells, tube wells, and borewells.
- It comprises nearly 99% of Earth's liquid freshwater and offers substantial social, economic, and environmental benefits, including climate resilience.

Scenario of India

- In India, 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.
- 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.
- Groundwater management, as part of integrated water resources management, focuses on understanding aquifers, addressing threats, and ensuring the long-term sustainability of groundwater systems.

Necessity for Groundwater Management

- India has vast but regionally varied groundwater resources, which are increasingly stressed due to over-extraction, deteriorating quality, and weak regulation, threatening 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.

Initiatives and Commitments

- 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.

- **The Model Groundwater Bill : It** provides a regulatory framework for States to control groundwater extraction and encourage sustainable practices.
  - The Bill has been adopted by 21 States/ UTs, and the Centre continues to engage with States through meetings, seminars, and the NISC to promote responsible groundwater management.
- **Jal Shakti Abhiyan: Catch the Rain (JSA: CTR)** was launched on 22 March 2021 to promote nationwide awareness and community action for water conservation.
  - The campaign focuses on rainwater harvesting, scientific management of water bodies, setting up Jal Shakti Kendras, afforestation, and awareness generation.
- **Jal Sanchay Jan Bhagidari (JSJB)**, launched on 6 September 2024 under the JSA: Catch the Rain campaign, aims to enhance groundwater recharge through rainwater harvesting, aquifer and borewell recharge, and recharge shafts.
- The **National Aquifer Mapping and Management Programme (NAQUIM) (2012–2023)** aimed to characterise aquifers, assess groundwater availability and quality, prepare aquifer maps, and support sustainable groundwater management.
  - NAQUIM 2.0 (2023–present), implemented by the CGWB, builds on this by providing high-resolution groundwater data and issue-based scientific inputs up to the Panchayat level, with a focus on water-stressed and vulnerable areas.
- The **Master Plan for Artificial Recharge to Groundwater–2020** promotes terrain-specific recharge techniques based on water availability and aquifer capacity to address regional groundwater challenges.
  - It emphasises surface and subsurface recharge in rural areas and rainwater harvesting in urban, hilly, and coastal regions.
- **Atal Bhujal Yojana (Atal Jal), launched on 25 December 2019**, promotes community-led sustainable groundwater management in water-stressed areas of seven States.
  - It supports Jal Jeevan Mission, farmers' income growth, and responsible water use through awareness, capacity building, and scientific planning. The five-year scheme has a ₹6,000 crore outlay, with funding for institutional strengthening and incentive-based, results-oriented outcomes.
- **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

Conclusion and Way Forward

- Groundwater is vital to India's water security but faces growing stress from overextraction, quality decline, and climate variability.
- To address this, India has adopted a comprehensive approach led by the Ministry of Jal Shakti, integrating policy reforms, scientific assessment, infrastructure development, and community participation.
  - Key initiatives collectively strengthen groundwater regulation, recharge, monitoring, and demand management, supported by robust data systems and local institutions, laying the foundation for sustainable, climate-resilient groundwater governance.

Source :PIB

FACTS IN NEWS

GREENHOUSE GAS EMISSION INTENSITY TARGETS

Context

- Recently, the Government of India has notified **Greenhouse Gas Emission Intensity (GEI)** targets **for additional carbon-intensive sectors** under the **Carbon Credit Trading Scheme (CCTS).**

About India's Carbon Credit Trading Scheme (CCTS)

- It forms the **operational backbone** of the **Indian Carbon Market (ICM)** that was notified in **2023** under the **Energy Conservation (Amendment) Act, 2022**.
- It seeks to enable India's transition toward a **low-carbon economy**, aligning with its **net-zero commitment by 2070** and its **Nationally Determined Contributions (NDCs)** under the **Paris Agreement**.
- **Key objectives** include reducing GHG emissions,

facilitating carbon pricing, promoting sustainable growth, and enhancing global competitiveness.

Framework and Structure

- **Compliance Mechanism**: Obligated industries need to meet the notified **Greenhouse Gas Emission Intensity (GEI)** targets. Entities that reduce emissions beyond their targets can earn **Carbon Credit Certificates (CCCs)**.
- **Offset Mechanism**: These credits can be traded with other entities that are unable to meet their emission obligations, thereby ensuring flexibility and economic efficiency in compliance.

Institutional Structure

- **Bureau of Energy Efficiency (BEE):** Central implementing agency; develops rules, methodologies, and MRV systems.
- **Central Electricity Regulatory Commission (CERC):** Regulates the carbon credit trading platform and market transactions.
- **National Steering Committee (NSC):** Policy-level oversight and coordination among ministries.
- **Indian Energy Exchange (IEX) & Power Exchange India Limited (PXIL):** Facilitate electronic trading of Carbon Credit Certificates.

Coverage of Sectors

- The CCTS **initially covered four sectors** like aluminium, cement, chlor-alkali, and pulp & paper.
- **Recently,** in **January 2026**, the government **expanded coverage** to include **petroleum refineries, petrochemicals, textiles, and secondary aluminium.**

Source: PIB

LAND ACQUISITION RELATED ISSUES FOR THE GREAT NICOBAR MEGA PROJECT.

In News

Tribal Council members in Little and Great Nicobar allege that district officials are pressuring them to surrender ancestral lands for the 92,000-crore Great Nicobar mega project.

- They say they were asked to sign a vague "surrender certificate" without details, despite the land being traditionally inhabited by the Nicobarese before the 2004 tsunami.

Land Acquisition Policy of India

- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 replaced the colonial-era Land Acquisition Act of 1894 to create a fair and transparent framework for land acquisition in India.
- It is being Implemented from January 1, 2014 and ensures higher compensation, mandatory consent, and comprehensive rehabilitation for affected families, though farmers allege gaps in its proper implementation.

Features

- It provides compensation of up to twice the market value in urban areas and four times in rural areas, and requires consent from 70% of affected families for PPP projects and 80% for private projects.
- It mandates Social Impact Assessments to evaluate social, economic, and environmental impacts.
- It restricts acquisition of irrigated multi-cropped land, ensures rehabilitation benefits such as housing, livelihood support, employment or annuity, and infrastructure in resettlement areas, and defines "public purpose" to prevent arbitrary acquisitions.
- It also stipulates that unused land be returned within five years, offers grievance redressal through the Land Acquisition, Rehabilitation, and Resettlement (LARR) Authority
- It ensures transparency through public consultations, and provides additional safeguards for Scheduled Castes and Scheduled Tribes, while exempting certain strategic sectors like defence and railways from select provisions.

Challenges in Implementation

- The Act faces several challenges in its implementation that make full implementation of the Act difficult.
- Some of the challenges are
  - Procedural requirements often delay land acquisition for development projects
  - Compensation costs can put a strain on both public and private project budgets
  - Balancing development needs with social justice remains a contentious issue

Source :IE

"SECONDARY PARTICULATE" TOP CAUSE OF DELHI WINTER POLLUTION: CAQM REPORT

In News

A CAQM-commissioned analysis found that Delhi's winter air pollution is mainly driven by secondary particulate matter (27%), followed by transport emissions (23%), biomass burning including waste and crop residue (20%), dust (15%), and industrial sources (9%).

Key Highlights of report

- It is prepared after a Supreme Court directive and compiles existing studies rather than identifying new sources and notes inconsistencies in past methodologies.
- It highlights the key role of ammonia—mainly from fertilisers and livestock—in forming secondary particulates such as sulphates and nitrates, which make up 25–60% of PM2.5 and pose serious health risks.
- The CAQM also announced plans for new emissions inventory and source apportionment studies for 2026 to improve forecasting and policy support.

Particulate matter (PM)

- It refers to tiny solid particles and liquid droplets in the air, some visible and others microscopic.
  - It mainly includes PM10 (particles 10 micrometers or smaller) and PM2.5 (fine particles 2.5 micrometers or smaller), which are about 30 times thinner than a human hair.
- **Sources** : PM comes either directly from sources like construction, roads, fires, and smokestacks, or forms in the atmosphere through chemical reactions involving pollutants from vehicles, industries, and power plants.
- **Types** : **Primary pollutants** come directly from sources like road dust, construction, open burning, vehicle exhaust, and industries
    - nitrous oxides, sulphur dioxide and volatile organic compounds, constitute primary particulate matter.
  - **Secondary particulate matter** forms when released gases, called precursor pollutants, react in the air—affected by humidity, temperature, and sunlight—creating fine particles that can penetrate deep into the lungs.

Source :TH

THEYYAM

In News

In Kannur, a centuries-old Theyyam shrine, banned photography after the family faced a negative experience during last year's Theyyam season

Theyyam

- Theyyam, an ancient ritualistic performance art, is unique to north Kerala, where divine energy is believed to descend among the people, transcending caste hierarchies.
- It is predominantly performed by the Malayan and Vannan communities.
- It honors family, village, and regional deities, including Hindu gods, goddesses, forest and warrior spirits, as well as select Muslim figures, reflecting intercultural acceptance.
- Grand temple or family festivals, known as **Kaliyattam**, or larger Perumkaliyattam held once in 12 or more years, showcase the art form.
- Theyyam blends dance, music, painting, sculpture, and literature, serving as both a spiritual practice and an enduring cultural heritage of North Malabar.

Source :TH

KERALA LITERATURE FESTIVAL

Context

- The **ninth edition** of the Kerala Literature Festival (KLF) commenced at Kozhikode Beach on January 22, 2026.

About the Festival

- The Kerala Literature Festival (KLF) is the largest literary event in India, attracting **over half a million attendees** across **four** vibrant days.
- **Founded in 2016**, the festival is organised by the **DC Kizhakemuri Foundation** and co-promoted by DC Books.
- KLF is **held annually** on the beaches of **Kozhikode** (Calicut), India's first UNESCO **City of Literature.**
- **Significance:** KLF features a diverse line-up of speakers, including **Nobel laureates, Booker Prize winners, Oscar winners, celebrities,** acclaimed authors and thought leaders.
  - It also hosts performances of **music, dance, theatre and other performative** and participatory arts.

Significance of Kozhikode

- Kozhikode Known as the **"City of Spices",** has historically been a major centre of trade, cultural exchange, and intellectual activity.
- Renowned **Portuguese explorer Vasco da Gama** touched down the Indian subcontinent on the shores of Calicut in **1498.**

Source: TH

HIRAKUD WETLAND EMERGES AS A MAJOR MIGRATORY BIRD HAVEN

Context

- The Hirakud wetland in **Sambalpur district of Odisha** has recorded the arrival of **4.21 lakh birds** during the current migratory season.

About Hirakud Wetland

- **Location:** The wetland is part of the Hirakud Reservoir, one of the largest man-made reservoirs in India, built across the **Mahanadi River** with a total length of almost **26 kilometres.**
  - The reservoir also produces around **350 megawatts** of hydropower and irrigates **436,000 hectares of land.**
- **Biodiversity Hotspot:** It is a critical stopover for birds along the **Central Asian Flyway,** hosting **128 species of birds**. Species include Pintail, Shoveler, Teal, Pochard, Bar-headed Goose, and rare Eurasian species like Ruffs.
- **Ramsar Site:** It was designated a Ramsar site of global ecological importance in 2021.
- The Wetland provides a mosaic of habitats such as open **water, mudflats, marshes, and shallow wetlands**, which are ideal for migratory birds.

Source: AIR

INDIA WELCOMES SPAIN JOINING INDO-PACIFIC OCEANS INITIATIVE

Context

- India has welcomed Spain joining the Indo-Pacific Oceans Initiative (IPOI).

Indo-Pacific Oceans Initiative (IPOI)

- It was launched by India in November 2019 at the ASEAN-led East Asia Summit (EAS) in Bangkok.
- It draws on existing regional cooperation architecture and mechanisms to focus on **seven thematic areas**, viz. :
  - Maritime Security;
  - Maritime Ecology;
  - Maritime Resources;
  - Capacity Building and Resource Sharing;
  - Disaster Risk Reduction and Management
  - Science, Technology and Academic Cooperation; and
  - Trade, Connectivity and Maritime Transport.
- **Objectives :** Its objective was to promote cooperation for a free and open Indo-Pacific and the rules-based regional order, which will contribute towards strengthening safety, stability and development in the maritime domain.

Source:AIR

INDIA'S FIRST 'STATE BACTERIUM'

Context

- Kerala is set to become the **first state in India** to declare a **state bacterium** to highlight the importance of beneficial microbes
  - A bacterium is a microscopic, single-celled organism that belongs to the group prokaryotes.

India's First 'State Bacterium'

- The initiative focuses on the role of microbes in **agriculture, health, and environmental sustainability**, and seeks to move public perception beyond viewing microbes only as **disease-causing agents**.
- The state bacterium has been selected by an **expert committee** under the Kerala State Council for Science, Technology and Environment.
- Importantly, the objective is not to conserve just one bacterium, but to represent and promote the **entire spectrum of beneficial microbes**.

Do You Know?

- India's national microbe is *Lactobacillus bulgaricus*, declared in 2012, and used in yogurt production.

Source: BS

STUDY SHOWS INDIA'S DELTAS SINKING DUE TO HUMAN ACTIVITY

Context

- An international research team has found a **systemic drop in land elevation across India's river deltas** driven mostly by human activities.

About

- The study covered **40 major deltas around the world,** including six in India, at a spatial resolution of 75 m.
- The team used a **random forest machine learning model** that correlated the subsidence rates with **three stressors:** groundwater storage, sediment flux, and urban expansion.

Major Findings

- **Extent of Subsidence:** Major Indian deltas Ganges-Brahmaputra, Brahmani, Mahanadi, Godavari, Cauvery and Kabani are actively sinking.
  - Over 90% area of the Ganges-Brahmaputra, Brahmani and Mahanadi deltas is affected.
- **Subsidence vs Sea-Level Rise:** In Ganges, Brahmani, Mahanadi, Godavari and Kabani, land is sinking faster than regional sea-level rise, worsening flood risks.
  - Even under the worst climate scenarios, Godavari delta subsidence exceeds projected global sea-level rise.
- **High Subsidence Rates:** 77% of Brahmani and 69% of Mahanadi delta areas are sinking at >5 mm/year, indicating severe instability.
- **The Ganges-Brahmaputra and Cauvery deltas** are particularly affected by **unsustainable groundwater extraction** while the **Brahmani delta** bears the brunt of **rapid urbanisation.**
- **Factors Responsible:** Unsustainable groundwater extraction, Rapid urbanisation and resource consumption.

Impacts of Subsidence

- Increased coastal and river flooding.
- Permanent land loss.
- Saltwater intrusion, contaminating freshwater and degrading agriculture.
- Damage to ports, transport networks.
- Rising resource conflicts and climate-induced migration.

Source: TH

CABINET APPROVED ₹5,000 CRORE EQUITY INFUSION INTO SIDBI

Context

- The Union Cabinet approved an equity infusion of **₹5,000 crore** into the **Small Industries Development Bank of India (SIDBI)** to expand the credit available to **micro, small and medium enterprises (MSMEs).**

About

- The infusion will be made by the **Department of Financial Services (DFS)** in **three tranches** in the financial years of **2025-26, 2026-27 and 2027-28 respectively.**
- **After the capital infusion,** the number of MSMEs to be provided financial assistance is expected to **increase from 76.26 lakh at the end of financial year 2025 to 102 lakh** by the end of financial year 2027-28.
- The additional capital infusion would be **necessary to help SIDBI maintain a strong capital to risk-weighted assets ratio (CRAR),** as its risk-weighted assets are expected to grow with increased lending to MSMEs.

Small Industries Development Bank of India (SIDBI)

- SIDBI was established under an Act of the Parliament in **1990**.
- SIDBI is the **Principal Financial Institution** engaged in promotion, financing & development of the Micro, Small and Medium Enterprises (MSMEs) sector and coordination of the functions of the various institutions engaged in similar activities.

Source: TH

LONG RANGE ANTI-SHIP HYPERSONIC MISSILE (LR-ASHM)

Context

- The DRDO will showcase the **Long Range Anti-Ship Hypersonic Missile (LR-AShM)** along with its launcher during the **77th Republic Day Parade** at **Kartavya Path**.

About LR-AshM

- Developed by **DRDO**, the **LR-AShM** is a **Hypersonic Glide Missile** designed to meet the coastal defence and strike requirements of the **Indian Navy.**
- The missile is capable of engaging both **static and moving maritime targets** and can carry **multiple payload configurations**.
- It is a **first-of-its-kind indigenous system**, equipped with indigenous avionics and high-accuracy sensor packages.

Key Technical Features

- The LR-AShM employs a **two-stage solid propulsion rocket motor**.

- Follows a **quasi-ballistic trajectory.**

- Achieves speeds up to **Mach 10**, with an average hypersonic speed of **Mach 5.**
- Uses indigenously developed sensors for terminal-phase guidance against moving targets.
- **Low-altitude flight**, high speed, and manoeuvrability significantly reduce detection by **enemy ground- and ship-based radars.**

Source: PIB