

FORTUNE Prelims Precise

DECEMBER 2023



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FORTUNE IAS

Toppers in Top 100



History & Culture

Iyothee Thass Pandithar



- » Recently, the **Tamil Nadu** government installed a statue of Iyothee Thass Pandithar.
- He was an **anti-caste activist** and a practitioner of **Siddha medicine**.
- He was born on 20 May 1845 in the erstwhile **Madras presidency**.
- He established the **Advaitananda Sabha** and launched a magazine called **Dravida Pandian** along with **Rev. John Rathina**.
- He also established the **Dravida Mahajana Sabha** in 1891 along with **Rettamalai Srinivasan**.
- He is the founder of **Indian Buddhist Association (Sakya Buddhist Society)** and started a **weekly magazine called Tamizhan**.

Bali Yatra



- » The recently concluded **Baliyatra (voyage to Bali)** fetched around 200 crore.
- Baliyatra is a week-long event which **begins on Kartika Purnima** and is one of the **country's largest open-air fair**.

- It is organised every year to commemorate the **2,000-year-old maritime and cultural links** between ancient **Kalinga (today's Odisha)** and **Bali** and other South and Southeast Asian regions like **Java, Sumatra, Borneo, Burma (Myanmar)** and **Ceylon (Sri Lanka)**.
- It celebrates the ingenuity and skill of those expert sailors who made Kalinga one of the most prosperous empires of its time.

Yogmaya Temple (Jogmaya Temple), Delhi



- » Yogmaya temple, Mehrauli in Delhi was in news due to its unscientific restoration erasing its Mughal history.
- The temple's origins are traced back to the **Mahabharata era** and is believed to have been **built by the Pandavas** after the end of the Mahabharata war.
- The temple is **dedicated to the goddess Yogmaya**, believed to be the sister of Lord Krishna and an incarnation of Durga.
- The temple was among the **27 temples reportedly destroyed by Mamluk rulers but was renovated multiple times**.
- A noble in the court of **Mughal Emperor Akbar II by the name of Lala Sidhu Mal** built the present temple between 1806 and 1837.
- The temple is part of the **Phool Walon Ki Sair** festival, participated by both Hindus and Muslims connecting it to the dargah of Khwajah Bhaktiyar Kaki. Yogmaya temple, Mehrauli in Delhi was in news due to its unscientific restoration erasing its Mughal history.
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Sahitya Akademi Award

- » Recently, the Sahitya Akademi announced the **Sahitya Akademi Award 2023**.
- The Sahitya Akademi Award is the **second highest literary honour** after the **Jnanpith Award by the Government of India**.
- Akademi gives **24 awards annually to literary works** in the **24 languages** it has recognised and an equal number of awards to literary translations.



Sahitya Akademi

- 🎵 Sahitya Akademi, also known as **India's National Academy of Letters** founded in 1954, an **autonomous body** under the **Ministry of Culture**.
- 🎵 It is dedicated to the promotion of literature in the languages of India.
- 🎵 **Besides the 22 languages enumerated in the constitution**, the Sahitya Akademi has **recognised English and Rajasthani** as languages for its programmes implementation.

Garba Dance

- » Recently, Garba of Gujarat' has been **inscribed in the Representative List of Intangible Cultural Heritage (ICH) of Humanity** by UNESCO.
- Garba is a **devotional dance** of Gujarat during Navaratri.
- The festival is dedicated to the worship of the **feminine energy or Shakti**.



- It is a **joyful style of dance**, based on a circular pattern and characterised by a sweeping action from side to side.
- Garba performances often **include singing and a musical accompaniment traditionally provided by dhol**.
- This dance form is the **15th cultural item from India** to make it to the UNESCO list.

Srimukhalingam Temple



- » The **Archaeological Survey of India** decided to send a note to **UNESCO** over inclusion of Srimukhalingam temple in **Andhra Pradesh** in the world heritage structure's list.
- Constructed in the **9th century CE** by kings of the **Eastern Ganga Dynasty**.
- Built in the **Kalinga architectural style**, the Shivalinga here has a **mukha or facial representation of Lord Shiva**.
- The Srimukhalingam temple was also known as **Kalinganagaram**, the **capital of Eastern Ganga dynasty**.
- Known as **Dakshina Kaasi**, it is believed that visiting this temple and taking a dip in the river **relieves one from the cycle of rebirth**.

Koya Tribe

- The indigenous Koya tribe in **Andhra Pradesh**, residing in the **Papikonda hill range**, has embraced **eco-friendly practices** to conserve the **Indian Bison (Bos gaurus)**.
- Koyas have **replaced traditional Indian Bison horns** with palm leaves to craft their **traditional flute, Permakore**



- Koya are one of the few **multi-racial and multi-lingual tribal** communities in India.
- Koya tribe is the **largest Adivasi tribe in Telangana**, listed as a Scheduled Tribe in the region. The community is widespread across the **Telugu-speaking states of Telangana, Andhra Pradesh** and also found in **Chhattisgarh and Odisha**.
- Most Koya speak either **Gondi or Telugu**, in addition to Koyi.
- The Koyas call themselves as “**Koithur**”.
- Traditionally being **pastoralists and shifting cultivators** they have now resorted to **settled cultivation** supplemented by animal husbandry and seasonal forest collections. They are also engaged in **hunting and foraging**.
- They erect **menhirs** in memory of the dead.
- They have many female deities with **mother earth** being the most important one.

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Polity & Governance

New Criminal Laws

- » The Union Government recently introduced 3 key bills- **Bharatiya Nyaya (second) Sanhita, 2023, Bharatiya Nagarik Suraksha (Second) Sanhita, 2023 and the Bharatiya Sakshya (Second) Bill, 2023-** to completely overhaul the country's criminal laws.
- Once enacted, these will replace the **Indian Penal Code (IPC) 1860, The Code of Criminal Procedure (CrPC) 1973 (originally enacted in 1898) and the Indian Evidence Act 1972** respectively.

Major Changes

- The Bharatiya Nyaya Sanhita (BNS) 2023 makes **mob lynching and hate crime a separate offence** for the first time and prescribes a punishment that extends from life imprisonment to death.
- A victim can go to any police station and lodge a **zero FIR** and it will have to be **compulsorily transferred to the police station concerned within 24 hours**.
- Earlier, one could be declared a fugitive only in 19 crimes, now a **provision has been made to declare a fugitive in 120 crimes**.
- A provision for **trial in absentia** has been introduced; If the people hiding in other countries don't appear the Court within **90 days** then in their absence a trial will go on.
- Sedition has been repealed in the new law. **Rajdroha (sedition or offence against the government)** has been replaced with **deshdroha (offence against the nation or country)**.

Zonal council

- » Recently, the **Union Home Minister** chaired the 26th meeting of the Eastern Zonal Council in Patna, Bihar.
- The zonal council is a **statutory body** established under the **State Reorganisation Act of 1956**.

- The concept of a deliberative body called Zonal Councils was proposed by India's first Prime Minister **Jawahar Lal Nehru**.

Composition

- The **Union Home Minister** is the **chairman of each council**.
- The **Chief Ministers of the States included in each zone act as Vice-Chairman** of the Zonal Council for that zone by rotation, each holding office for a period of one year at a time.
- The members include **the Chief Minister and two other ministers nominated by the governor of each state**, and two members from the **Union territories** within that zone.

There are five zonal councils








-  **The Northern zonal council** - It includes: Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi National Capital Territory, and Chandigarh Union Territory.
-  **The Central zonal council** - It includes: Chhattisgarh, Uttarakhand, Uttar Pradesh and Madhya Pradesh.
-  **The Eastern zonal council** - It includes: Bihar, Jharkhand, Odisha and West Bengal.
-  **The Western zonal councils** - It includes Goa, Gujarat, Maharashtra and the Union Territories of Daman & Diu and Dadra & Nagar Haveli.
-  **The Southern zonal council** - It includes: Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu and Pondicherry.

The northeastern states (i) Assam (ii) Arunachal Pradesh (iii) Manipur (iv) Tripura (v) Mizoram (vi) Meghalaya (vii) Sikkim and (viii) Nagaland are not included in the zonal council. They are administered by the **Northeast Council established under the Northeast Council Act of 1972**.

Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act 2023

- » Recently, the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill 2023 got the assent of **the President**.
- The Act aims to regulate the **appointment, conditions of service and term of office for the Chief Election Commissioner (CEC) and other election commissioners**, as well as outline procedure for the functioning of Election Commission (EC).
- It replaces the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act 1991.

Key provisions of the Act

-  The **President would appoint the CEC and ECs** based on the recommendation of a selection committee, comprising the **Prime Minister, a Union Cabinet Minister and the Leader of the Opposition or the leader of the largest opposition party in Lok Sabha**.
-  The **President will also periodically fix the number of ECs**.
-  A search committee, headed by the **Cabinet Secretary**, would propose a panel of names to the selection committee.
-  **Eligibility:** The CEC and ECs must: (i) **be persons of integrity**, (ii) **have knowledge and experience in the management and conduct of elections** (iii) **be or have been Secretary (or equivalent) to the government**.
-  **Term and reappointment:** Members of the Election Commission will hold office for **six years, or until they attain the age of 65 years**, whichever is earlier. Members of the Commission **cannot be re-appointed**. **If an EC is appointed as a CEC, the overall period of the term may not be more than six years**.
-  **Removal:** The Act retains the manner of removal of CEC and ECs as specified in the **Constitution**. The CEC may be removed in the same manner and on the same grounds as a Supreme Court Judge. **ECs may be removed only upon the recommendation of the CEC**.
-  The Act includes a clause safeguarding the CEC and ECs from legal proceedings related to action taken during their tenure.

National Broadcasting Policy

- » The **Ministry of Information and Broadcasting (MIB)** is in the process of formulating the National Broadcasting Policy stipulating the vision, mission, strategies and the action points for **development of the broadcasting sector** in the country.
- The policy may provide a **common approach for licences, oversight and compliances**.
- It also includes **promoting content production in India** that promotes Indian culture, expanding institutional capacity and promoting research to **legacy mediums** (print, radio and television) as well as for **digital media**.

Broadcasting Services (Regulation) Bill 2023

- » Released by the **Information & Broadcasting Ministry**, the Bill aims to bring a **consolidated legal framework for the broadcasting sector** and extend it to **OTT content, digital news** as well.
- It seeks to replace the **Cable Television Networks (Regulation) Act of 1995** and other policy guidelines currently governing the broadcasting sector in India.

Key Features

- ★ The Bill introduces **Content Evaluation Committees** for self regulation and **Broadcast Advisory Council** to advise the central government on programme code and advertisement code violations.
- ★ It provides **statutory penalties** like advisory, warning, censure or monetary penalties for operators and broadcasters.
- ★ It aims to **make broadcasting more inclusive and accessible to people with disabilities**. It promotes the **use of subtitles, audio descriptors and sign language**. It has a provision for appointing a **Disability Grievance Officer**.
- ★ The bill has provisions for **infrastructure sharing** among broadcasting network operators and streamlines the **Right of Way** section to address relocation and alterations more efficiently.

NCRB 2022 Report on Crime in India

- » The **National Crime Records Bureau (NCRB)** released its annual report on crime in India for the year 2022.
- The report is a compilation of **data on reported crime** from across the country, and provides the **big picture of broad trends in crime registration**.
- Crime in India reports, information is obtained from the police forces of states and Union Territories.
- Similar data are **furnished for 53 cities with populations exceeding 10 lakh** each as per the 2011 Census, by respective state-level crime records bureaus.

Key Findings

- 📉 There was a decline of **4.5% in the registration of cases** over the second pandemic year, 2021.
- 📉 The **crime rate, or crimes registered per lakh population**, has **declined from 445.9 in 2021 to 422.2 in 2022**.
- 📈 Reporting of **cybercrime** increased significantly **by 24.4 percentage points compared to 2021, to 65,893 cases**.
- 📈 **4,45,256 cases** of crime against women were **registered in 2022**. This was an **increase of 4% over the 2021 numbers**.
- 📈 The states/ UTs **reporting the highest charge sheeting rate under IPC crimes** are **Kerala (96.0%), Puducherry (91.3%), and West Bengal (90.6%)**.

National Crime Records Bureau

- ✓ NCRB is an **Indian government agency (headquartered in New Delhi)** established in 1986 and is part of the **Ministry of Home Affairs (MHA)**.
- ✓ It was set up based on the **recommendation of the National Police Commission, 1977 and a Task force, 1985**.
- ✓ It is responsible for **collecting and analysing crime data** (as defined by the Indian Penal Code (IPC) and Special and Local Laws).
- ✓ Reports published: **Crime in India report & Prisons Statistics India Report**.

Gram Manchitra App

- » Recently, the **Panchayati Raj Ministry** launched the Geographic Information System (GIS) “Gram Manchitra” App.
- This application facilitates and supports Gram Panchayats to perform planning at Gram Panchayat level using **geo-spatial technology**.
- It provides a **single/ unified Geo-spatial** platform to better visualise the various developmental works to be taken up across the different sectors and provide a decision support system for **Gram Panchayat Development Plan (GPDP)**.
- **mActionSoft**, a mobile-based solution which captures photos with **Geo-Tags** was also released.
- Assets geo-tagged using mActionSoft **integrate with “Gram Manchitra”** for enhanced visualisation of the projects.

Geo-tagging of the assets is done in **three stages**

- Before start of the work,
- During the work and
- On completion of work.

Telecommunication Act, 2023

- » Recently, the Telecommunication Act, 2023 was passed.

Some Key features of the bill

- The bill seeks to replace the
 - ✓ **Indian Telegraph Act, 1885;**
 - ✓ **Indian Wireless Telegraphy Act, 1933;**
 - ✓ **Telegraph Wires (Unlawful Possession) Act, 1950;**
 - ✓ **Amends the Telecom Regulatory Authority of India (TRAI) Act, 1997.**
- **Authorization for Telecom-related Activities:** Obtaining prior approval from the central government is mandatory for
 1. Providing telecom services,
 2. Establishing, operating, or expanding telecom networks,
 3. Possessing radio equipment.

- **Assignment of Spectrum:** Spectrum will **only be assigned through auction**, except for specified uses such as national security, defence, disaster management, weather forecasting, transport, satellite services (DTH and satellite telephony), BSNL, MTNL, and public broadcasting.
- **Powers of Interception:** Government can suspend, assume control of, or oversee any telecom service in case of public emergency or national security concerns.
- **Cyber Security:** The Act empowers the central government to establish cyber security rules, encompassing the collection, analysis, and dissemination of traffic data in communication networks.
- **Dispute Settlement:** A tiered structure for settling disputes – involving an adjudicating officer, designated committee of appeals and the Telecom Disputes Settlement and Appellate Tribunal (TDSAT) on top.
- **Territorial Applicability:** It now extends to offences committed outside India if the offence in question involves a telecom service provided in India.

Not of Standard Quality (NSQ) Drugs

- » The **Central Drugs Standard Control Organisation (CDSCO)** has identified the following categories of drugs **NSQ**.

Category A: Spurious and Adulterated Drugs

- ✚ **Spurious drugs** are drug formulations manufactured **concealing the true identity of the product** and **made to resemble another drug**.
- ✚ **Adulterated drugs** are those drugs which are found to **contain a substituted product or contaminated with filth** rendering it injurious to health.

Category B: Grossly Substandard Drugs

- ✚ Drugs manufactured by licensed manufacturers and reported to have **defects of serious nature to affect the quality of drug**.

Category C: Minor Defects

- ✚ Drugs manufactured by the licensed manufacturers were found not of standard quality because of **defects arising out of minor variations in quality**.

Twin Balance Sheet Advantage

- » The **Financial Stability Report (FSR)** released by RBI says that India is on the cusp of Twin Balance Sheet advantage for growth.
- Twin Balance Sheet advantage refers to the **healthy balance sheet of both companies and banks**.
- India has slowly recovered from the Twin Balance Sheet problem that affected both the companies and banking sector during the last decade.
- Banks have bolstered their capital base, with the **capital adequacy ratio** and the **common equity tier 1 capital ratio** reaching historical highs of 17.1% and 13.9%, respectively.
- The **debt-to-equity ratio** of private (non-financial) companies fell from ~55% to 35% between FY15 and FY23.

Card-on-File Tokenization (CoFT)

- » **Reserve Bank of India (RBI)** has recently enabled card-on-file tokenization (CoFT) through card issuing banks and institutions.
- **Tokenization** is a process where **actual card details are replaced with a unique alternate code called a token**.
- Card-on-file tokenization involves **replacing actual credit and debit card** details with an alternative code known as a **token**.
- In CoFT cardholders authorise merchants to **store their payment information securely** and bill cardholders' stored accounts for future purchases.
- The card detail when stored with a merchant is known as **card-on-file (CoF)**.
- Customers who have not enabled tokenisation will need to manually input their name, 16-digit card number, expiry date, and CV (Card Verification Value) each time they make an online purchase

Non-Convertible Redeemable Preference Shares (NCRPS)

- » The **Securities and Exchange Board of India (SEBI)** recently proposed to **reduce the face value** of non-convertible debentures (NCDs) and non-convertible redeemable preference shares (NCRPS) **from Rs 1 lakh to Rs 10,000**.

Preference shares/ preferred stock - It is an exclusive share option which enables shareholders to receive dividends announced by the company before the equity shareholders.

Non-Convertible preference shares are those shares that cannot be converted into equity shares.

Non-redeemable preference shares are those shares that cannot be redeemed or repurchased by the issuing company at a fixed date.

- NCRPS are a type of financial instrument that combines features of both **equity and debt**.
- They have a **fixed redemption date** and the issuer must buy them back at a predetermined price.
- The shareholders will receive the **dividends** even before common shareholders receive.

Logistics Ease Across Different States (LEADS) Report

- » Recently, the **Ministry of Commerce & Industry** released the "**Logistics Ease Across Different States (LEADS) Report 2023. (5th Edition)**."
- The LEADS is a data-driven index to assess **logistics infrastructure, services, and human resources** across all States and UTs.
- LEADS was conceived on the lines of the **Logistics Performance Index of World Bank** in 2018.
- LEADS aims to guide **stakeholders in the logistics sector** by offering strategic insights and fostering healthy competition among states and union territories to improve their logistics performance.

The report is based on **3 pillars**:

- Logistics Infrastructure
- Logistics Services
- Operating and Regulatory Environment

Groups / Categories	Achievers	Fast Movers	Aspirers
Coastal	Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu	Kerala, Maharashtra	Goa, Odisha, West Bengal
Landlocked	Haryana, Punjab, Telangana, Uttar Pradesh	Madhya Pradesh, Rajasthan, Uttarakhand	Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand
North-East	Assam, Sikkim, Tripura	Arunachal Pradesh, Nagaland	Manipur, Meghalaya, Mizoram
Union Territories	Chandigarh, Delhi	Andaman & Nicobar, Lakshadweep, Puducherry	Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

LEADS 2023: Performance Snapshot

* States/ Union Territories within the performance categories are listed in alphabetical order

Loan Write-Off

- » As per recent reports a total of **Rs 2.09 lakh crore** worth of loans were written off by banks in FY23.
- A loan write-off is a tool used by banks to **clean up their balance sheets**.
- By writing off loans, a bank can **reduce the level of non-performing assets (NPAs)** on its books.
- The bank writes off a loan after **the borrower has defaulted on the loan repayment** and there is a **very low chance of recovery**. The **lender then moves the defaulted loan out of the assets side** and **reports the amount as loss**.
- It does not mean the complete cancellation of loan recovery. After the write-off, **banks are supposed to continue their efforts to recover the loans**.

National Transit Pass System (NTPS)

- » Recently, the Union **Minister for Environment, Forest and Climate Change** launched the National Transit Pass System (NTPS) pan-India.
- The National Transit Pass System is to **facilitate the seamless transit of timber, bamboo, and other forest produce** across the country.
- Currently, the transit permits are issued for transport of timber and forest produce based on state specific transit rules.
- The NTPS is envisioned as a “**One Nation-One Pass**” regime, which will enable seamless transit across the country.
- The **QR coded transit permits generated under NTPS** will allow **check gates** across various states to verify the validity of the permits and allow seamless transit.

- **Transit permits** will be issued for **tree species which are regulated**.
- It is designed for user convenience, featuring desktop and mobile applications for easy registration and permit applications.

Economic Activity Index

- » RBI's economic activity index (EAI) has nowcast GDP growth for Q3 (October-December) FY24 at 7 per cent.
- **Economic Activity Index** is released by **the Reserve Bank of India, incorporating 27 indicators to understand the dynamics of growth and output**.
- The **indicators** include the monthly Index of Industrial Production, rail freight, tax collections, oil prices, power supply and steel output, besides Purchasing Managers' Indices.
- The **index uses machine learning tools and artificial intelligence to project GDP numbers going forward**, taking into account data releases.

Paat Mitro App

- » The **Ministry of Textiles** recently launched the “Paat-Mitro” mobile application for Jute farmers.
- The mobile application developed by the **Jute Corporation of India Limited (JCI)**, provides important information about **Minimum Support Prices (MSP) and agronomy** to jute farmers.
- The app available in **6 languages** can be availed **free of cost** by the users.
- In addition the following services will also be available -
 - Weather forecast,
 - JCI procurement locations,
 - Jute Gradation parameters
 - Chatbot Queries
- Farmers will also be able to **track the status of their payments** for the raw jute sold to JCI under MSP Operation.

Exchange Traded Funds (ETF)

- » As per the Minister of State in the **Labour Ministry**, the total investment by the **Employees' Provident Fund Organisation (EPFO)** in exchange-traded funds (ETFs) in more than seven years has **crossed Rs 2.5 trillion**.
- ETF is a **collection of marketable securities** that tracks an index, a commodity, bonds, or a basket of assets. **For Ex:** BSE SENSEX, NIFTY 50, BANK NIFTY etc.
- An ETF can be **structured to track anything** from the price of an individual commodity to a large and diverse collection of securities.
- **Although similar to Mutual funds**, ETFs can be **purchased or sold on a stock exchange** in the same way that regular stocks can.
- ETFs typically have **higher daily liquidity and lower fees** than mutual fund schemes, making them an **attractive alternative for individual investors**.

International Relations

Codex Alimentarius Commission (CAC)

- » Recently, the **Codex Alimentarius Commission (CAC)** has praised India's Standards on Millets and accepted its proposal for the development of global standards for millets during its 46th session held in Rome, Italy.
- Codex Alimentarius Commission (CAC) was created by the **World Health Organisation and Food and Agriculture Organization of the United Nations** in **1963**.
- It is an international **food safety and quality standard-setting body with the objective of protecting consumer's health and ensuring fair practices** in the food trade.
- It consists of **189 member countries**.
- Membership of the Commission is open to **all Member Nations and Associate Members of FAO and WHO** which are interested in international food standards.

International Maritime Organisation (IMO)

- » Recently, India was re-elected to the International Maritime Organisation (IMO) Council with the highest tally at elections held at its Assembly in London for the 2024-25 biennium.
- The International Maritime Organisation was established as the **Inter-Governmental Maritime Consultative Organization (IMCO)** in **1948**, became a **specialised agency of the United Nations** in **1959** and was **renamed International Maritime Organization** in 1982.
- It is the global standard-setting **authority for the safety, security and environmental performance of international shipping**.
- It is **headquartered in London** with **175 member states**.
- The **assembly** is the highest governing body of the IMO.
- The Council is the executive organ of the IMO and is responsible, under the Assembly, for supervising the work of the Organization.

Colombo Security Conclave (CSC)

- » India's **National Security Adviser (NSA)** recently took part in the sixth NSA meeting of the Colombo Security Conclave (CSC).
- Colombo Security Conclave initially known as the **Trilateral for Maritime Security Cooperation**, evolved out of trilateral meetings between **NSAs and Deputy NSAs from India, Maldives, and Sri Lanka**, starting in 2011.
- Current members of CSC include **India, Maldives, Mauritius, and Sri Lanka**, while **Bangladesh and Seychelles** are the two **observer nations**.
- A **permanent secretariat** in **Colombo**, was established in **2021**.

Cooperation under the conclave focuses **on five pillars**:

- 🚢 **maritime safety and security,**
- 🚢 **countering terrorism and radicalisation**
- 🚢 **combating trafficking and transnational organised crime**
- 🚢 **cyber-security and protection of critical infrastructure**
- 🚢 **humanitarian assistance and disaster relief.**

Operation Storm Makers II

- Operation Storm Makers II is a law enforcement operation led by **Interpol**.
- The operation **targeted human trafficking and cyber scams**.
- It involved law enforcement agencies in **27 countries across Asia and other regions**.
- This operation shed light on the **growing network of fraud schemes** associated with **human trafficking**.
- The operation resulted in the **apprehension of 281 individuals** across various countries on charges spanning human trafficking, passport forgery, corruption, telecommunications fraud, and sexual exploitation.

Tax Inspectors without Borders Programme

- » Recently, India has been chosen as the Partner Administration for the Tax Inspectors Without Borders (TIWB) programme and will provide Tax Experts for this programme.
- The Tax Inspectors without Borders Programme is a joint initiative of the **United Nations Development Programme (UNDP)** and the **Organisation for Economic Cooperation and Development (OECD)** launched in **2015**.
- It aims to **strengthen auditing capacity** and multinationals' compliance worldwide.
- and contribute to the domestic resource mobilisation efforts of developing countries.

Asia-Pacific Institute for Broadcasting Development

- » India has been elected president of the Asia-Pacific Institute for Broadcasting Development (AIBD) General Conference (GC) for the third successive term.
- AIBD was established in **1977** under the aegis of **UNESCO**.
- It has **92 member organisations from across 44 countries**.
- It also has **44 affiliates (organisations)** represented by 28 countries and regions in Asia, Pacific, Europe, Africa, Arab States and North America.
- **India** is one of the **founding members of this organisation**.
- **Prasar Bharati** represents India at AIBD.

Project Prayas

- » Recently, the **International Organization for Migration (IOM)** has launched Project PRAYAS in collaboration with the **Ministry of External Affairs**.
- **Promoting Regular Assisted Migration for Youth and Skilled Professionals (PRAYAS)** aims to **facilitate safe, orderly, and regular migration** for Indian workers and students and **consolidate all the state-level initiatives** in migration governance.

Article 99 of UN Charter

- » Recently, the **United Nations Secretary General Antonio Guterres** invoked Article 99 of the UN Charter.
- Article 99 is a provision within the United Nations Charter empowers the secretary-general **to bring attention to the Security Council** about matters that, in their opinion, could **threaten international peace and security**.
- Article 99 is **considered discretionary**, allowing the Secretary-General to highlight critical issues, and **it requires the Security Council's attention when invoked**.
- This article has been **sparingly used**, with previous invocations including addressing the upheaval in the **Republic of Congo in 1960**, **Tunisia's** complaint against France's military actions in **1961**, and the **creation of Bangladesh in 1971**.

Environment & Ecology

UNFCCC Conference of the Parties (COP28)

- » The 2023 United Nations Climate Change Conference or Conference of the Parties of the UNFCCC, more commonly known as COP28, was held at Expo City, Dubai, United Arab Emirates.
- The COP28 agreement calls upon **countries to contribute to tripling global installed capacity of renewable energy**, and doubling of annual improvements in energy efficiency.
- The fifth iteration of the **Global Stocktake (GST) text** was **released at COP28** and adopted with no objection.
- The **Global Cooling Pledge** was adopted by **66 national government signatories** committed to working together to **reduce cooling-related emissions** across all sectors by **at least 68% globally relative to 2022 levels by 2050**.

United Nations Framework Convention on Climate Change

- 🌍 In **1992, at the Rio Earth Summit**, **154 countries** signed a multilateral treaty called the United Nations Framework Convention on Climate Change.
- 🌍 It aimed to **stabilise greenhouse gas concentrations** "at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system."
- 🌍 The treaty came into **force two years later**, and since then, **countries which are part of the UNFCCC, meet every year at different venues**.
- 🌍 Today, there are **198 'parties' or signatories** of the Convention.

Climate Change Performance Index

- » In a significant stride towards sustainable practices, India has ascended to the 7th position in this year's Climate Change Performance Index (CCPI).

- **Climate Change Performance Index** has been published by **Germanwatch** since **2005**, the **New Climate Institute** and the **Climate Action Network** annually.
- It is an **instrument to enable transparency in national and international climate politics**.
- The CCPI uses a **standardised framework to compare the climate performance of 63 countries and the EU**, which together account for over 90% of global greenhouse gas emissions.
- The climate protection performance is assessed in **four categories: GHG Emissions, Renewable Energy, Energy Use and Climate Policy**.
- **Denmark** retained the **top spot with a score of 75.59 per cent**. **Estonia and the Philippines** occupied the **second and third ranks** respectively, with 72.07 and 70.70.

Methane Alert and Response System (MARS)

- » Recently, the Methane Alert and Response System (**MARS**) **identified 127 methane plumes across four continents**.
- MARS is a data-to-action initiative aiming to provide open, reliable, and actionable data to individuals capable of reducing methane emissions.
- Launched at the **Conference of Parties (COP 27) in 2022**, MARS commenced its pilot phase in 2023.
- Collaborating with the **Climate and Clean Air Coalition (CCAC)** and the **International Energy Agency (IEA)**, MARS utilises **satellite technology** to scan the globe for major methane emission sources, enabling timely alerts to countries and companies to take necessary action against methane emissions.

Green Rising Initiative

- » At COP28 in Dubai, the **United Nations Children's Fund (UNICEF)'s Generation Unlimited**, in partnership with India's **Ministry of Environment, Forest, and Climate Change**, introduced the **"Green Rising"** initiative.
- This global endeavour involves a diverse network of **public, private, and youth partners** also.

- "Green Rising" aims to **empower youth to take impactful environmental actions** at the grassroots level, aligning with global efforts to address the severe impacts of climate change.

Indian Forest and Wood Certification Scheme (IFWCS)

- » Recently, the **Indian Forest & Wood Certification Scheme** was launched by the **Ministry of Environment, Forests and Climate Change**.
- **Objective:** To promote Sustainable Management of forests and agroforestry.
- It **aims** to provide **market incentives** for entities, including state forest departments, farmers, and wood-based industries, adhering to responsible forest and agroforestry practices.
- This national forest certification scheme offers **voluntary third-party certification** designed to **promote sustainable forest management and agroforestry** in the country.
- The scheme will be **overseen by the Indian Forest and Wood Certification Council** (advisory), involving various stakeholders, and managed by the **Indian Institute of Forest Management** (overall management of the scheme).
- The **National Accreditation Board for Certification Bodies** under the **Quality Council of India** will accredit the certification bodies which will carry out independent audits and assess adherence of various entities on the standards prescribed under the scheme.

National certification scheme comprises **three types of certifications**:

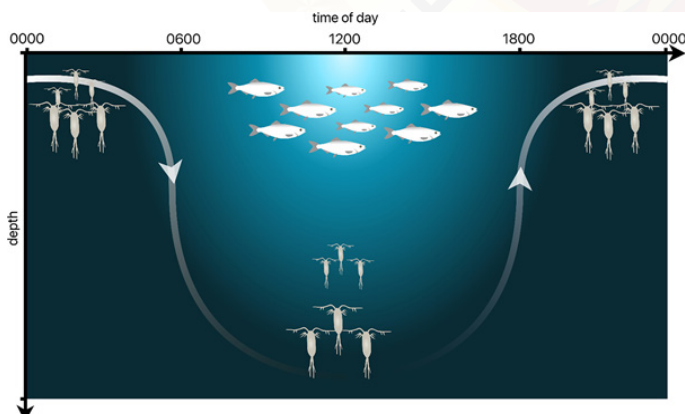
- ▶ Forest management certification
- ▶ Tree Outside Forest Management Certification
- ▶ Chain of custody certification (to trace forest products)
- A separate **Trees Outside Forests Standard** is now introduced as a part of Scheme.

Gajraj Suraksha

- » Indian Railways recently introduced 'Gajraj,' a state-of-the-art technology aimed at **preventing elephant accidents on railway tracks**.
- Utilising an **AI-based algorithm and a network of sensitive optical fibre cables**, Gajraj **detects elephants approaching railway tracks** to mitigate the risk of accidents.
- Named Gajraj Suraksha, the system **detects pressure waves generated by elephant movements** along the tracks, allowing detection up to **200 metres ahead of their arrival**.
- An Optical Fiber Cable (OFC)-based **Intrusion Detection System triggers alarms** to station masters upon detecting movement along the tracks.

Diel Vertical Migration (DVM)

- » As per recent studies, deep-sea creatures, like zooplankton, ascend at night in **Diel Vertical Migration (DVM) for nourishment and safety**.
- This migration serves as a **survival strategy**, allowing them to feed on phytoplankton in the safer darkness while **avoiding daytime predators**.
- DVM is a crucial player in the Earth's carbon cycle. Animals in the **mesopelagic (middle water between 200m to 1000m)** layer actively remove carbon from the upper ocean as they consume surface-dwelling plankton. When these organisms return to deeper waters, they transport the carbon with them.



Red Tide

- » Puducherry recently experienced a **Red tide, a Harmful Algal Bloom (HAB) characterised by algae colonies** growing uncontrollably and producing toxic substances.
- The phenomenon is often **triggered by chemicals from sources** like farming, industries, and sewage treatment plants mixing with water bodies.
- Certain algae responsible for red tides produce **potent toxins harmful** to marine life, including fishes and birds.

Global Green Credit Initiative

- » Prime Minister Narendra Modi launched the **Global Green Credit Initiative at COP-28**, inviting all nations to participate.
- This initiative aims to **incentivize voluntary pro-planet actions** as a response to climate change challenges.
- A **web platform was launched** to serve as a repository of policies and best practices incentivizing environmentally friendly actions.
- The initiative aims to **generate credits for activities such as planting on waste or degraded lands and in river catchment areas** to rejuvenate natural ecosystems.
- It **mirrors the Green Credit Programme** initiated by the Ministry of Environment, Forest, and Climate Change in October.

ALTÉRRRA Climate Fund

- » The **United Arab Emirates** announced **ALTÉRRRA, a groundbreaking US \$30 billion investment fund** for transformative climate partnerships at COP28.
- It will be the world's largest private investment fund for climate change action.
- ALTÉRRRA, set up by Abu Dhabi-based investment fund Lunate, will mobilise a further \$250 billion globally by 2030.

- The fund has an **two-part structure--ALTÉRRRA acceleration** (with a \$25 billion component, will steer institutional capital towards climate investments) and **ALTÉRRRA transformation** (with \$5 billion, will provide risk mitigation capital to incentivise investment flows into the Global South)

Global Renewables and Energy Efficiency Pledge

- » As many as **118 countries** signed the **Global Renewables and Energy Efficiency Pledge** at **COP-28**, that commit to work together;
 - ☞ To **triple the world's installed renewable energy generation capacity** to at least **11000 GW by 2030**, taking into consideration different starting points and national circumstances.
 - ☞ To collectively **double the global average annual rate of energy efficiency improvements** from around **2% to over 4% every year until 2030**.
 - ☞ To put the **principle of “energy efficiency as the first fuel”** at the core of policymaking, planning and major investment decisions.
- **India did not sign** the global renewables and energy efficiency pledge.

Leadership Group for Industry Transition (LeadIT) 2.0

- » During COP28, **India and Sweden unveiled LeadIT 2.0**, an initiative initially launched at the UN Climate Action Summit in 2019.
- Supported by the **World Economic Forum**, **LeadIT brings together countries and companies dedicated to fulfilling the goals of the Paris Agreement**.
- This global initiative focuses on accelerating the transition of challenging sectors like steel, cement, chemicals, aviation, and shipping towards low-carbon pathways.

Loss and Damage Fund

- » Recently, at COP28 a **loss and damage fund** to help vulnerable countries cope with the impact of climate change was officially launched.

- It refers to **costs the rich and developed countries**, who are majorly responsible for industrial emissions that pollute the environment, **should pay to poorer nations** that have made negligible contributions to pollution but are more vulnerable to extreme climate events.
- The **World Bank** will oversee the loss and damage fund.

Loss and Damage refers to the **negative consequences that arise from the unavoidable risk of climate change**, like rising sea levels, prolonged heat waves, desertification, acidification of the sea and other extreme events.

Global Climate 2011–2020 Report

- » **The World Meteorological Organization (WMO)** recently released the Global Climate 2011-2020 Report.
- As per the report 2011-2020 is the **warmest decade on record for both land and ocean**.
- Northwest India, Pakistan, China and the southern coast of the Arabian Peninsula experienced a wet **decade**.
- **Marine heat waves (MHW)** were observed over 60% of the surface of oceans.
- As per the report **Glaciers around the globe thinned by 1 metre per year**.

Geography

Rat Hole Mining



- » Rat hole mining, a method of extracting coal from narrow, horizontal seams, has recently been utilised to **rescue 41 workers trapped inside Uttarakhand's Silkyari tunnel**.
- This technique involves digging **narrow pits, or "rat holes,"** just large enough for one person to descend and extract coal.
- However, rat hole mining has faced **significant criticism for its hazardous working conditions**, environmental damage, and frequent accidents.
- The National Green Tribunal (NGT) **banned the practice in 2014**.

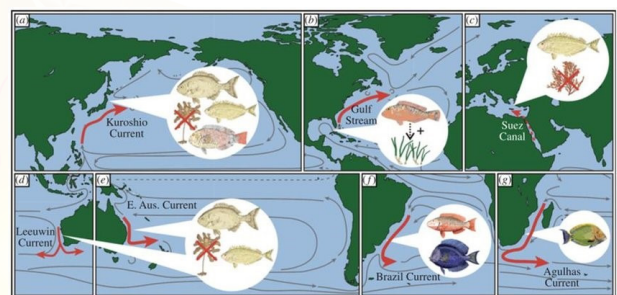
Building Adaptation and Resilience in the Hindu Kush Himalayas Initiative

- » **Asian Development Bank** recently launched Building Adaptation and Resilience in the Hindu Kush Himalayas (HKH) Initiative.
- Its primary objective is to address the adversities of **climate change in the region**.
- The initiative will combine cutting edge risk assessment and risk management tools, such as insurance and risk transfer, to help guide investment decisions for large scale infrastructure.

Hindu Kush-Himalayan region spans an area of approximately. 4.3 million square km and includes Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.



Tropicalisation



- » Recent studies show that **Climate change** is causing a global phenomenon known as **tropicalisation**.
- As per the studies the **rising sea temperatures** due to climate change are causing **tropical marine species to move from equator towards poles and temperate species are retreating**. . This **mass movement of marine life** is termed as tropicalisation.
- The trend is observed in areas with **strong currents away from the equator**, leading to consequences for ecosystems, biodiversity, and potential impacts on the global economy.
- **The Mediterranean Sea** is now considered a tropicalisation hotspot due an increase in tropical species.
- **Tropicalisation, Borealisation and Desertification** contribute to global redistribution of marine species and rearrangement of ecological communities.

Borealization is expansion of temperate species (terrestrial and marine) into Arctic polar- regions

Aquaculture in India



- » India has recently overtaken China to become the largest contributor of inland capture water fisheries.
- India is the **2nd largest aquaculture nation** in the world.
- India is the **3rd largest fish producer** and **4th largest fish exporting country**.
- Around **75% of fish production** is contributed by inland fisheries.

National Geoscience Data Repository Portal

- » The **Union Ministry of Mines** is to launch the **National Geoscience Data Repository (NGDR) Portal** in December 2023 in a ceremony in New Delhi.
- The NGDR initiative is spearheaded by the **Geological Survey of India (GSI)** and **Bhaskaracharya Institute of Space Applications and Geoinformatics (BISAG-N)**.
- It is a comprehensive **online platform for accessing, sharing, and analysing geospatial information** across India.
- It represents a significant leap forward in **democratising critical geoscience data, empowering stakeholders** across industries and academia with unprecedented access to valuable resources.

Chillai Kalan

- » Chillai Kalan (or **Chillia Kalan**) is a period of **40 day harsh winter in Kashmir** which starts from **21st December** and goes on till **29th January** every year.
- During this period, the **weather in Kashmir valley** continues to remain **dry and cold** with **minimum temperatures hovering below the freezing point**.

- Chillai Kalan is a **Persian term** that means '**major cold**'.
- The first day of Chillai Kalan is celebrated as the **Pheran Day** in Kashmir to popularise the **long woollen gown Pheran**.
- Chillai Kalan is followed by a **20 day long Chillai Khurd** (small cold) between **31st January and 19th February** and a **10 day long Chillai Baccha** (baby cold) from **20th February to 2nd March**.

Indian Ocean Tuna Commission

- » The **Ministry of Fisheries, Animal Husbandry & Dairying**, GoI, recently organised the 19th Working Party on Data Collection and Statistics (WPDCS19) of the Indian Ocean Tuna Commission (IOTC).
- The IOTC was established in 1993 by the **Food and Agriculture Organization (FAO)**.
- It has its **headquarters in Victoria, Seychelles**, and counts 31 contracting parties, including India.
- It is tasked with sustainably **managing highly migratory fisheries resources**, particularly tuna and tuna-like species, in the Indian Ocean.
- The **Indian Ocean** ranks as the **second-largest tuna fishery globally**.
- Tunas are characterised by elongated, streamlined bodies that taper to a slender tail base, often featuring a forked or crescent-shaped tail.

Global Drought Snapshot 2023

- » Global Drought Snapshot,' was launched by the **UN Convention to Combat Desertification (UNCCD)** at the outset of COP28 climate talks in the UAE.
- UN Convention to Combat Desertification (UNCCD) is the **only legally binding framework** set up in 1992 to address desertification and the effects of drought.

Key Findings

- ★ **Five consecutive rainfall season failures in the Horn of Africa**, caused the region's **worst drought in 40 years**, contributing to reduced agricultural productivity, food insecurity and high food prices.

- ★ Africa's **drought-related economic losses** in the past 50 years **at \$70 billion**.
- ★ 5 million people in southern China affected by record-low water levels in the Yangtze River due to drought and prolonged heat
- ★ **85% of people who were affected by droughts** live in **low- or middle-income countries**.

Biofortified Seeds

- » Since 2014, the **Indian Council of Agricultural Research (ICAR)** has developed 142 biofortified seeds varieties, including 124 for field crops and 18 for horticultural crops.
- Biofortified seeds are bred varieties that **aim to enhance nutritional content without adverse effects on soil and water ecology**.
- The biofortified varieties developed by ICAR have **demonstrated equal or better yields** compared to conventional varieties, with **no added cultivation costs**.
- A range of crops, such as rice, wheat, maize, pearl millet, sweet potato etc were created. **For Ex:** Golden Rice fortified with Vitamin A.
- During the past six years, **more than 10 million hectare** area including wheat, rice, pearl millet, mustard and lentil has been **covered under biofortified varieties**.

Kasturi Cotton Bharat brand

- » **Recently, the Union Minister of Textile, Commerce & Industry, Consumer Affairs and Food & Public Distribution launched website of Kasturi Cotton Bharat.**
- It aims to boost the global competitiveness of Indian cotton by taking charge of branding, traceability, and certification,
- The brand works on the principle of self-regulation by owning complete responsibility of **Branding, Traceability and Certification of Indian Cotton**.
- The **Kasturi Cotton Bharat digital platform** provide necessary information and updates on this initiatives and highlights the **registration process for ginners to produce Kasturi Cotton**.
- The **Cotton Textiles Export Promotion Council (TEXPROCIL)** is the apex body that has been designated as the **implementing agency** for Traceability, Certification and Branding of "KASTURI Cotton India".

Science & Technology

Pompe Disease

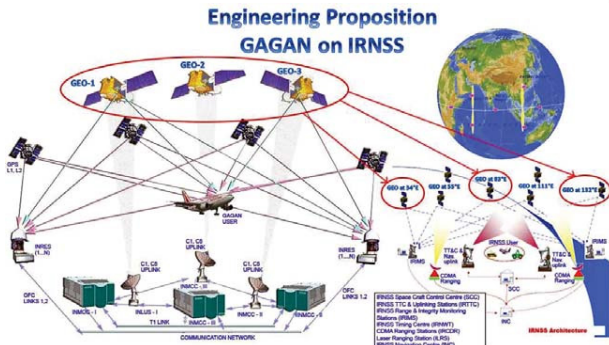
- » Recently, India's **first patient diagnosed with Pompe disease passed away** after nearly six years in a semi-comatose state.
- Pompe disease is a **rare inherited disorder** affecting both males and females, with around one child per million being affected.
- It results from **mutations in the GAA gene**, which impairs the production of the enzyme acid alpha-glucosidase.
- This enzyme deficiency leads to the **accumulation of glycogen in lysosomes**, causing damage to organs and tissues, particularly muscles.
- **Symptoms** include muscle weakness, respiratory issues, heart problems, and difficulty swallowing.
- Pompe disease can manifest as **infantile-onset**, with symptoms appearing in the first **few months after birth, or late-onset**, with symptoms emerging later in childhood or adulthood. **Enzyme Replacement Therapy (ERT)** is a common treatment for this disease.

Noma Disease

- » The **World Health Organization (WHO)** has added one of the world's most **under-recognized health challenges, Noma**, to its official list of **neglected tropical diseases (NTD)**.
- Noma is a **severe gangrenous disease** of the **mouth & face** with a **mortality rate of approximately 90 per cent**.
- The name of the disease comes from the Greek word "**nomē**", meaning "**to devour**", as noma **eats away facial tissue and bones if not treated early**.
- **Malnutrition, poor access to sanitation & oral hygiene** are some of the attributed causes.
- It mainly affects **children aged 2-6 years old** and is found to be most common among those living in **poor communities**.

- Treatment includes **improving nutrition, promoting oral hygiene and surgical procedures** to remove necrotic tissue and reconstruct the affected areas.

GPS Aided GEO Augmented Navigation (GAGAN)

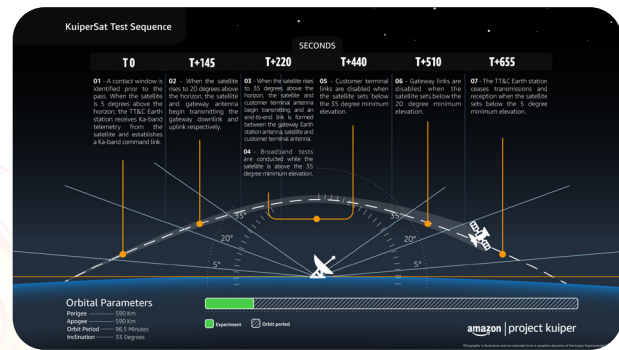


- » GAGAN is a **Satellite Based Augmentation System (SBAS)** for the Indian airspace, jointly implemented by the **ISRO and the Airports Authority of India (AAI)**.
- GAGAN is designed to provide the additional **accuracy, availability, and integrity necessary** to enable users to **rely on GPS for all phases of flight**.
- It uses a **system of ground stations** to provide necessary augmentations to the **GPS Standard Positioning Service (SPS) navigation signal**.
- The system consists of **15 Indian Reference Stations (INRESs)** installed at various **airports in India**.
- Other than GAGAN, there are only 3 SBAS in the world- **WAAS (United States), EGNOS (Europe) and MSAS (Japan)**.

Cell Broadcast Alert System

- » The **Department of Telecommunications, in collaboration with the National Disaster Management Authority**, recently conducted a **Cell Broadcast Alert System testing** to enhance emergency communication during disasters and ensure the safety and well-being of our valued citizens.
- The Cell Broadcast Alert System is a **state-of-the-art technology** that allows to **send critical and time-sensitive messages** for disaster management to **all mobile devices** within a **designated geographical area**, irrespective of whether the recipients are residents or visitors.

Project Kuiper

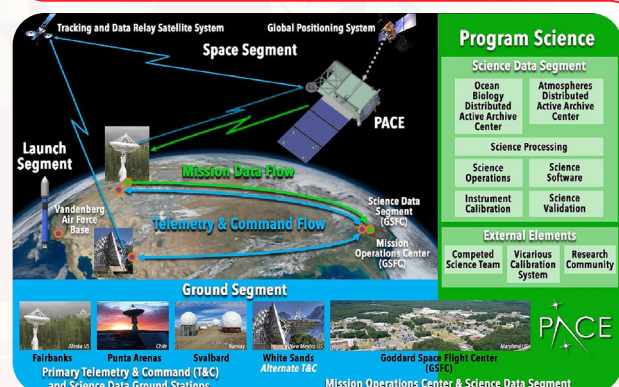


- » **Amazon recently signed an agreement with SpaceX** to launch Falcon 9 rockets for its Kuiper Project.
- It is **Amazon's project to provide high-speed internet access anywhere in the world**.
- It aims to build a network of **3,236 satellites** in Low Earth orbit.
- It will **bring fast, affordable broadband to unserved and underserved communities** around the world.

Low Earth Orbit (LEO)

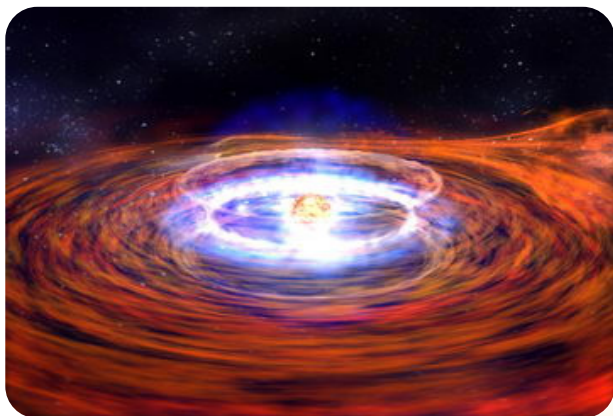
- It is an orbit around Earth with an altitude above Earth's surface from 160 km to 2,000km
- The majority of satellites are to be found in LEO.

Plankton, Aerosol, Cloud, Ocean Ecosystem (PACE) mission



- » **NASA is planning to launch its PACE Mission.**
- The mission will help to enhance our understanding of **Earth's atmosphere**.
- It will employ advanced polarimeters to study the **interplay of light, aerosols, and clouds**, along with their impact on air quality and climate.
- It will **analyse the ocean colour** to understand oceanic processes.

X-ray bursts



- » Recently, **India's observatory AstroSat** has detected bright sub-second X-ray bursts from a new neutron star with an ultra-high magnetic field.
- X-ray bursts occur in low-mass X-ray binary systems where a **neutron star** and **low-mass main sequence star** are in orbit around one another.
- Due to their close proximity and the extreme gravity of the neutron star, the companion star overflows its **roche-lobe** and **hydrogen is drawn into an accretion disk** around the neutron star

Roche-lobe - The region surrounding each star in a binary system, within which any material is gravitationally bound to that particular star.

Accretion disk - A disklike flow of gas, plasma, dust, or particles around any astronomical object.

- This hydrogen is eventually **deposited on the surface of the neutron star** and immediately is **converted into helium due** to the extreme temperatures and pressures that exist there.
- A thin surface layer of helium is built up, and once a critical mass of helium is reached, it ignites explosively, heating the entire surface of the neutron star to several tens of millions of degrees releasing a sudden burst of X-rays

INS Imphal



- » INS Imphal (Pennant D68), the third of four warships of **Project 15B** that together form the **Visakhapatnam class stealth-guided missile destroyers**, has been commissioned into the Indian Navy.
- INS Imphal is the **first warship** to be named after a city in Northeast India.
- They are indigenously designed by the Indian Navy's in-house organisation **Directorate of Naval Design(Warship Design Bureau)** and constructed by **Mazagon Dock Shipbuilders Limited**, Mumbai.
- They are equipped with sophisticated state of the art weapons and sensors such as **surface-to-air missiles, surface-to-surface missiles,torpedo launchers**, etc.
- It will help to protect our Exclusive Economic Zone(EEZ) and enhance India's maritime capabilities and role as a net security provider in the Indian ocean region.
- The ship **measures 163m in length**, and **17m in breadth** with a displacement of 7,400 tonnes and is amongst the most potent warships built in India.

Project 15B

- The Visakhapatnam-class destroyers, also classified as the P-15 Bravo class, or simply P-15B, is a **class of guided-missile destroyers** currently being built for the Indian Navy.
- A total of four ships are being built by Mazagon Dock Limited (MDL), under the Make in India
- These four ships are **Visakhapatnam, Mormugao, Imphal & Surat**.
- The first vessel of the class, **INS Visakhapatnam** was commissioned in 2021. The second ship is **INS Mormugao** in 2022.



Gemini AI Model

- » Recently, **Google announced** the launch of its latest, most powerful AI model, Gemini replacing the name Bard..
- Gemini AI is a **new multimodal general AI model**, which means it can understand, and work with different formats, including text, code, audio, image, and video, at the same time.
- It comes in three sizes: **Gemini Ultra, Gemini Pro and Gemini Nano**.

Compressed Bio-Gas (CBG) Blending Obligation

- » The government has announced mandatory blending of compressed biogas (CBG) with piped gas supplied to households and compressed natural gas (CNG) for the transpire sector.
- The **National Biofuels Coordination Committee (NBCC)** announced the introduction of **phase wise mandatory blending of CBG in Compressed Natural Gas (CNG) (Transport) & Piped Natural Gas (PNG) (Domestic)** segments of the City Gas Distribution (CGD) sector.
- The key objectives of the CBO are to **stimulate demand for CBG in the CGD sector, import substitution for Liquefied Natural Gas (LNG), saving in Forex, promoting circular economy and to assist in achieving the target of net zero emission etc.**
- CBO will be **voluntary till FY 2024-2025 and mandatory blending obligation would start from FY 2025-26**.
- A **Central Repository Body (CRB)** will monitor and implement the blending mandate based on the operational guidelines approved by the **Ministry of Petroleum & Natural Gas**.

DRESS Syndrome

- » Recently, the **Indian Pharmacopoeia Commission (IPC)** has issued a drug safety alert for doctors and patients about the use of **painkiller mefenamic acid** can lead to Drug Reactions with Eosinophilia and Systemic Symptoms (DRESS) Syndrome.
- DRESS Syndrome is a **type of drug allergy** that can occur as a **reaction to a large variety of medications and can have a variety of symptoms**.

- It is sometimes referred to as **DIHS (Drug Induced Hypersensitivity Syndrome)**.
- The most important step to **treat DRESS Syndrome** is to **stop the medication involved** in the reaction, and sometimes, no further treatment is needed.

Schedule X drugs

- » Recently, the autopsy report for Matthew Perry, stating that the actor's cause of death was the **"acute effects of ketamine"**, which is a Schedule X drug in India.
- Schedule X drugs are the **'restrictive drugs'** that include **Narcotic and Psychotropic drugs** which are covered under the **Drugs and Cosmetic Act and Rules**.
- The list of Schedule X drugs includes over 536 drugs **to be sold only on the medical prescription**.

Anthrobots

- » US Researchers have created **anthrobots**, miniature robots made from human tracheal cells.
- These bio-robots can **self-assemble, move, and heal neurons** in lab settings.
- Sized between a human hair and a sharpened pencil tip, they **differ from Xenobots**, which are made from frog embryonic stem cells.
- Anthrobots show **potential for regenerative medicine**, wound healing, and disease treatment.

Dark Fibre

- » The **Securities Appellate Tribunal (SAT)** recently overturned the Securities and Exchange Board of India's (SEBI) fine against the National Stock Exchange (NSE) in the dark-fibre case.
- **Dark fibre, or unlit fibre**, is **inactive fibre-optic cable infrastructure** used for **private networking and internet infrastructure**.
- It's distinct from **"lit fibre"** which is actively used for data transmission.

- **SAT is a statutory body** established under the provisions of the **SEBI Act, 1992** to hear appeals against SEBI, Pension Fund Regulatory and Development Authority (**PFRDA**) and Insurance Regulatory Development Authority of India (**IRDAI**).

eSoil

- » Swedish Researchers have developed eSoil, an **electrically conductive growth substrate made from cellulose and a conductive polymer called PEDOT**.
- The low-power bioelectronic substrate can be used for soilless cultivation methods like **hydroponics**.
- It was shown to **increase barley seedling growth by 50%**.
- eSoil stimulates plant roots and growth environments with low power.
- It **enables hydroponic cultivation without soil**, using water, nutrients, and a substrate.
- Benefits include **low energy use, safety, and compatibility with urban agriculture**.

AKTOCYTE

- » Scientists from the **Department of Atomic Energy (DAE)** and **M/s. IDRS Labs Pvt. Ltd.** have jointly developed **AKTOCYTE tablets**, a breakthrough nutraceutical to **improve cancer patients' quality of life** during radiotherapy.
- AKTOCYTE **reduces side effects**, especially in pelvic cancer cases, often eliminating the need for surgical interventions like bladder removal.
- It **acts as a regenerative nutraceutical**, immunomodulator, and antioxidant, enhancing cancer care.
- **Approved by FSSAI**, AKTOCYTE ensures safety and quality standards compliance.

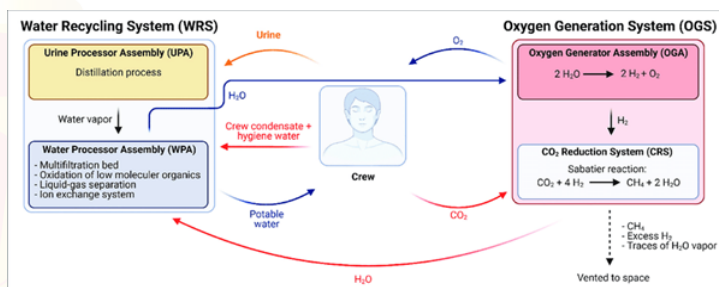
Environment Control and Life Support System (ECLSS)

- » Recently, ISRO has decided to indigenously develop the environmental control and life support system (ECLSS) for the upcoming human space flight **Mission Gaganyaan**.

- ECLSS is a **critical subsystem** in spacecraft and space stations, designed to **sustain human life in the harsh environment of space**.

The 3 critical Aspects are

- Air Management
 - Oxygen Generation
 - Water Recovery and Management
- A **well-developed ECLSS** is needed to supply the essentials, maintain the acceptable environment and deal with the management of waste products.



Event of the Month



One on One Sessions with former UPSC Chairman Prof. DP Agrawal
Fortune Interview Mentorship Programme 2023

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Miscellaneous

SATHEE Portal

- » The Minister of State for Education announced the **launch of the SATHEE (Self-Assessment, Test, and Help for Entrance Examination) portal** in collaboration with IIT Kanpur.
- This portal aims to provide **quality education for competitive exams** like JEE, NEET, and state-level engineering tests.
- It utilises the **Prutor AI program developed by IIT-Kanpur** and aligns with the **National Education Policy and SDG 4**.
- SATHEE offers a **45-day crash course with live and recorded lectures in five languages**, including English.

AMRIT Technology

- » **IIT Madras recently developed the 'AMRIT' (Arsenic and Metal Removal by Indian Technology)** for water purification.
- It utilises **nano-scale iron oxy-hydroxide** to selectively remove arsenic and metal ions from water.
- This technology caters to both domestic and community levels, aligning with the **goals of the Jal Jeevan Mission** to provide safe tap water to rural Indian households.

YUVAi Initiative

- » **YUVAi, or 'Youth for Unnati and Vikas with AI,'** was recently showcased at the GPAI Summit.
- **Launched in 2020 by the National e-Governance Division and Intel India**, YUVAi aims to bridge skill gaps, enhance digital literacy, and foster inclusivity.
- It equips youth with essential AI skills, preparing them for the future workforce.
- YUVAi targets students from **classes 8th to 12th nationwide**, empowering them to become human-centric designers and users of AI.

Palna Scheme

- » The **National Creche Scheme** has been restructured and **renamed as the Palna Scheme** under the 'Samarthya' sub-scheme of 'Mission Shakti.'
- Targeting **children aged 6 months to 6 years**, it caters to **working women in rural and urban areas who work a minimum of 15 days a month or six months a year**.
- The scheme **provides day-care facilities** to promote the holistic development of children, focusing on physical, cognitive, social, and emotional aspects.

Mission Shakti

- Mission Shakti is a scheme in **mission mode aimed at strengthening interventions for women safety, security and empowerment**.
- It seeks to realise the **Government's commitment for "women-led development"** by **addressing issues affecting women on a life-cycle continuum** basis and by making them equal partners in nation-building through convergence and citizen-ownership.

Hydrogen for Heritage Scheme

- » The **Ministry of Railway** is inviting expressions of interest from global players to manufacture hydrogen-powered trains under the Hydrogen for Heritage Scheme in the country.
- The **'Hydrogen for Heritage' scheme** is a plan to operate **hydrogen-powered trains on select heritage and hilly routes** that are environmentally sensitive.
- India's plan to develop the technology involves **retrofitment of hydrogen fuel cells on diesel electric multiple unit (DEMU) rakes**.
- This prototype is expected to run on the **Jind-Sonapat section in Haryana initially**.
- Indian Railways has proposed to **run 35 hydrogen trains** at an estimated cost of Rs80 crore per train, with ground infrastructure costing Rs70 crore per route.

Basic Animal Husbandry Statistics 2023

- » Basic Animal Husbandry Statistics 2023 was released recently by the **Union Ministry of Fisheries, Animal Husbandry & Dairying**.
- It gives an overview of **Animal Husbandry sector** briefly in **terms of important livestock statistics on livestock population**, livestock production and other information like animal diseases, infrastructure etc

Major Highlights

- ◆ **Total milk production** in the country during 2021-22 is **221.06 million tonnes**.
- ◆ Top five major milk producing States are **Rajasthan** (15.05%), **Uttar Pradesh** (14.93%), **Madhya Pradesh** (8.06%), **Gujarat** (7.56%) and **Andhra Pradesh** (6.97%).
- ◆ The **total egg production** in the country is **129.60 billion nos** which has increased by 6.19% as compared to previous year.
- ◆ **Total five major egg producing** States are **Andhra Pradesh** (20.41%), **Tamil Nadu** (16.08%), **Telangana** (12.86%), **West Bengal** (8.84%) and **Karnataka** (6.38%).
- ◆ The total **five major meat producing States** are **Maharashtra** (12.25%), **Uttar Pradesh** (12.14%), **West Bengal** (11.63%), **Andhra Pradesh** (11.04%), and **Telangana** (10.82%).
- ◆ The **top five major wool producing States** are **Rajasthan** (45.91%), **Jammu and Kashmir** (23.19%), **Gujarat** (6.12%), **Maharashtra** (4.78%) and **Himachal Pradesh** (4.33%).

Donkey Routes

- » As per US Customs & Border protection data, **96,917 Indians were arrested while crossing illegally to the US**.
- A method where **migrants travel through various countries with lenient visa policies** to reach their dream **destinations such as the US, UK or Canada**.
- These are **illegal migration routes** where agents in India coordinate with **trafficking networks**.

Know India Programme (KIP)

- » The Know India Programme (KIP) of the Union Government **recently marked its 20th anniversary**.
- This flagship initiative by the **Ministry of External Affairs** targets **Indian-origin youth aged 18 to 30**.
- KIP offers a **three-week orientation in India** to foster awareness about various aspects of contemporary Indian life.
- **Selected participants visit India for a 21-day schedule**, with 90% of their international airfare costs covered by the Ministry, and the remaining 10% borne by the applicants themselves.
- The programme is open to Indian-origin youth, with priority given to those from **Girmitiya countries** such as Mauritius, Fiji, Suriname, Guyana, Trinidad and Tobago, and Jamaica.
- **Girmitiya, aka Jahajis**, are those Indians who went abroad as indentured labourers under an agreement.

Bhoomi Rashi Portal

- The Union Minister of Road Transport and Highways recently said 1467 projects of the **National Highways Authority of India (NHAI)** have been brought under the Bhoomi Rashi Portal.
- It is an e-Governance portal of the **Ministry of Road Transport and Highways**.
- It acts as a **single-point platform for the online processing of land** acquisition notifications to accelerate highway infrastructure development projects in India.
- The portal has been integrated with the **Public Financial Management System (PFMS)** of the **Ministry of Finance** for depositing compensation in the accounts of affected persons on a real-time basis.

India's 1st Winter Scientific Expedition to Arctic

- » The **Ministry of Earth Sciences** recently launched **India's first Winter Scientific Expedition to the Arctic**.
- These expeditions are conducted under the **Polar Science and Cryosphere Research (PACER) scheme** through the National Centre for Polar and Ocean Research (NCPOR).
- The team includes researchers from NCPOR, Indian Institute of Technology (IIT) Mandi, Indian Institute of Tropical Meteorology (IITM), and Raman Research Institute.
- **Unlike Antarctica, which is governed by the Antarctic Treaty, the Arctic region falls under various national jurisdictions.**

Ayushman Arogya Mandir (AAM)



- » The Union Government has **renamed Ayushman Bharat Health and Wellness Centres (AB-HWCs) to 'Ayushman Arogya Mandir.'**
- Initially **launched in 2018** under the Ayushman Bharat Program, these centres aim to provide a wider range of services beyond maternal and child healthcare.
- They offer care for **non-communicable diseases, palliative and rehabilitative care, oral, eye, and ENT care, mental health support, and first-level emergency and trauma care.**
- Additionally, they provide **free essential drugs and diagnostic services.** The new tagline for AB-HWCs is **"Arogyam Paramam Dhanam."**

Aarogya Maitri Aid Cube

- » The world's first 'Aarogya Maitri Aid Cube' was recently launched in **Gurugram under Project BHISHM (Bharat Health Initiative for Sahyog Hita and Maitri).**



- This modular trauma management and aid system comprises **72 detachable mini-cubes**, each serving as a specialised station for emergency response and humanitarian efforts.
- Equipped with **medical supplies** like a mini-ICU, operation theatre, power generator, and X-ray machine, it can handle severe injuries including major burns, fractures, and head injuries for up to **200 patients.**
- These portable cubes are designed for rapid deployment via **airdrops or ground transportation.**

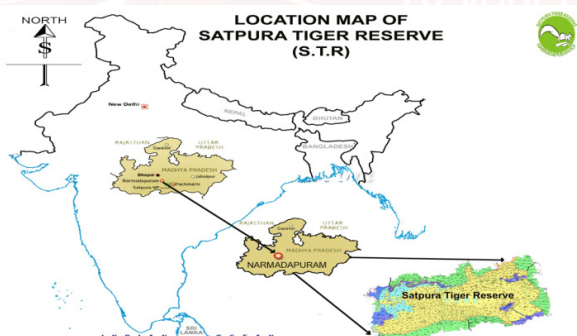
Places in News

Marapi Volcano



- » Mt. Marapi's recent eruption was the deadliest since 1979, when an eruption killed 60 people.
- The 2890m tall peak is located on **Sumatra**, the **westernmost and third largest of Indonesia's** 18,000 islands.
- 2.5 lakh people live in its 10km radius since the volcanic ash has made the soil fertile for agriculture.
- **Mount Marapi**, which means "**Mountain of Fire**", is a Stratovolcanoes meaning they are composite cone volcanoes that erupt viscous lava that forms a steep-sided, triangular-shaped structure.

Satpura Tiger Reserve



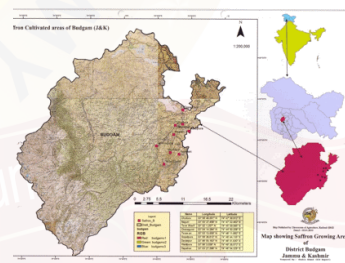
- » In a key archaeological finding, the forest department of Satpura Tiger Reserve recently found a rock painting dating back 10,000 years in Madhya Pradesh's Narmadapuram.
- Satpura Tiger Reserve is located in the **Hoshangabad district of Madhya Pradesh**.
- It is located in the Satpura ranges of the Central Indian Landscape and lies south of **river Narmada**.
- STR is part of **one of the largest tiger habitats and also houses more than 50 rock shelters that are almost 1500 to 10,000 years old**.
- Geological formations include the **Deccan trap series**, Gondwanas, and Metamorphic rocks.

Eastern Ghats Nature Interpretation Centre

- » The first-of-its-kind Nature Interpretation Centre at the Eastern Ghats Biodiversity Centre along the periphery of the **Kambalakonda Wildlife Sanctuary** in **Visakhapatnam** was inaugurated.
- Kambalakonda Wildlife Sanctuary located in the state of Andhra Pradesh, named after the local hillock "**Kambalakonda**".
- It hosts **dry evergreen forests**, a highly-threatened and unique forest type seen only in **Tamil Nadu and Andhra Pradesh in India**.
- Mammals like **Leopard, Barking Deer, Jackal and Avifauna include Paradise flycatcher, Tree pie, Quails, Partridges**, etc.

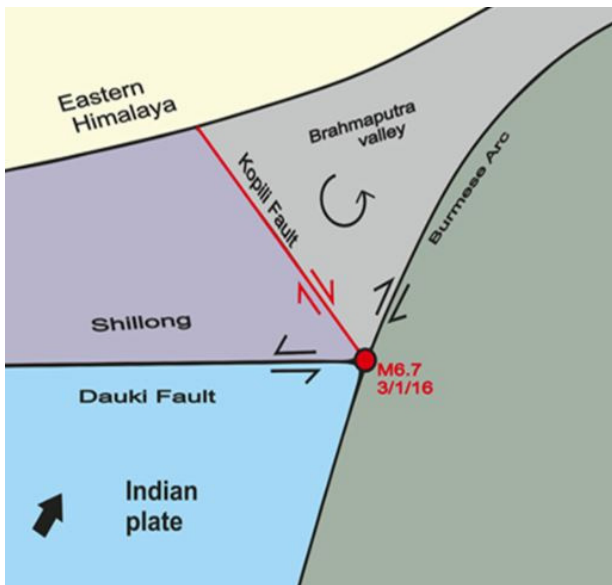
Pampore Region

- » Pampore known as the known as **Saffron bowl of Kashmir** (saffron also referred to as "**red gold**") cultivation has seen a decline in productivity.



- Pampore Saffron Heritage of Kashmir is one of the **Globally Important Agricultural Heritage systems (GIAHS)** recognised sites in India.
- Other districts producing saffron are **Budgam, Srinagar, and Kishtwar districts**.

Kopili Fault (KF) Zone



- » Recently, researchers from the **Indian Institute of Geomagnetism (IIG)** have identified seismogenic liquefaction features in the **active Kopili Fault (KF) zone**.
- The Kopili fault zone **runs 300 kilometres northwest-southeast**.
- It stretches from the **western section of Manipur** to the border with **Bhutan, Arunachal Pradesh, and Assam**.
- This zone is a **seismically active area** and falls into the highest **Seismic Hazard Zone V**.
- The zone is associated with **collisional tectonics** because of the **Indian Plate** subducting beneath the **Eurasian Plate**.

- The **Almora Fault** line is a high angle **west-northwest-east-southeast** to **northwest-southeast** trending tectonic plane.
- It **separates the Garhwal group of inner lesser Himalayas** in the north from **Jaunsar and Dudhatoli Groups of outer lesser Himalayas** in the south.

Mullaperiyar Dam

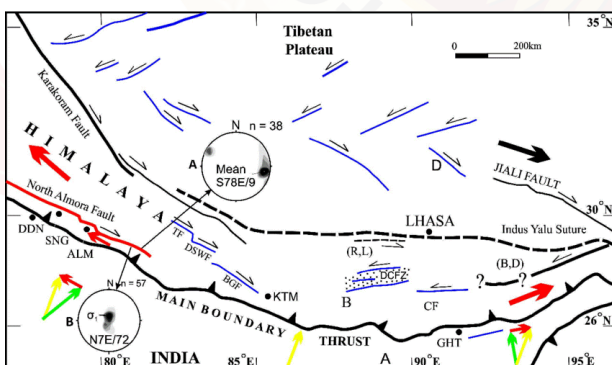


- » Recently, Tamil Nadu cancelled the decision to open the spillway shutters of Mullaperiyar dam after a lull in rainfall and a reduced inflow of water to the dam.



- It is a **masonry gravity dam** situated on the **Periyar River** in Thekkady, Idukki district, in Kerala.
- **Located 881 m above sea level**, on the **Cardamom Hills of the Western Ghats**.
- The dam is built at the **confluence of the Mullayar and Periyar rivers**.
- The dam was constructed with **limestone and "Surkhi"** (burnt brick powder and a mixture of sugar and calcium oxide).
- Although the dam is located in Kerala, it is **operated and maintained by the neighbouring state of Tamil Nadu**. It was according to a **999-year lease agreement** made during British rule that the **operational rights were handed over to Tamil Nadu**.

Almora Fault



- » The rise in earthquake activity in 2023 has been linked primarily to the activation of the Almora fault in **Western Nepal**.

Valmiki tiger Reserve



- » Reduced human activity, including mining bans, **helped increase tiger numbers** in Valmiki Tiger Reserve as per recent data.
- Located in **West Champaran district, Bihar**, Valmiki Tiger Reserve forms the **easternmost limit of the Himalayan Terai forests in India**.
- It witnessed the growth in the number of **big cats from 31 (2018) to 54 (2023)**.
- The vegetation types include mainly **Moist mixed deciduous, Open-land vegetation, Submountainous semi-evergreen formation, Freshwater swamps, Riparian fringes, alluvial grasslands, high hill savannah and Wetlands**.
- **Wild mammals** found in the forests of Valmiki Tiger Reserve include **tiger, sloth bear, leopard, wild dog, bison, wild boar**, etc.
- It was designated as a **Wildlife Sanctuary in 1978**.

Species in News

Salamander

- » A recent video of giant ancient salamanders living inside caves in southwest China has sparked awe and concern within the scientific community.



- A salamander is an **amphibian with a slender body and a long tail**.
- They encompass approximately **500 species of amphibians**.
- Most salamanders look like a cross between a lizard and a frog.
- They have moist, smooth skin, like frogs, and long tails, like lizards.
- Salamanders range in **North America, Europe, Asia, the northern parts of South America, and North Africa**.

Cinereous Vulture



- » Recently, the cinereous vulture (**Aegypius monachus**), one of the largest raptors in the world, has been sighted at the **Asola Bhatti Wildlife Sanctuary, Delhi**.
- Cinereous Vulture is also known as the **Eurasian Black Vulture or monk vulture**.

- It is one of **the heaviest and largest raptors in the world.**
- This vulture is a **bird of hilly, mountainous areas**, especially favouring **dry semi-open habitats** such as meadows at high altitudes over much of the range.
- It is mainly found in Spain and inland Portugal, South France, central Asia, northern India, northern Manchuria, Mongolia and Korea.

Conservation status

- ✓ **IUCN: Near threatened**
- ✓ **Wildlife Protection Act 1972: Schedule IV**

Pantoea Tagorei

- » Recently, a team of researchers from Kolkata's Visva-Bharati has **identified a new species of bacteria** which has been named **Pantoea Tagorei** in homage to Nobel Laureate Rabindranath Tagore.
- Pantoea Tagorei was discovered from **soil samples** collected in the **Jharia coal mines**.
- It has **unique properties beneficial for plant growth**.
- It **not only solubilizes potassium** but also **replenishes nitrogen** and **solubilizes phosphorus**.
- The team has conducted experiments by introducing this bacterium to farmers, who have expressed satisfaction with the positive results.
- This bacteria marks a **significant stride toward fostering environmentally friendly agricultural methods**.

Indian Tent Turtle



© Harikrishnan S. (2015)

- » Recently, the **Directorate of Revenue Intelligence (DRI)**, Zonal Unit, Lucknow, seized 436 baby Indian Tent turtles from a person illegally transporting them interstate.
- The Indian tent turtle (**Pangshura tentoria**) is a species of turtle in the **family Geoemydidae**.
- It is an **active swimmer** and mainly **herbivorous species**.
- The species is native to India, Nepal and Bangladesh, with three subspecies recorded from the region viz., P. t. tentoria, P. t. circumdata and P. t. flaviventer.

Conservation status

- ✓ **Wild Life Protection Act, 1972: Schedule 1**
- ✓ **IUCN Status: Least Concern.**
- ✓ **CITES: Appendix II**
- Due to the attractive appearance of the species, they are illegally traded in the pet market.

Black-necked Grebe



- » A **Black-necked Grebe**, a member of the grebe family, was **recently spotted for the first time at Hokersar wetland, J&K**.
- These birds have a widespread breeding area across Eurasia and North America, with migratory populations and residents in subtropical Africa.
- They measure between 28-34 cm in length, weighing 265-450 grams, with a wingspan of 20.5-21.6 inches (52-55 cm).
- They are **adaptable birds thriving in various habitats**.
- **IUCN: Least Concern**

Double Humped Camels



- » The Indian Army deployed **double-humped camels for logistical support in eastern Ladakh**.
- Also known as **Bactrian camels**, they store fat in their two humps.
- Found in small numbers in **Ladakh's Nubra Valley**, Bactrian camels are native to harsh, arid regions of Central Asia, spanning from Afghanistan to China, including the Mongolian steppes and the Gobi desert.
- **Smaller and slender compared to one-humped dromedary camels or Arabian camels**, they are primarily herbivores, grazing on grasses.
- Domesticated Bactrian camels have been used as pack animals since ancient times, facilitating trade along the Silk Road.
- **IUCN - Critically Endangered**

The **United Nations** recently declared **2024 the International Year of Camelids**.

Camelid refers to any of the **even-toed ungulates** of the family Camelidae. **Eg.** camels, llamas, alpacas, guanacos, and vicuñas.

De Winton's Golden Mole



- » De Winton's golden mole, last sighted in 1937, has been found alive swimming through sand dunes in South Africa after an extensive search for the elusive species.
- It is an **elusive blind mole** that **"swims" through sand**, lives in **inaccessible burrows**, and has a **shimmering, iridescent coat**.
- **Endemic to South Africa**, it has **only ever been recorded in Port Nolloth**, North West coast of South Africa, where it was last sighted in 1937.
- It is among the **25 "most wanted lost" species** that are the focus of **Global Wildlife Conservation's "Search for Lost Species" initiative**.
- **IUCN - Critically Endangered**



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