

# NEWS TODAY

## UNESCO Environmental DNA (eDNA) Expeditions conducted in World Heritage Marine Sites (WHMS)

UNESCO in report titled 'Engaging Communities to Safeguard Ocean Life' based on eDNA expeditions, highlights **vulnerability of marine species as oceans warm.**

### About UNESCO's eDNA Expeditions

- **Global citizen science initiative** that measures marine biodiversity and assess impacts of climate change on species distribution across UNESCO WHMS.
- **eDNA sampling campaigns** were organized across **21 of 51 UNESCO's WHMS** between September 2022 and July 2023.

### About eDNA

- Defined as **genetic material left by organisms in environment.** It includes **DNA from cells, tissues, fluids, and excrement** which can be collected and detected from environment samples.

### Significance of eDNA

- **Large scale:** eDNA sampling is possible for **geographically distant and vast areas.**
- **Robust technology:** It is a **highly sensitive and rapid method** compared to other bio-monitoring methods.
- **Sustainable:** Non-invasive method, thus lesser impact on environment.
- **Others: Cost-effective sampling** collection, ability to **detect rare, transient and invasive species.** E.g. Detection of **invasive lionfish in Belize.**

### Limitations of eDNA

- **Limited data provided:** eDNA only confirms **presence** and does not capture **number, size, sex, or life stage** of detected organisms.
- **Identification:** Absence of many species in DNA reference databases, leading to identification issues.
- **Others:** Prone to **contamination; High costs** of sampling analysis in labs.

### UNESCO World Heritage Marine Sites

- They cover over **one fifth of world's blue carbon ecosystems** and store carbon assets equivalent to about 10% of global greenhouse gas emissions.
  - ⊕ **Sundarbans National Park** in India is one of the sites.
- Over **70%** of these sites are **threatened** by climate change (IUCN), hosting about 35% of threatened marine species.
- They act as **proxies** for global network of over **18,000 Marine Protected Areas (MPAs).**
  - ⊕ **India has 26 MPAs in Peninsular region and 106 MPAs in Islands.**

## Supreme Court (SC) Grants Permanent Commission to a Woman Army officer

SC exercising its powers under **Article 142** of Constitution grants **permanent commission to a woman Army officer (Lt. Col. Suprita chandel vs UOI & Ors).**

- **Background of Case:** Following an **amendment in 2013 to original policy,** Armed Forces Tribunal had granted **relief to other applicants** by allowing them a one-time age relaxation.
  - ⊕ However, **appellant was denied benefit as she was not a party to the original case.**
- **SC Verdict:** 'Reliefs granted to similarly situated individuals would be automatically extended to individuals who have not litigated their cases'.
  - ⊕ The court cited similar judgments in past i.e. **Amrit Lal Berry (1975) & K.I. Shephard case (1987).**

### Permanent Commission to women in Army

- In **1992, for the 1st time Centre allowed females to join certain cadres of army** like Short Service Commission, Army Service Corps etc.
- **Until 2020, women were not allowed to be appointed as Permanent Commissions** (until age of retirement) in Army.
  - ⊕ They were appointed to be **Short Service Commission officers with tenure of 10+4 years.**
- SC in **Babita Puniya & Ors. case (2020)** ordered grant of **permanent commission to women & held them to be eligible to hold command posts.**
  - ⊕ It held that denying women officers a permanent commission was a **Violation of Fundamental Rights to equality (Article 14).**

### Article 142

- Under it, the **Supreme Court** may pass such decree/ make such order as is necessary for doing **complete justice** in any cause or matter pending before it.
- It shall be **enforceable throughout the territory of India** in such manner as may be prescribed by or under any law made by Parliament &, until provision in that behalf is so made, in such manner as the President may by order prescribe.

## Directorate of Revenue Intelligence (DRI) released 'Smuggling in India' report 2023-24

DRI, constituted in 1957, is apex anti-smuggling agency of India working under Central Board of Indirect Taxes & Customs, Ministry of Finance.

### Key Highlights of report

- ▶ DRI seized **1319 kg of gold**, with land and air route contributing 55% and 36% of seizures respectively.
- ▶ **Quantity of cocaine smuggled** into India, primarily through airports, **increased by 9%**.
- ▶ DRI seized illegal wildlife products, particularly elephant tusks (~53 kg).

### Why India is prone to Smuggling?

- ▶ **Geographical location:** Proximity to major drug-trafficking routes e.g. Death crescent (Afghanistan, Iran, Pakistan), Death triangle (Myanmar, Laos, Thailand) etc.
- ▶ **Extensive border:** Porous land boundaries, difficult terrain, and presence of ~7500 km coastline, makes them difficult to monitor.
- ▶ **High domestic demand:** Cultural affinity for Gold, rising youth population and demand of narcotics etc. makes India a lucrative market.
- ▶ **Economic factors:** Differences in tax structures, pricing, etc. encourage smuggling. E.g. cheaper Gold in Dubai, Bangkok etc.

### Way forward

- ▶ **Collaborate with International Agencies:** E.g. **Operation Tentacle** for Smuggling of currency, diamonds and gold by airline passengers by World Customs Organization etc.
- ▶ **Strengthening border and coastal security:** integrated border management, enhanced surveillance (use of thermal imaging, motion sensors etc.), coastal monitoring through radars and patrolling.

### Initiatives taken to control Smuggling

#### Global:

- ▶ United Nations Office on Drugs and Crime (UNODC).
- ▶ **Paris Pact Initiative** strengthens linkages between various counter-narcotics actors.
- ▶ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

#### India:

- ▶ Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, targeting drug trafficking.
- ▶ Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2023.
- ▶ Wild Life Crime Control Bureau.

## IIT Madras Tests India's First Hyperloop Track

IIT Madras has unveiled India's first Hyperloop test track, measuring 410 meters. This track serves as a **prototype to validate Hyperloop's feasibility in Indian conditions.**

- ▶ The **Mumbai-Pune** route has been selected for **India's first full-scale Hyperloop system.**

### What is Hyperloop?

- ▶ **About:** Hyperloop is a **high-speed transportation system** consist of a low pressure tube through which capsules may travel **free of friction & air resistance.**

⊕ It was first proposed by **Elon Musk** in 2013.

### Key Components & working Mechanism:

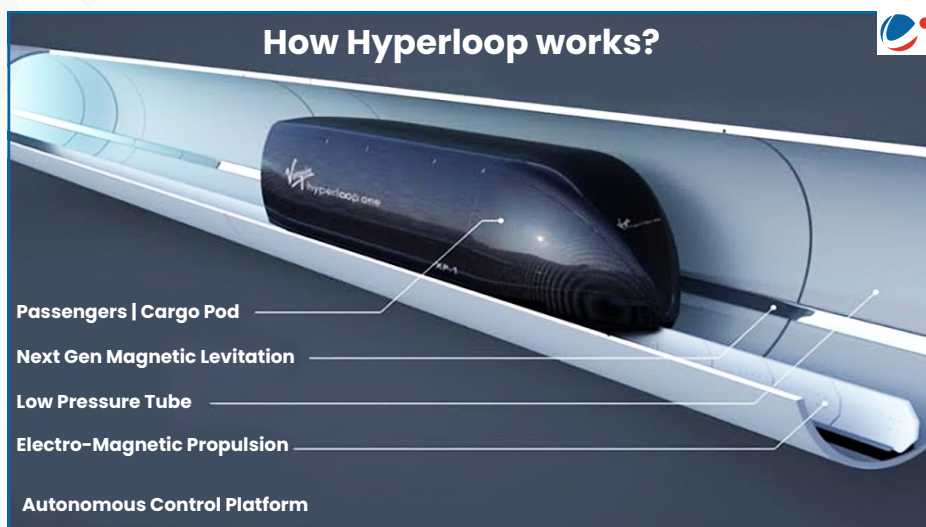
- ⊕ **Tube:** Near-vacuum tubes reduce air resistance, allowing travel at high speeds.
- ⊕ **Capsule/pods:** Carries passengers/cargo. Pods utilize **magnetic levitation** to hover above track, **eliminating friction with ground.**
- ⊕ **Compressor:** It **sucks air & allows capsule** to traverse through low pressure tube.
- ⊕ **Suspension:** **Air bearing suspension** provides **stability & minimizes drag.**
- ⊕ **Propulsion:** Pods are propelled forward using **linear induction motors.**

### Significance:

- ▶ **High Speed:** It is designed to allow pods to travel at speeds up to 1,100 km/h, with an operational speed targeted at around 360 km/h.
- ▶ **Zero Emissions:** The whole hyperloop system is powered by the solar panels.

### Challenges in mainstreaming hyperloop

- ▶ **Infrastructure challenges:** High initial cost, complex land acquisition process, difficult terrain.
- ▶ **Regulatory bottlenecks:** Absence of specific regulatory framework, safety certification challenges, complex environmental laws etc.
- ▶ **Technological Barriers:** limited expertise, lack of comprehensive testing facilities etc.



## Ministry of Ports, Shipping and Waterways introduced Merchant Shipping Bill, 2024 in Lok Sabha

Merchant Shipping Bill 2024 seeks to **repeal Merchant Shipping Act, 1958**.

- Bill aims to **consolidate and amend law relating to merchant shipping** to ensure compliance with India's obligation under maritime treaties and international instruments to which India is a party.

### Key Highlights of Bill

- **Establishment of National Shipping Board:** To advise Central Government on matters relating to Indian shipping.
  - ⊕ It shall have **power to regulate its own procedure** for conduct of its business.
- **Maritime Administration:** Central Government appoint a person to be Director-General of Maritime Administration.
- **Registration of Vessels:** Ownership allowed by
  - ⊕ **Citizen of India including Non-Resident Indian or an Overseas Citizen of India;**
  - ⊕ **Company/ body established by any Central Act or State Act** having its registered office of business in India.
- **Transfer of Indian vessel or share:** No person shall transfer/acquire any Indian vessel at any time during which India's security or any part of territory is threatened by sanction, war or external aggression and proclamation of emergency.
- **Prevention and containment of pollution:** Every vessel shall comply with provisions of international conventions,

### Need for Bill

- To **define and simplify ownership criteria** for merchant vessels in country and making it easier for Indian-flagged vessels to operate.
- To **streamline a variety of regulations** that deal with marine casualties including imposition of stricter norms against polluting vessels.
- To **ensure development of Indian shipping and efficient maintenance of Indian mercantile marine** in a manner best suited to serve national interest.

## Ministry of New and Renewable Energy (MNRE) approved amendment to ALMM Order, 2019

The amendment to the **Approved Models and Manufacturers of Solar Photovoltaic Modules (ALMM) Order, 2019** aimed at boosting domestic solar manufacturing.

### Key Highlights of Amendment:

- **Introduction of ALMM List-II (Solar PV Cells):** All solar PV modules used in government-backed projects, net-metering projects, & open-access renewable energy initiatives must source their solar cells from ALMM List-II.
  - ⊕ **List I under ALMM framework was issued in 2021** mandating to source PV modules from models & manufacturers included in ALMM List I.
- **Exemption:** Projects that have already been **awarded/completed their bidding process** before the issuance of this order.
- **Promoting Technology Innovation:** **Thin-film solar modules** manufactured in integrated solar PV module manufacturing units will be considered in compliance with requirement to use solar PV cells from List-II.
- **Implementation:** From **1<sup>st</sup> June 2026**.

### Challenges for India's solar Manufacturing Sector:

- **Inadequate manufacturing capacity:** India imports solar equipment from China (62%), Vietnam, Malaysia etc.
- **Limited access to affordable technology** for mining & processing of **critical minerals** hampers **solar cell & module production**.
- **Other: Low R&D,** Difficulties in sourcing of raw materials, skilled labour shortage etc.

### Initiatives Promoting Domestic Solar Manufacturing

- **Production Linked Incentive (PLI) Scheme** for High Efficiency Solar PV Modules.
- **Scheme for "Development of Solar Parks and Ultra Mega Solar Power Projects"** extended up to FY2025-26.
- **Foreign Direct Investment (FDI)** up to 100 percent under the automatic route.
- **Other: Domestic Content Requirement (DCR),** imposition of **Basic Customs Duty on import** of solar PV cells & modules.

## Also In News



### Lok Adalat

Executive Chairman, NALSA highlighted that over **7 crore 70 lakh cases** were resolved through **3 National Lok Adalats (NLA)** organized by NALSA in 2024.

- NLA are Lok Adalats held on **single day throughout country** at regular intervals, in all courts from **Supreme Court till Taluka Levels**.

### About Lok Adalats

- An **Alternative Dispute Redressal mechanism** wherein **civil or criminal pending cases** or cases at **pre-litigation level** are settled/ compromised amicably.
- Given **statutory status** under **Legal Services Authorities Act, 1987**.
- Decision is deemed **final and binding with no appeal**.
- It has **same powers as a civil court** under **CPC, 1908**.
- **First Lok Adalat** was held in 1982 at **Junagarh, Gujarat**.



### Process for removal of Rajya Sabha Chairperson

Opposition has moved a motion of **No-confidence** against **Rajya Sabha (RS) Chairperson**.

- As per **Article 64**, **Vice President (VP)** shall be **ex officio Chairperson** of RS.

### About Constitutional Removal Procedure

- **Notice Period:** **14-day notice** is to be given **prior** to moving a Resolution, outlining clear intentions.
- **Passing of a Resolution:** As per **Article 67(b)**, VP can be removed from office by a resolution passed by RS with a **majority of all its members and agreed to by Lok Sabha with a simple majority**.
- **Unlike provisions for removal of President,** the Constitution does not specify grounds for removal of VP.



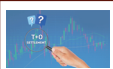
### International Crops Research Institute for Semi-Arid Tropics (ICRISAT)

ICRISAT has been granted its first industrial design patent in India for a solar-powered water hyacinth harvester.

- Harvester offers practical solution for rural farming communities grappling with water hyacinth infestations.
  - ⊖ It is cost-effective, saves time, and labour while utilising clean energy. It can be operated by semi-skilled or unskilled workers.
- Water hyacinth is fast-growing aquatic weed, poses a major threat to rural ecosystems, fisheries, and waterways.

#### About ICRISAT (HQ: India)

- Established in 1972.
- Internationally recognized Organization committed to improving dryland farming and agri-food systems to address hunger, malnutrition, and environmental degradation in drylands of Asia and beyond.



### T+0 Settlement Cycle

Securities and Exchange Board of India (SEBI) expands the scope of the optional T+0 rolling settlement cycle.

- Optional T+0 settlement cycle will be made available to top 500 stocks in terms of market cap as on December 31.

#### About T+0 Settlement Cycle

- It refers to a mechanism wherein Settlement of trades will be done on trade date only -
  - ⊖ The shares are credited in investor's account on the day of trade itself.
  - ⊖ In a sell transaction, money would be credited in account on the same day.
- All investors are eligible & currently it's optional.



### Coastal Hardening

As per study, about 33% of the world's sandy beaches have hardened.

- Bay of Bengal occupies first position with 84% coastal hardening.

#### About Coastal hardening

- Refers to rigid, semi-impermeable structures created by humans that alter natural landscape, potentially obstructing shoreline retreat, and landward translation of sandy beaches.
  - ⊖ These structures include impervious infrastructure like seawalls, harbours, roads, highways, railway revetments etc.
- Impacts of coastal hardening: Decrease in biodiversity; Reduced ecosystem functioning like fisheries production; Changes in ecological community that can favor invasive species; Loss of sandy coastline etc.



### INS Tushil

INS Tushil (F 70), commissioned into the Indian Navy in Kaliningrad, Russia.

#### About INS Tushil:

- It is an upgraded Krivak III class frigate and 7th ship of the Project 1135.6.
  - ⊖ Project 1135.6 includes 6 ships in service, three each of Talwar class and Teg class built in Russia.
- It is multi-role stealth-guided missile frigate armed with weaponry like Brahmos missiles etc.,
- It is powered by an advanced gas turbine propulsion plant & capable of achieving speeds in excess of 30 knots.



### Receivables securitization

Receivables securitization gaining popularity among MSMEs for accessing liquidity.

#### About Receivables securitization

- Receivables securitization is a financial process where companies convert their accounts receivable into cash by selling them as securities in the capital markets.
  - ⊖ Companies pool their receivables & transfer them to a third party which finances the purchase by issuing securities that are sold to investors in the financial markets.
- Significance: It allows MSMEs to unlock the value tied up in outstanding payments & gain access to funds quickly.



### Champions of Earth Award, 2024

UNEP has announced Champions of Earth Award, 2024.

- 2024 Lifetime Achievement category is awarded to Indian ecologist Madhav Gadgil for protecting people and planet through research and community engagement.
- He is renowned for his work in ecologically fragile Western Ghats region of India, a unique global biodiversity hotspot.

#### About Champions of Earth Award

- Awarded annually since its inception in 2005, it is UN's highest environmental honour.
- In 2024, UNEP honours individuals and organizations working on innovative and sustainable solutions to restore land, enhance drought resilience, and combat desertification.
- Given in categories like Policy leadership; Inspiration and action; Entrepreneurial vision; Science and innovation.

## Personality in News

### C. Rajagopalachari (1878-1972)

C. Rajagopalachari is remembered on his birth anniversary.

#### About C. Rajagopalachari

- Chakravarti Rajagopalachari, popularly referred to as Rajaji was born on 10th december in Thorapalli, Tamil Nadu.
  - He was a patriot, social reformer, renowned lawyer & abled administrator etc.
- Key Contribution**
- Independence Movement: Participated in agitations against Rowlatt Act, Non-Cooperation movement, Vaikom Satyagraha, & Civil Disobedience Movement.
  - Constitution Making: Rajaji as a member of Constituent Assembly from Madras contributed to constitution making.
  - Later Contribution: Served as the last Governor-General of India till 1950, formed Swatantra Party etc.

#### Values

- Patriotism, Leadership, Integrity etc.

