

FORTUNE Prelims Precise

APRIL 2024



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FORTUNE IAS

Toppers in Top 100



Rank 4
P K Sidharth Ramkumar
2024



Rank 6
Meera K
2021



Rank 15
Sidharth B
2017



Rank 16
Ayan Jain
2024



Rank 21
Dilip K Kainikkara
2022



Rank 28
Hamna Mariyam
2017



Rank 29
Sreelakshmi Ram
2019



Rank 31
Vishnu Sasikumar
2024



Rank 33
Anand
2016



Rank 36
Arya V M
2023



Rank 40
Archana P P
2024



Rank 45
Safna Nazarudeen
2020



Rank 49
Renjina Mary V
2019



Rank 55
Dr. Arun S Nair
2020



Rank 57
Alfred O V
2022



Rank 58
Hari Kallikkat
2018



Rank 59
Benjo P Jose
2024



Rank 62
Aparna M B
2021



Rank 63
Dheenah Dastageer
2021



Rank 66
Akhil V Menon
2022



Rank 66
Arjun Mohan
2019



Rank 68
Kasturi Sha
2024



Rank 71
Fabi Rasheed
2024



Rank 81
Malini S
2023



Rank 92
Devi Nandana
2020



Rank 93
Annie George
2024



Rank 100
Kiran P B
2022

History & Culture

World Craft Cities Program

- **Srinagar** has been **nominated** for the World Craft City (WCC) from India this year.
- The World Craft Cities Program is a **global initiative run by the World Crafts Council International (WCCI)**.
- WCCI is a Kuwait-based organisation working on recognition and preservation of traditional crafts and is **affiliated with UNESCO**.
- It recognizes cities that have a **thriving craft scene and are committed to supporting its cultural, economic, and social contributions**.

Objectives of the Program

- ◆ **Global Recognition**
- ◆ **Government Advocacy**
- ◆ **Local Innovation**
- ◆ **Knowledge Exchange**
- ◆ **Collaborative Opportunities**
- Currently, **Mamallapuram, Jaipur and Mysore** are included in the list of World Craft Cities from India.

Shompen Tribe



- Recently, a few members of the shompen tribe **casted their votes for the first time** in the parliamentary elections of 2024.
- The Shompen are one of the **least studied Particularly Vulnerable Tribal Groups (PVTGs)** in India.

- This very little known tribal community resides in the **dense tropical Rain forest of Great Nicobar Island of Andaman and Nicobar group of Islands**.
- The **Shompen habitat is an important biological hotspot** and there are two national parks and one biosphere reserve namely **Campbell Bay National Park, Galathea National Park and Great Nicobar Biosphere Reserve**.
- Though according to the 2011 census, the **estimated population of this tribe is 229**, the exact population is unknown till today.
- They are **semi-nomadic hunter gatherer** and their main source of livelihood are **hunting, gathering, fishing and horticulture activities in a rudimentary form**.

Panhala Fort



- The **Archaeological Survey of India (ASI)** celebrated **World Heritage Day** on Thursday at Panhala Fort.
- ASI had earlier submitted nominations of 12 forts including Panhala fort for inclusion in the **UNESCO World Heritage List**.
- The Panhala fort in Maharashtra was built by the **Shilahara ruler Bhoja II** between **1178 and 1209 CE** and passed into the hands of **Yadavas of Devagiri, Bahamani, Adilshahi** and subsequently the Marathas.
- It is one of the largest forts in the Deccan with most of the architecture is of the **Bijapuri style** with the **peacock motif of the Bahmani sultanate** prominently visible.

Kesariya Stupa

- Kesariya stupa in the East Champaran district of **Bihar** is considered as the **tallest and largest ever Buddhist stupa in the world**.

- The stupa was probably constructed by Asoka in **3rd century BCE**.
- The site's exploration began from its **discovery by Colin Mackenzie in 1814** to **Alexander Cunningham's proper excavation in 1861–62**.
- ASI has declared the stupa a protected **monument of national importance**.
- The Kesariya stupa shares many **architectural similarities with the Buddhist temple located in Indonesia, Borobudur**.



Bohag Bihu



- On the eve of the **Rongali Bihu** the **Assam government organised a spectacle around the folk dance** and 11,140 artists from all districts of the state performed together at Guwahati.
- Bohag Bihu is one of the major festivals of Assam which is commonly known as **Rongali Bihu**.
- It is the most popular Bihu that celebrates the onset of the **Assamese New Year and the coming of spring**.
- The word '**Rongali**' is derived from '**Rong**' which means **Happiness and celebrations**.
- During the celebration, **traditional pat or muga silk or cotton mekhela chadors** are worn by ladies (the two-piece attire).

- As a sign of affection and respect, **gamocha, the traditional Assamese towel, also known as Bihuwaan**, is exchanged.

Bihu

- » Bihu is a secular festival that is celebrated by people from **all parts of Assam** celebrating the changing seasons.
- » The **first Bihu is known as the Rongali Bihu or Bohag Bihu**, which is celebrated in the **month of April**.
- » The **second Bihu is known as Kati Bihu or Kongali Bihu**, which is celebrated during the **month of October**.
- » Finally there is **Magh Bihu**, which is **observed during the month of January**.

Indian Historical Records Commission

- Indian Historical Records Commission (IHRC) recently adopted a new logo and motto.
- **Indian Historical Records Commission** is an **apex advisory body on archival matters** established in **1919**, headed by the **Union Minister of Culture**.
- It acts as an **all-India forum of creators, custodians and users of records** to advise the **Government of India** on the management of records and their use for historical research.
- Its members include **nominees of the Government of India, representatives from Central/State Governments, Universities and Learned institutions**.
- In the logo, the **pages in the shape of lotus petals represent IHRC as the nodal institution** for maintaining historical records.
- The **Sarnath pillar in the middle represents India's glorious past**. **Brown** as the colour theme **reinforces the organization's mission** of preserving, studying and honouring India's historical records.
- The motto translates as **"Where history is preserved for the future"**.

Padta bet

- Archaeologists from Kerala University have recently discovered a 5,200-year-old Harappan settlement at Padta Bet in Gujarat.

- Padta Bet is around **1.5 km away near Juna Khatiya**, an Early Harappan necropolis, in Kutch district.
- Archaeologists discovered the **presence of the skeleton, along with pottery artefacts, animal bones**, semi-precious stone beads made of carnelian & agate, terracotta spindle whorls, copper, lithic tools, cores & grinding stones and hammer stones.
- Within the **four-hectare area of Padta Bet**, the researchers identified **two localities**:
 - ❖ **Locality 1:** Artefacts dating back to the **Mature Harappan era** (2600 BC to 1900 BC) and **Late Harappan era** (1900 BC to 1700 BC).
 - ❖ **Locality 2:** Artefacts from the **Early Harappan era** (3,200 BC to 2,600 BC), **Mature Harappan era** and **Late Harappan era**.

Gudi Padwa

- Recently, the President conveyed her greetings on the occasion of Gudi Padwa, the **Marathi Hindu New Year**.
- Gudi Padwa is celebrated on the **first day of the month of Chaitra**, which synchronises with the **first day of the new moon**.
- Mythologically, It's also the day when it's believed Brahma created the universe and the sense of time.
- **Padwa** refers to the **first day of the lunar fortnight**, while **Gudi** refers to a **flag made of bamboo** that is decorated with garlands of flowers, mango and neem leaves, sugar crystals, and an overturned silver or copper vessel.
- The festival is celebrated by **cleaning and decorating homes with rangolis**. People start the day by having **neem and jaggery**, believed to purify the body and signifying the **acceptance of bittersweet experiences in life**.

World Heritage Day

- World Heritage Day, also known as the **International Day for Monuments and Sites (IDMS)**, is observed on **April 18**.
- The **International Council for Monuments and Sites (ICOMOS)** created the World Heritage Day during its 22nd general meeting in **1983**.

- The purpose of World Heritage Day is to **raise awareness among local communities** about **protecting cultural heritage**.
- The **theme** of World Heritage Day 2024 is **'Discover and Experience Diversity'**.

Phanigiri



- Recently, the Department of Archaeology and Museums have unearthed a coin hoard at the Phanigiri in Suryapet district, Telangana.
- Phanigiri is a famous **Buddhist site located 110 km away from Hyderabad**.
- This site derived its **name from the shape of the hillock, which appears to be like a snake hood**. The word **Phani** in Sanskrit means snake and **Giri** means hillock.
- It is believed to be **one of the important Buddhist monasteries strategically located** on the ancient trade route (**Dakshinapatha**) **connecting the west and the east coast of the Deccan**.
- According to the archaeologists, the coins belong to the **Ikshvaku period dated between the 3rd century and 4th century Common Era**.

Polity & Governance

Vote-From-Home Facility

- The Election Commission of India has introduced home-voting options **for the elderly and other disadvantaged groups** in current elections.
- **Citizens above 85 years and those with disabilities (with a benchmark disability of at least 40%)** can now avail themselves of the postal ballot-home voting facility.
- **Two polling officials, accompanied by a videographer**, will visit eligible voters' residences to record the voting process.
- Prior notification of the visit will be sent via SMS.
- **Voters can use Form 12D to inform the Assistant Returning Officer (ARO)** if they're unable to go to the polling station to vote.

Maximum Residue Limit (MRLs)

- The **Food Safety and Standards Authority of India (FSSAI)** has raised the Maximum Residue Limits (MRL) for pesticide residues in spices.
- MRLs indicate the **maximum amount of pesticide residue expected to remain on food products, deemed safe for human consumption when pesticides are applied correctly**.
- Factors determining MRLs include **pesticide toxicity, absorption by plants or animals, and safe human exposure levels**.
- While many countries follow MRL standards set by the **Codex Alimentarius Commission**, a joint program of the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), in India, **FSSAI is responsible for establishing these limits**.

National Consumer Disputes Redressal Commission (NCDRC)

- The National Consumer Disputes Redressal Commission (NCDRC), established in 1988 under the **Consumer Protection Act of 1986**, resolves consumer disputes in a cost-effective, expeditious, and impartial manner.

- Recently, it initiated a **pilot project to conduct hearings through a hybrid mode (physical/video conferencing)**.
- NCDRC adjudicates cases involving complaint **values exceeding two crores and hears appeals from lower consumer dispute redressal forums - State Consumer Disputes Redressal Commissions (SCDRCs) and the District Consumer Disputes Redressal Forums (DCDRCs)**.
- The commission is led by a **President, typically a retired or sitting Supreme Court judge**.

Doctrine of Harmonious Construction

- The Supreme Court used the doctrine of harmonious construction in interpreting the seemingly conflicting **Sections 3 and 5 of the Limitation Act, 1963**.
- The doctrine of harmonious construction is a rule for **interpreting laws that states that conflicting provisions should be interpreted in a way that harmonises them**.
- Harmonious construction aims to reconcile conflicting provisions within laws to **prevent one part from undermining the intent of another**.
- This doctrine traces its origins to the **first amendment to the Constitution of India**, notably highlighted in the **Shankari Prasad Singh Deo Vs Union of India (1951)** case, which addressed the conflict between **Fundamental Rights and Directive Principles of State Policy**.
- The Court employed harmonious construction to **establish that Fundamental Rights could be modified by Parliament** under specific circumstances to align with constitutional provisions.
- In essence, the **Limitation Act, 1963, governs legal deadlines**, with **Section 3** stipulating that missing the deadline forfeits the right to sue, while **Section 5** allows for exceptions under certain circumstances, granting the court discretion to accept late cases with valid justifications for the delay.

Right to Privacy of Candidates

- The Supreme Court recently emphasised that while **voters have the right to know** about election candidates, **candidates also have a right to privacy**.
- This observation came while **overturning a July 2023 judgement by the Gauhati High Court**, which **nullified the election of Independent candidate Karikho Kri from the Tezu (ST) assembly constituency** in Arunachal Pradesh.
- The High Court had set aside Kri's election for not declaring ownership of three vehicles, deeming it a corrupt practice.
- However, the Supreme Court ruled that a **candidate's decision to maintain privacy on matters irrelevant to their candidacy doesn't constitute corruption** under the Representation of People Act, 1951.
- The candidates aren't required to declare every minor movable property unless it constitutes a sizable asset.

Star Campaigners

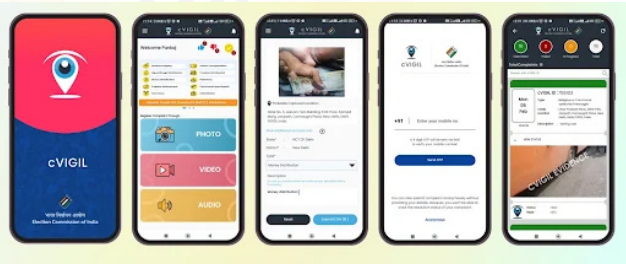
- **Sunita Kejriwal**, wife of Delhi Chief Minister Arvind Kejriwal, was recently appointed as a '**star campaigner**' by the Aam Aadmi Party (AAP) for its Gujarat campaign.
- A star campaigner is a high-profile figure, such as a politician, actor, or sports personality, enlisted by a party to seek votes.
- Political parties, whether **recognized nationally or at the state level**, can nominate up to **40 star campaigners**, while **unrecognised parties can nominate up to 20**.
- The expenses incurred for the star campaigner are **not included in a candidate's poll expenditure**.

As per the **Model Code of Conduct**, when a prime minister or a former prime minister is star campaigner, the expenditure incurred on security including on the bullet-proof vehicles will be borne by the government and will not be added to the election expenses of the party or the individual candidate.

Allotment of election symbols to political parties

- The Election Commission of India (ECI) recently **declined to allocate the 'Top' symbol** to the MDMK party for the ongoing Lok Sabha elections.
- The ECI is responsible for assigning symbols and adjudicating disputed claims according to the **Election Symbols (Reservation and Allotment) Order, 1968**.
- These symbols aid illiterate voters who may have difficulty reading party names.
- Each national and state party receives a **unique symbol reserved for its exclusive use nationwide or within the states**.

cVIGIL Citizen App



- cVIGIL is a mobile application developed by the **Election Commission of India (ECI)** to enable citizens to **report violations of the Model Code of Conduct (MCC) during elections**.
- Once the complaint is lodged by a citizen, the information beeps in the **District Control Room** from where it is assigned to a **Field Unit**. Each Field Unit will have a **GIS-based mobile application called 'cVIGIL Dispatcher'**, which allows the unit to **directly reach the location**.
- If the incident is found correct, the information is sent to the **National Grievance Portal of the Election Commission of India** for further action and the citizen is informed about the action taken within a hundred minutes.

The app has inbuilt features to prevent its misuse;

- ➔ It will **receive complaints only about Model Code of Conduct violations**.
- ➔ The app **will not allow uploading of the pre-recorded or old images and videos**.
- ➔ The app **will not facilitate saving of the photos or videos recorded using the 'cVIGIL' app into the phone gallery**.

- ➔ It will be **active only in States where elections have been announced**. The moment a citizen exits an election-bound State, the app will become inactive.

Eggshell skull rule

- Recently, the **Supreme Court** rejected the application of the 'eggshell skull' rule in a medical negligence case.
- Also known as "**thin skull rule**", it is a common law principle applied in **civil litigation**.
- It is applied when the **offender is made liable for all injuries that might be intensified due to the pre existing conditions of the injured person** that the offender might be not aware of.
- Simply put, the defendant would be held responsible for injuries caused to a person when he hit him on the head, even if the victim had a particularly delicate skull or an 'eggshell' for a skull.

Diplomatic Passport

- Recently, embroiled in a sex abuse case, one of the Indian political Party's Member of Parliament (MP) fled to Germany on a diplomatic passport.
- Diplomatic passports are issued to diplomats, designated government officials and their immediate family members.
- These passports are a **form of identification and carry certain legal privileges and immunities under international law**, such as immunity from arrest, detention, and certain legal proceedings in the host country.
- The **Ministry of External Affairs (MEA) Consular, Passport & Visa Division** issues diplomatic passports ('Type D' passports) to people falling into several categories like:
 - Government-appointed individuals and officers working under **branches A and B of the Indian Foreign Service (IFS)** travelling abroad for official business
 - Select individuals on official travel**, including Union ministers and Members of Parliament (MPs).
 - The authority to revoke a diplomatic passport lies with the passport authority.
 - However, the government can revoke a diplomatic passport only after a court order to that effect.

VVPAT



- The Supreme Court recently rejected petitions seeking complete cross-verification of votes cast using Electronic Voting Machines (EVMs) with **Voter Verifiable Paper Audit Trail (VVPAT)**.
- It was first introduced in India in the **2014 Lok Sabha elections**.
- It is an independent system that consists of two parts, namely, a **VVPAT Printer** and **VVPAT Status Display Unit (VSDU)** attached to the **Electronic Voting Machines (EVMs)**, that **allow the voters to verify that their votes are cast as intended**.
- These machines are developed by the **Electronics Corporation of India Limited (ECIL)** and **Bharat Electronics Ltd (BEL)**.
- Working:** The ballot unit is connected to a VVPAT unit which produces a **paper slip** that is **visible to the voter via a transparent screen for about 7 seconds** before it gets **stored in a sealed drop box**.
- Under the present system, the poll body counts and matches the VVPAT paper slips at **five randomly selected polling stations** in each state legislative assembly constituency, several of which are combined to form one parliamentary seat.

Indelible Ink

- Electoral ink, indelible ink, electoral stain or phosphoric ink** is a **semi-permanent ink** or dye that is applied to the forefinger (usually) of **voters during elections in order to prevent electoral frauds such as double voting**.
- Section 61 of the Representation of the People Act (RoPA) of 1951** mentions the ink.
- Mysore Paints & Varnish Ltd., a Karnataka Government Undertaking** which is the **sole manufacturer of the ink in India since 1962**.

- Indelible ink contains **silver nitrate**. It is a **colourless compound** which becomes visible when exposed to ultraviolet light, including sunlight. This **water-based ink** also contains a solvent like **alcohol** to allow its faster drying.
- According to a report from the **United Nations Development Programme**, the higher silver nitrate's concentration, the **higher will be the ink's quality**.
- It is exported to **more than 25 countries** that include **Canada, Ghana, Nigeria, Mongolia, Malaysia, Nepal, South Africa** and **Maldives**.

Misleading Advertisements

- Recently, the Supreme Court had criticised the **Patanjali Ayurved**, for making **misleading claims in advertisements** about its products curing diseases.
- Section 3 of the Drugs and Magic Remedies Act, 1954** prohibits any advertisement promoting drugs for the **diagnosis, cure, mitigation, treatment or prevention of any disease, disorder or condition** like diabetes, cataract, cancer, fevers (in general), obesity, rheumatism, impotence, high or low blood pressure, female diseases, epilepsy, stature of persons, venereal diseases, glaucoma, sterility in women, dropsy, etc. which are **not in accordance with any scientific evidence**.
- The **Consumer Protection Act, 2019** prohibits **unfair trade practices**, including **misleading advertisements**, and provides mechanisms for consumers to seek redressal for grievances related to misleading advertising.

Types of Unethical Advertising you Should Be Aware Of

- Misleading Ads
- Hidden Fees
- Misleading Images
- Pressure Tactics
- False Endorsements
- Exaggerated Results
- Deceptive Pricing
- False Information
- Objectifying Women's Bodies
- Exploiting Social Issues
- Plagiarism
- Twisting Facts and Research

Misconceptions spread by Allopathy
Save yourself and the country from the misconceptions spread by pharma and medical industry. Let's make India disease free.

The life of the people taking medicines for years to control diseases like the B.P., Sugar, Thyroid, Asthma, and cholesterol etc. has become hell due to the side effects of these medicines and prolonged diseases. With scientific research on the knowledge obtained from great sages like Charak, Sushruta, Dhanvantari and Patanjali, we have succeeded in rooting out the disease and making cures of people completely free from all diseases.

B.P.: Despite regularly taking prescribed medicines for years, people suffering from B.P. are facing further complications like heart or brain stroke, kidney failure, irritability and insomnia etc.

Sugar: However, we have successfully cured cures of patients with the help of regular Pranayam, Yoga, Shirodhara processes and medicines such as gourd juice, Bhrpgit and Muktaesh. Our therapies have brought their B.P. levels in normal range along with other complications completely resolved.

Thyroid: Despite taking allopathic medicine for years, people suffering from diabetes are suffering from weakening eyesight, increase in creatinine levels, neuropathy and reducing immunity.

With Integrated Treatment: Madhugrit, Basti, Madhurashti, Cucumber, Bitter Gourd, Tenalo, Amla along with Aloe Vera Juice, Gilly Juice and a balanced diet, we have saved people from diabetes and its complications. Also, for the first time in the world, we have succeeded in completely curing type-1 diabetes to make patients completely non-diabetic.

Diabetes: Patients are becoming overweight and underweight and suffering from dizziness and depression etc. in spite of taking allopathic medicines.

Thyroid: We have freed people from thyroid and its complications by treating them with the Thyrogrit, coriander water and Kapalbhati, Ujjayi etc. pranayama and Yoga.

Eye and Ear Diseases: Allopathy has no cure for vision impairment, glaucoma, macular degeneration etc.

Yoga practices along with medicines like Eyegrit, Akshi Tarpan, Eargri and Kampana etc. we have given people freedom from eye and ear diseases.

Live: Allopathy has no permanent cure for Fatty liver, Liver cirrhosis and Hepatitis (A, B, C & D).

On the other hand, we have cured people of fatty liver, liver cirrhosis, hepatitis and made their digestive system completely healthy with regular Yoga practice such as Basti and medicines like Sarvakali Kwath, Punarnava juice, Livogrit and Livomrit etc.

Skin diseases: Dermatologists have no permanent cure for Leucoderma, Eczema, Psoriasis. Medicines used in such cases contain steroids and different types of chemicals which ultimately make the patient suffer from further complications.

Yoga, Ayurved, Naturopathy, Panchakarma, Shatkarma, Goshan Arka + Neem Gharvadi and Panch Mahabhuta therapies as well as Kayakalp Vati, Demagrit, Pasogrit, purify the body to give people permanent freedom from skin diseases.

Details: Allopathy has made people's life hell by giving pain killers, steroids and biological drugs for arthritis. These cause weakness of bones and digestive system. Also such medicines often result in inflicting the patients with diabetes and rheumatism etc.

Through integrated Yoga Practice, Panchakarma, Shatkarma, Goshan Arka, Amla, Gharvadi and Panch Mahabhuta therapies like Vajrasana, Pankajmudra, Akshapressure, Acupressure, Leech Therapy.

Patanjali Chikitsalaya, Mega Store
Visit these for free consultation with our Vaidyas and our medicines and hundreds of other Patanjali products. All our medicines are available at Patanjali Stores and at leading medical, ayurvedic and large general stores.

Patanjali wellness
Take minimum 1 week residential treatment at Patanjali Wellness, Yogagram and Niramayam to get permanent relief from all chronic diseases. For registration contact us at:
8954666111, 8954666222, 8954666333
booking@patanjaliwellness.com
www.patanjaliwellness.com

INDIA TV LIVE
Everyday 5:00 am to 7:30 am and 8:00 pm to 9:30 pm
Go for integrated yoga practice with the world's most renowned Yoga guru. Also watch live and learn about treatment of patients with hundreds of integrated therapies.

National Disaster Response Fund (NDRF)

- The central government assured the Supreme Court of prompt resolution regarding Karnataka's plea for financial aid for drought relief.
- The National Disaster Response Fund (NDRF), established under the Disaster Management Act, 2005**, supplements funds from the State Disaster Response Fund (SDRF) to provide immediate relief during severe calamities.
- NDRF funds are held in the Government of India's "Public Account"** under "reserve funds not bearing interest".
- When a disaster surpasses state resources, the **affected state requests NDRF assistance**.
- The **Ministry of Home Affairs** dispatches an **Inter-Ministerial Central Team (IMCT)** to assess the situation and submit a report.
- Subsequently, a **High-Level Committee (HLC)**, chaired by the Home Minister, reviews the request and IMCT report.
- Upon HLC approval, the Department of Expenditure releases sanctioned NDRF funds to the state.
- The **Comptroller and Auditor General (CAG)** audits NDRF accounts.

Economy

Shrinkflation

- The shrinkflation phenomena is resurfacing in the fast-moving consumer goods (FMCG) industry due to **rising input costs**.
- Shrinkflation refers to the **practice employed by manufacturers wherein the size or quantity of a product is reduced while keeping its price the same**.
- This strategy will help companies to increase profit even during the rising production costs.
- It is a form of **hidden inflation**.

Authorised Economic Operator (AEO) Programme

- The Union government recently extended the Authorised Economic Operator (AEO) **status to the gem and jewellery sector**.
- The AEO program, operating within the **World Customs Organization's (WCO) SAFE Framework of Standards**, aims to secure and streamline global trade.
- Businesses granted AEO status by a country's customs administration **demonstrate compliance with security and regulatory standards**.
- This voluntary program enhances supply chain security and expedites the movement of legitimate goods.
- AEO-certified businesses enjoy **benefits** such as expedited cargo clearance, reduced inspections, and potential deferment of duty payments.
- In India, the AEO Programme is overseen by the **Central Board of Indirect Taxes & Customs**.

Well Known Trademark

- Recently, the Delhi High Court declared that the "Haldiram" mark is a well-known trademark with respect to food items.

- The **Trade Marks Act, 1999**, provides **protection to well-known trademarks** to prevent misuse and obligates the Registrar to safeguard them against similar trademarks.
- A trademark is a distinctive sign or indicator used by a business organisation to distinguish its products or services from those of other entities.
- Once a **mark is declared well-known, the owner can prevent others from registering or using identical or similar marks** for different goods and services.

Factors that can be considered when determining whether a trademark is well-known are:

- 👉 The **degree of knowledge or recognition** of the mark
- 👉 The **duration, extent and geographical area** of any use of the mark.
- 👉 The **degree of inherent or acquired distinctiveness** of the mark
- 👉 The extent to which the **mark has been registered in India or in other countries**.

India Employment Report 2024

- The report was jointly published by the **International Labour Organisation (ILO) and the Institute of Human Development (IHD)**.
- The report examines the **challenge of youth employment in the context of the emerging economic, labour market**, educational and skills scenario in India and changes over the past two decades.

Key Highlights of the Report:

- **Youth unemployment** increased from **5.7% in 2000 to 17.5% in 2019**.
- **Employment growth remained stagnant until 2019**, then started to rise.
- Labour **productivity increased consistently** alongside technological progress.
- **Female labour market participation rates increased**, especially in rural areas.
- There's a **gradual shift from agriculture to non-farm sectors** in the workforce.
- Employment is dominated by the informal sector (about 82%).

- India is expected to have a migration rate of around 40% by 2030.
- **Major portion of the youth lacks essential skills, with 75% unable to send emails with attachments, 60% unable to copy and paste files, and 90% unable to use spreadsheets for mathematical formulas.**

CDP-SURAKSHA

- In a bid to promote horticulture, Cluster Development Programme (CDP) - System for Unified Resource Allocation, Knowledge, and Secure Horticulture Assistance (SURAKSHA) was launched recently by the Central Government.
- CDP-SURAKSHA, the digital platform will allow an instant disbursement of subsidies to farmers in their bank account by utilising the e-RUPI voucher from the National Payments Corporation of India (NPCI).
- The platform has features such as database integration with PM-KISAN, cloud-based server space from NIC, UIDAI validation, eRUPI integration, local government directory (LGD), content management system, geotagging, and geo-fencing.

Benefits for Farmers

- ◆ In the old system, a farmer had to buy planting materials on their own, this has been a major impediment in the production step.
- ◆ The CDP-SURAKSHA platform, however, will provide subsidies to farmers upfront, at the time of purchasing the planting material.
- ◆ Vendors, who will supply planting materials to farmers, will receive their payment only after farmers verify the delivery of their orders.
- ◆ The system ensures transparency and accountability by requiring farmers to verify the delivery of planting material through geo-tagged photos and videos.

The CDP is a component of the central sector scheme of NHB, aimed at leveraging “the geographical specialisation of horticulture clusters and promoting integrated and market-led development from pre-production stage till marketing stage.”

Special Rupee Vostro Account

- India recently simplified the payment mechanism for traders importing pulses from Myanmar, mandating the use of the Rupee/Kyat direct payment system through the **Special Rupee Vostro Account (SRVA) via Punjab National Bank.**
- This move aims to address domestic shortages of tur and urad dals by streamlining imports from Myanmar.
- The SRVA facilitates trade settlement in Indian Rupees (INR), reducing reliance on hard currencies like the US Dollar.
- Key components of the framework include INR invoicing, market-determined exchange rates, and final settlement in INR.
- Prior approval from the Reserve Bank of India (RBI) is necessary to open SRVA accounts, and authorised domestic dealer banks handle SRVA transactions.
- Domestic importers pay INR into the SRVA account of the correspondent bank, while exporters receive export proceeds in INR from designated correspondent bank accounts.
- A normal Vostro account is only a transit account, while an SRVA allows INR balances to be held.

Sovereign Green Bonds (SGrBs)

- Recently, the Reserve Bank of India (RBI) has allowed investments in the country's Sovereign Green Bonds (SGrBs) by Foreign Institutional Investors (FIIS).
- Sovereign green bonds are debt securities issued by governments to raise money for projects that benefit the environment or climate.
- India's SGrBs framework closely follows its Panchamrit pledges at the COP 26 in Glasgow in November 2021. Through this, India's dedication to its Nationally Determined Contribution targets would be further strengthened.
- The Union Budget 2022-23 had made an announcement to issue Sovereign Green Bonds (SGB) by Government of India.

- The **Ministry of Finance**, in 2022, constituted a **Green Finance Working Committee (GFWC)** for selection and evaluation of projects and other works related to the SGB framework.
- GFWC will meet at least twice a year to support the Ministry of Finance, with **members from relevant ministries and is chaired by the Chief Economic Advisor**.
- In February 2023, the **Securities and Exchange Board of India (SEBI)** issued the **operation guidelines for the issuers of green bonds to avoid greenwashing**.

Greenwashing refers to making false, misleading, unsubstantiated or otherwise incomplete claims about the sustainability of a project, service or business operation.



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International Relations

Eurasian Economic Union (EaEU)



- Recently, the Foreign Minister of Belarus declared that India is considering starting talks for a **free trade agreement** with the Eurasian Economic Union.
- EEU is an economic union of nations located in **Northern Eurasia**.
- It consists of five member states : **Russia, Belarus, Kazakhstan, Kyrgyzstan, and Armenia**.
- EEU aims to promote the flow of **goods and services** among its member nations by **coordinating policies and regulations** and to create a **single market space**.
- It came into existence on **1st January 2015**.

Nuclear Energy Summit 2024

- Recently, the first-ever Nuclear Energy Summit 2024 was held in Brussels (Belgium).
- The Nuclear Energy Summit 2024 was co-chaired by the **Prime Minister of Belgium and the Director General of the International Atomic Energy Agency (IAEA)**.
- The Summit comes in the **wake of the inclusion of nuclear energy in the Global Stocktake** agreed at the UN Climate Change Conference (COP28) in Dubai in December 2023.
- This landmark event **aimed to foster international dialogue on the role of nuclear power** in achieving **net-zero emissions and advancing sustainable development**.

- This Summit is an initiative in collaboration with the IAEA's 'Atoms4Netzero' programme.

'Atoms4Netzero' programme

- Atoms4NetZero is an **IAEA initiative that supports efforts by Member States** to harness the power of nuclear energy in the transition to net zero.
- It was launched during COP27, this initiative provides decision makers with **data-driven energy scenario modelling**.

Financing for Sustainable Development Report 2024

- Recently, the **United Nations Department of Economic and Social Affairs (UN DESA)** released the "Financing for Sustainable Development Report 2024".
- This is the **9th edition** of the report which is released annually and on the theme "**Financing for Development at Crossroads**".
- The report highlights the need for all time high spending to achieve the goals of **sustainable development goals by 2030**.

Some Key Findings of the Report:

- ➔ **Financing Gap:** The report points to a widening financing gap amounting to **USD 4.2 trillion dollars as compared to USD 2.5 trillion annually**. The drastic change in gap is attributed to COVID-19 pandemic.
- ➔ **Financing Divide:** Developing countries are bearing the brunt of **soaring borrowing cost and debt burden**, reducing their ability to undertake a multipronged approach.
- ➔ **Closing Window:** With only 6 years remaining to achieve the SDG goals, the UN estimates that close to **600 million people will continue to live in extreme poverty** in 2030 and beyond, **more than half of them being women**.
- ➔ **Weak Enabling Environment:** Existing policy and regulatory framework are not conducive to sustainable development leading to **misaligned budget and public spending**.

Inter-Agency Space Debris Coordination Committee (IADC)

- Recently, the **42nd Inter-Agency Space Debris Coordination Committee (IADC)** annual meet was held in Bengaluru.
- During the meet, India has made a **declaration to achieve debris-free space missions by 2030**.
- This initiative seeks the participation of **all Indian space actors, governmental and non-governmental**, to ensure long-term sustainability in outer space.
- The **IADC was founded in 1993**, to coordinate efforts to deal with **man-made and natural debris in space orbiting** around the Earth.

Inter-Agency Space Debris Coordination Committee



Special 301 Report

- India has been placed on the **Priority Watch List on the 2024 Special 301 Report** since it remains one of the world's **most challenging major economies with respect to the protection and enforcement of intellectual property (IP)**.
- The Special 301 Report is the result of an **annual review of the state of intellectual property protection in U.S. trading partners around the world**.
- The review is conducted by the **Office of the United States Trade Representative (USTR)**.
- **India** along with **Argentina, Chile, China, Indonesia, Russia and Venezuela** have been placed on the **Priority Watch List of the 2024 report**.

International Narcotics Control Board (INCB)

- India's Jagjit Pavadia was re-elected to the International Narcotics Control Board for the third term for 5 years from 2025-2030.
- The **International Narcotics Control Board (INCB)** is the **independent and quasi-judicial monitoring body** for the **implementation of the United Nations international drug control conventions**.

- It was established in **1968** in accordance with the **Single Convention on Narcotic Drugs, 1961** by merging the **Permanent Central Narcotics Board and the Drug Supervisory Body**.
- INCB has **13 members**, each **elected by the Economic and Social Council (UNECOSOC)** for a period of **five years**.

It deals with;

- ✓ **Illicit manufacture, trade and use of drugs** to ensure that adequate supplies of drugs are available for medical and scientific uses.
- ✓ **Monitoring government's control over chemicals used in the illicit manufacture of drugs** to prevent the diversion of those chemicals.
- ✓ **Identifying weaknesses in national and international control systems** and contributes to correcting such situations.

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Environment & Ecology

Paira Cropping System

- The Paira cropping system, a **traditional agricultural practice in Eastern India, particularly in states like Bihar, Uttar Pradesh, West Bengal, Chhattisgarh, and Odisha**, has diminished in importance due to climate change.
- Also known as **Utera cropping**, it involves **sowing a second crop into a standing rice crop about two weeks before harvesting the rice**.
- Typically, **pulses like lentils, urdbean, mungbean, field pea, mustard, or sesame** are sown as the second crop.
- This method is **cost-effective** as it eliminates the need for additional activities like tilling, weeding, irrigation, or fertiliser application after sowing the second crop.

Fourth Global Mass Coral Bleaching Event

- The **National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Watch (CRW)** and the **International Coral Reef Initiative (ICRI)** have confirmed the **fourth global mass coral bleaching event in 2023-2024**.
- Since mid-2023, **sea surface temperatures have been abnormally warm**, with record highs in **March 2023**. This warming is attributed to overall **climate change** and **exacerbated by El Niño**.

What is coral bleaching?

- ◆ **Corals and zooxanthellae** have a **symbiotic relationship**.
- ◆ Corals provide zooxanthellae a **safe place to live**, zooxanthellae provide **oxygen and organic products of photosynthesis** that help corals to **grow and thrive** and are responsible for the **unique and beautiful colours of corals**.
- ◆ Corals are very **sensitive to light and temperature** and even a **small change in their living conditions can stress them**. When stressed, they **expel zooxanthellae and turn entirely white**. This is called **coral bleaching**.

- Coral bleaching has a **devastating effect**, impacting not just the coral itself but the entire reef ecosystem and even human communities.
- The **first global mass coral bleaching event** took place in **1998** in which **20% of the world's reef areas suffered bleaching-level heat stress**.
- The **next two global bleaching events occurred in 2010 (35% of reefs affected)** and between **2014 and 2017 (56% of reefs affected)**.
- With global temperatures soaring, such events are expected to become more frequent and longer.
- The **world may lose the vast majority of its coral reefs at 1.5 degree Celsius of warming**, and virtually **all at 2 degree**, according to a 2018 report by the **Intergovernmental Panel on Climate Change (IPCC)**.

Sustainable Finance for Tiger Landscapes Conference

- **Paro in Bhutan recently hosted the Sustainable Finance for Tiger Landscapes Conference** in collaboration with the **Tiger Conservation Coalition on 22 April (Earth Day)**.
- Representatives from **ten tiger range countries attended, including Bangladesh, Cambodia, China, India, Kazakhstan, Malaysia, Nepal, Thailand, and Vietnam**.
- During the conference, plans were made to **source USD 1 billion over the next decade** for the preservation of tiger landscapes (also known as the **Paro Statement for Tigers**).

Tiger Conservation Coalition

- ▶ It's a coalition of 10 NGOs that include **IUCN, the Environmental Investigation Agency, Fauna & Flora, Panthera, TRAFFIC, the United Nations Development Programme, the Wildlife Conservation Society, and the World Wildlife Fund**.
- ▶ Tiger Conservation Coalition members co-developed **Tiger Conservation Landscapes 3.0, an integrated habitat modelling system** to measure and monitor changes in tiger habitat at range-wide, national, biome, and landscape scales **in near real-time**.

Nitroplast

- Recently, scientists discovered **nitroplast**, a new organelle that **converts nitrogen gas into a useful form** could pave the way for engineered plants that require less fertiliser.
- It is found in an algae named *Braarudosphaera bigelowii* and it is considered to be the **first nitrogen-fixing organelle in eukaryotes**.
- It evolved from a symbiotic relationship between the **algae and a bacterium** around 100 million years ago.
- An **organelle** is a **subcellular structure** that has one or more specific jobs to perform in the cell.

Global Alliance for Incinerator Alternatives Asia Pacific

- The Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific has called on ASEAN to take decisive action in response to plastic pollution.
- **Global Alliance for Incinerator Alternatives** is a worldwide alliance of more than 1,000 grassroots groups, non-governmental organisations and individuals.
- It aims to **power a transition away from our current linear and extractive economy and towards a circular system** that supports people's right to a safe and healthy environment.
- They work on four primary points of intervention: incineration, zero waste, plastic, and climate.

Incineration

- Incineration is the **process of burning hazardous materials at temperatures high enough to destroy contaminants**.
- Incineration is **conducted in an "incinerator," which is a type of furnace designed for burning hazardous materials** in a combustion chamber.
- Many **different types of hazardous materials** can be treated by incineration, including soil, sludge, liquids and gases.
- Modern incinerators include air pollution control equipment (e.g., **fabric filters, scrubbers and electrostatic precipitators**) to remove fly ash and gaseous contaminants.

Clean Energy Transition Programme

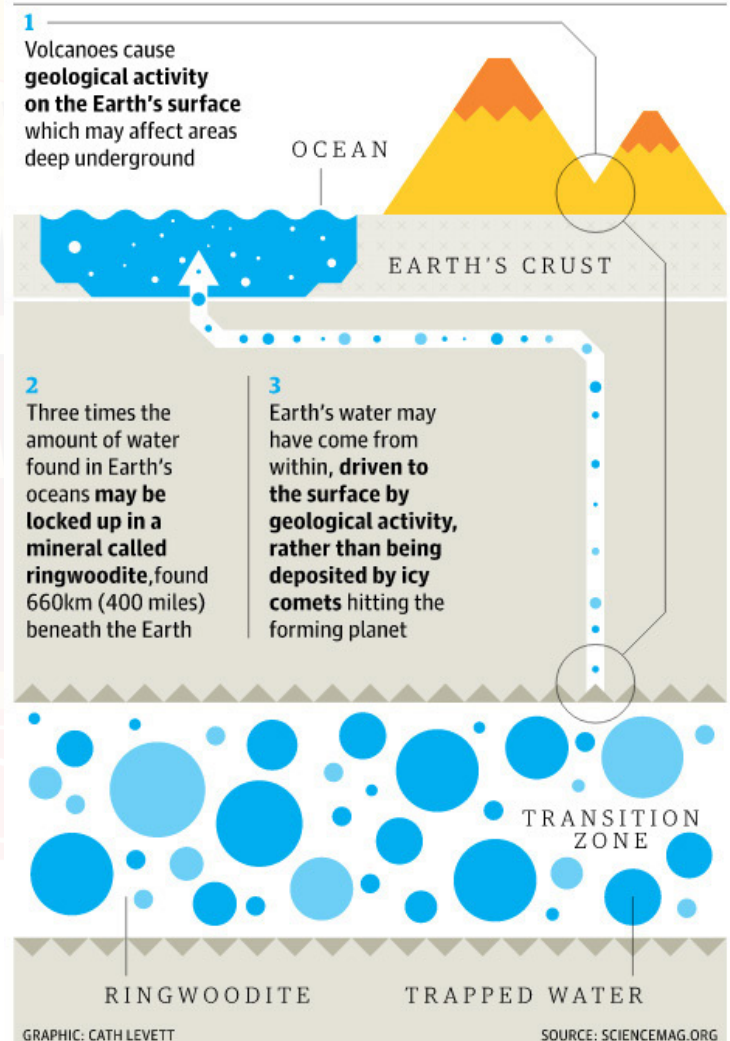
- Recently, the International Energy Agency (IEA) launched the Clean Energy Transitions Programme annual report 2023.
- Clean Energy Transition Programme is the **IEA's flagship initiative launched in 2017** for accelerating progress toward a global net zero energy system.
- The CETP's work is structured across three pillars of activity:
- Supporting **emerging and developing countries to establish clean energy transition goals**, in line with the objectives of the 2015 Paris Agreement and UN-SDG.
- **Facilitating coordination among multilateral organisations.**
- To **enable and accelerate clean energy transitions** at global level.

Geography

Ringwoodite

- Scientists have discovered a **large ocean of water** trapped 400–700 kilometres beneath the Earth's surface, **encased within ringwoodite**, a vibrant blue mineral in the mantle
- Ringwoodite is a mineral that forms in the **Earth's mantle** at high temperatures and pressures.
- It's a water-rich mineral that can contain **iron and hydrogen**.
- Its unique properties allows it to trap water like a **sponge**.

Bubbling under The Ringwoodite reservoir



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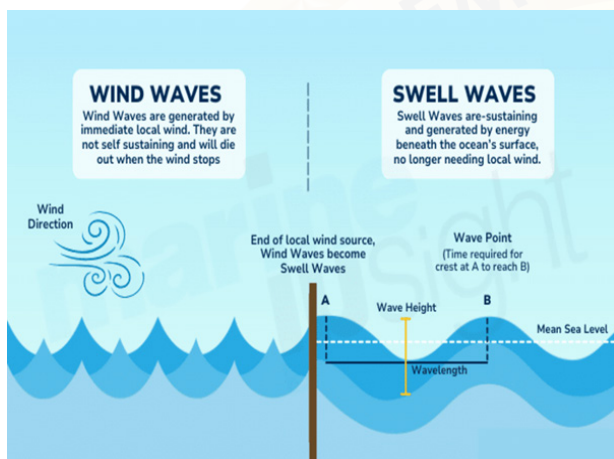
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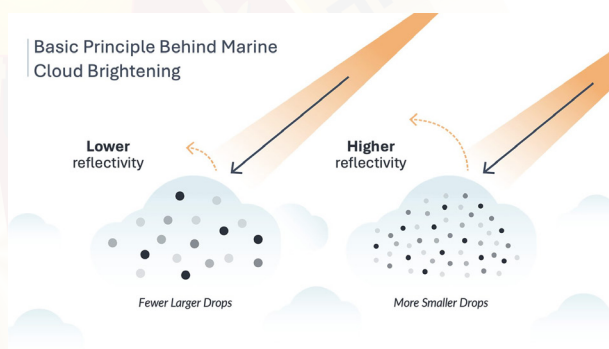
Swell Waves

- Recently, coastal areas in southern and central Kerala experienced inundation from swell waves.
- Swell waves are **rolling waves** that **travel long distances** after being **generated by distant storms or strong winds**.
- They are distinct from **wind waves**, which are **created by local winds** and are choppy and chaotic. **Swell waves**, on the other hand, are **smoother and more uniform, with longer wavelengths and periods**.
- Once formed, they are **not significantly affected by local winds**.
- Locally known as '**Kallakkadal**' in Kerala, Swell waves result in **inundation as the sea surges into the land**.



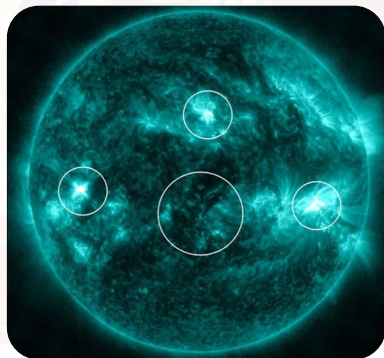
- Such solar activity is likely an **indication of the Sun reaching the peak of its 11-year solar cycle** known as **solar maximum**. The peak is marked by **increased solar events like flares and Coronal Mass Ejections**.
- The term "**sympathetic**" reflects a **cause-and-effect relationship**, where **one flare seems to "sympathise" with the other by erupting in response**.
- Most sympathetic flares reported so far include **two linked flares**, ranging from small outbursts to **X-class flares**, the most powerful class of solar flares the sun can produce.
- The emission of four flares in unison makes this event "**super-sympathetic**".
- If directed towards the Earth, they have the potential to **disrupt power grids, telecommunication networks and orbiting satellites** and **expose astronauts to dangerous doses of radiation**.

Marine Cloud Brightening Programme



Sympathetic Solar Flares

- A rare **super-sympathetic solar flare event** featuring **four simultaneous eruptions** was recently observed by astronomers.
- Sympathetic flares** are caused by **multiple eruptions across the Sun's magnetic field**, linked by **massive magnetic field loops that lie above the solar surface**.

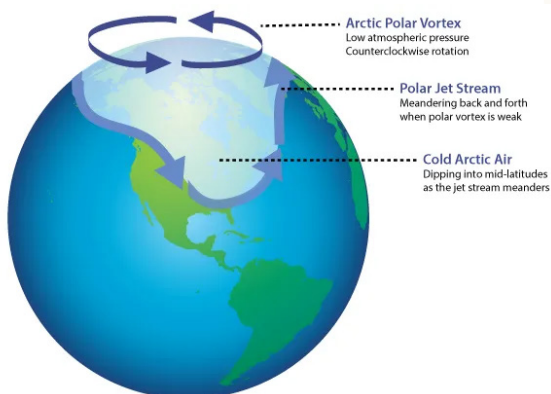


- Recently, scientists are testing a **geoengineering technique** called **Marine Cloud Brightening (MCB)**.
- The Marine Cloud Brightening Program is an **open collaboration of atmospheric scientists and other experts** to study **how clouds respond to particles (or aerosols) in the atmosphere**.
- Scientific studies indicate that **aerosols of the right size and concentration could significantly increase the reflectivity of specific types of clouds**. MCB is a scientific initiative which explores this.
- By **releasing tiny aerosol particles into the atmosphere**, researchers **aim to enhance cloud brightness, leading to increased sunlight reflection**.

This programme aims to:

- ➔ Better understand the **present-day effects of pollution aerosols on clouds**.
- ➔ Investigate whether **aerosol particles made from sea salt** could be used to intentionally **reduce near-term climate warming**.
- ➔ Understand the **benefits, risks and efficacy of the intentional use of aerosols** to reduce warming.

Polar Vortex



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- Recently, the Polar Vortex in the Arctic had partially reversed course and was spinning 'backwards' for 21 days.
- The polar vortex is a **massive spinning wheel of freezing cold air** that forms high in the atmosphere near the **North Pole**, held together by a strong **west-to-east wind current**.
- The polar vortex **weakens in summer and strengthens in winter**.
- This wind current, often referred to as the **polar night jet**, can reach speeds comparable to a Category 5 hurricane.
- The reversal in the vortex's direction was attributed to "**Sudden Stratospheric Warming events**," which caused an **influx of ozone from lower latitudes around the Arctic**.

Zero Shadow Day

- Recently Bengaluru witnessed the Zero Shadow Day.
- **Zero Shadow Day** is a **sub-solar point where the sun is directly overhead** at a particular latitude.

- When the sun is at the zenith (the highest point in the sky) its rays will be hitting a particular point exactly perpendicular to the surface.
- This will make the **shadow of a person** exactly under him, **making it look like there are no shadows**.
- There are **two zero shadow days every year in May and July/August**, observed in places that lie between the Tropic of Cancer and the Tropic of Capricorn.
- One **falls during the Uttarayan** (when the Sun moves northwards), and the **other is during Dakshinayan** (when the Sun moves southwards).

Volcanic Vortex Rings






- **Mount Etna, Italy** recently emitted volcanic vortex rings from a new vent on its crater's northeastern edge.
- Volcanic vortex rings, also known as **volcanic smoke rings**, are natural phenomena associated with volcanic eruptions.
- It appears as **dense, circular bands of gas and ash** that maintain their distinct shape as they rise into the atmosphere.
- They are **formed when pressurised gases and ash are rapidly ejected from a volcanic vent** during an explosive eruption.
- As the **pressurised mixture of gases, ash, and volcanic particles** is ejected from the vent, it interacts with the surrounding air.
- The **rapid expansion of the gases and the entrainment of air around the eruptive column** lead to the formation of a spinning vortex ring.

Honeycomb Clouds



- Scientists have observed that honeycomb-shaped clouds are the reason for having the cleanest air on Earth.
- Honeycomb Clouds (or Altocumulus Clouds) are a **type of cloud formation characterised by a distinctive pattern of small**, regularly spaced, and interconnected cloud cells **resembling the hexagonal shape of a honeycomb**.
- These clouds **typically occur at middle altitudes**, ranging from **2,000 to 6,000 metres** above sea level, and are composed of water droplets or ice crystals.
- It plays a major role in **regulating Earth's temperature**.

Recent Addition to list of GI Tags Products

Product	Description	State	
Asharikandi Terracotta Craft	Asharikandi Terracotta Craft refers to a traditional craft form practised in the village of Asharikandi in Assam . It involves the creation of pottery and other decorative items using locally sourced terracotta clay. The artform is closely related to Assamese culture and heritage .	Assam	
Jaapi (Bamboo Head Gear)	Assam Jaapi is a traditional bamboo hat . It is made from tokou paat, a sizable palm leaf , and densely woven bamboo or cane. The word jaapi comes from the word jaap, which means a bunch of tokou leaves . It was historically used for protection from sun and rain, elaborately designed jaapis were a symbol of status for the nobility.	Assam	
Garo Textile Weaving (Garo Dakmanda)	The dakmanda is a handwoven fabric with a unique design that showcases the rich knowledge and artistry of the Garo tribe, incorporating traditional motifs and techniques .	Meghalaya	

Product	Description	State	
Chubitchi	Chubitchi is a popular traditional alcoholic beverage prepared by the Garo tribe of Meghalaya. It is consumed during festive occasions such as Wangala (harvest festival) , Do.si Do.doka (wedding festivities) and religious rituals, and also served as refreshments for weary field labourers and guests.	Meghalaya	
Pachra Rignai	Rignai pachara is a traditional hand-woven attire meticulously crafted by skilled artisans using indigenous materials and techniques , worn by women in Tripura on special occasions. This garment holds symbolic value within Tripura's cultural tapestry and reflects the rich legacy of the region's textile heritage .	Tripura	
Bodo Gamsa	Gamsa is the male traditional dress of Bodo and is used to cover the portion from waist to knee by tying it in the waist.	Assam	
Lyrnai Pottery	Traditional pottery from the Lyrnai area , known for its distinctive style and utility (also called Black Pottery of Meghalaya). It is locally known as Khiew-Ranei . It is a mixture of black clay and serpentine stone . These are made with local techniques passed down from generation to generation. This form of pottery is unique not only because of what is used to make it but also the way in which it is made .	Meghalaya	

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Science & Technology

Shallow Fakes

- The prevalence and impact of shallow fakes during **elections** have been a concern.
- Shallow Fakes are **manipulated images, videos, and voice clips** created **without the help of AI technology** as opposed to the deep fakes.
- It relies on **traditional editing tools** to deceive viewers.

C-Dome



- Recently, **Israel for the first time**, deployed its **ship-mounted defence system**, called the C-Dome.
- C-Dome is a **naval version of Israel's Iron Dome** air defence system
- It is used to defend against **rocket and missile attacks**.
- Unlike the Iron Dome, which has its dedicated radar, the C-Dome is integrated into the ship's radar to detect incoming targets.

Synthetic Platelets to Stop Bleeding

- Researchers from North Carolina State University have developed **synthetic platelets capable of stopping bleeding and enhancing healing at injury sites in animals**.
- These synthetic platelets consist of **hydrogel nanoparticles** mimicking human platelets in size, shape, and mechanical properties.

- Hydrogels are **water-based gels** composed of water and a small amount of polymer molecules.
- The researchers engineered the synthetic platelets' surface to include antibody fragments binding to **fibrin**, a protein synthesised at wound sites to promote clotting by forming a mesh-like substance.

Biohacking

- Recently, biohacking has been gaining popularity in **India**.
- It refers to the practice of **experimenting with biology** outside traditional laboratory settings.
- It involves using **scientific knowledge and experimentation** to optimise one's body and mind.
- It encompasses various practices aimed at **improving physical and mental performance, longevity, and overall well-being**.
- Examples: **Dietary Modifications, Sleep Optimization, Biometric Monitoring, Biofeedback Devices** etc.

Genetic Profiling

- The genetic profiling of the 400-odd captive elephants of Kerala will begin shortly.
- Genetic Profiling (also called **DNA fingerprinting and DNA profiling**) is the **process of determining an individual's DNA characteristics**.

How does it work?

- **Sample is collected and cells are broken down to isolate the DNA.** Sometimes **Polymerase Chain Reaction (PCR)** might be needed to amplify the amount for analysis (such as in **crime scene evidence**).
- Scientists target specific areas of DNA known to be highly variable between individuals. These variations, called **VNTRs (Variable Number Tandem Repeats)**, are like **short, stuttering sequences of DNA that differ in length from person to person**.
- A specific type of VNTR, called **Short Tandem Repeats (STRs)**, is commonly used in profiling and scientists **analyse the lengths of these VNTRs at multiple locations across the genome**.

- The combination of these lengths forms an individual's unique DNA profile and the resulting profile can then be compared to others.

Applications

- DNA profiling is a forensic technique in criminal investigations, comparing criminal suspects' profiles to DNA evidence so as to assess the likelihood of their involvement in the crime.
- It is also used in paternity testing, and in genealogical and medical research.
- DNA profiling has also been used in the study of animal and plant populations in the fields of zoology, botany, and agriculture.

NexCAR19

- The President of India Smt. Droupadi Murmu launched India's first home-grown anti-Cancer CAR-T cell therapy, NexCAR19.
- The NexCAR19 is a type of CAR-T cell therapy designed to target cancer cells that carry the CD19 protein, a protein that acts like a flag on cancer cells.
- It was developed by a collaboration involving ImmunoACT, an incubated company at the IIT Bombay, Prof. Rahul Purwar and his team from the Department of Biosciences and Bioengineering at IIT Bombay and Tata Memorial Centre.
- NexCAR19 is approved for the treatment of B-cell lymphomas and B-Acute Lymphoblastic Leukaemia (B-ALL) in patients who have not responded to standard treatments like chemotherapy.

CAR-T cell therapy is a form of immunotherapy that involves taking a patient's T cells (a type of immune cell), modifying them in a lab to target and destroy cancer cells, and then reintroducing them into the patient's body.

Coordinated Lunar Time (LTC)

- The head of the White House Office of Science and Technology Policy (OSTP) told NASA to finalise the strategy by the end of 2026 for establishing a Coordinated Lunar Time (LTC).

- LTC, the time standard for the Moon, will help different international bodies and private companies to coordinate their activities on the lunar surface.

- Coordinated Universal Time (UTC), the standard used to set all time zones around the world, cannot be used to determine time on the Moon;

♦ According to Albert Einstein's Theory of General Relativity, gravity bends space and time. As there is less gravity on the Moon, time ticks slightly faster (58.7 microseconds every day) there relative to the time on the Earth.

- The discrepancy can create problems for situations such as a spacecraft seeking to dock on the Moon, data transferring at a specific time, communication, and navigation.
- Like on Earth, atomic clocks can be deployed on the lunar surface to set a time standard.
- The specifics for creating a time standard for the Moon are not clear yet.

Science Based Targets Initiative

- The Science Based Targets initiative (SBTi) approved Tata Power's short-term objectives, making it the only Indian Integrated Power entity with SBTi targets.
- The targets align with the goal of keeping global temperature rise below 2°C.
- SBTi is a program that helps businesses set science-based targets to reduce their greenhouse gas emissions.
- The SBTi was founded in 2015 by the CDP, the United Nations Global Compact, World Resources Institute, and the World Wide Fund for Nature.
- It develops standards, tools and guidance which allow companies to set GHG emissions reduction targets in line with what is needed to limit global warming and reach net-zero by 2050 at the latest.

Chagas Disease

- World Chagas Disease Day, observed on April 14, raises awareness about Chagas disease, also known as American trypanosomiasis.

- This potentially life-threatening illness is caused by the **protozoan parasite Trypanosoma cruzi**, primarily **transmitted through the faeces of the triatomine bug**, also known as the “kissing bug.”
- While initially confined to **endemic areas in 21 Latin American countries**, population movements have **expanded its geographic distribution** globally.
- **Symptoms** vary throughout the infection. The **acute phase**, lasting weeks or months, may present mild symptoms like fever and fatigue. The **chronic phase**, lasting decades, can be asymptomatic or lead to serious complications such as heart failure and megaesophagus.
- Treatment focuses on parasite eradication and symptom management.

Sodium Ion Battery



- South Korean researchers have developed a **high-power hybrid sodium-ion battery**.
- The batteries are capable of **charging in seconds**, marking a potential breakthrough in **energy storage technology**.

Significance:

- ◆ Sodium is **abundant** when compared to Lithium.
- ◆ Sodium ion batteries are **safer as they are less prone to fire** when compared to lithium batteries.
- ◆ **High temperature tolerances** help to be used in more extreme temperatures.

Limitations:

- ◆ The batteries are **heavier** when compared to lithium ion ones.
- ◆ **Shorter life span** when compared to lithium batteries.

Mg CuO Fuel Cell

- Researchers at the University of Kerala have developed an **eco-friendly fuel cell** that primarily utilises **air and seawater to generate power**.
- The technology is **anticipated to outperform lithium-ion batteries** in power output.
- Unlike traditional fuel cells that use hydrogen, this cell relies on **magnesium and sodium chloride from seawater**.
- By employing **cupric oxide over copper substrate**, the cell becomes **cost-effective compared to platinum-based alternatives**.
- The cell produces **only electricity and heat during its operation and emits water**.

S.A.R.A.H

- Recently, the World Health Organization (WHO) announced the launch of S.A.R.A.H., a **digital health promoter prototype**.
- **Smart AI Resource Assistant for Health (S.A.R.A.H.)** is a digital health promoter prototype with **enhanced empathetic response** powered by **generative artificial intelligence (AI)**.
- It aims to provide an additional tool for people to **realise their rights to health**, wherever they are.
- It can help people **access up-to-date information** on quitting tobacco, being active, eating a **healthy diet** and **de-stressing** among other things.
- It can engage users **24 hours a day in 8 languages** on multiple health topics, on any device. As it is powered by generative AI rather than a pre-set algorithm or script helping her to **provide more accurate responses in real-time**.

Men5cv Vaccine

- Recently, **Nigeria** became the **first country in the world** to introduce the Men5cv vaccine.
- The Men5cv vaccine was recommended by WHO as it protects against **5 strains of Meningococcus bacteria** in a single vaccine.

- The introduction of the vaccine also coincides with the WHO's aim to **eradicate meningitis by 2030**.
- The **vaccine and emergency vaccination** activities are funded by **Gavi, the Vaccine Alliance**, which funds the global meningitis vaccine stockpile, and supports **lower-income countries** with routine vaccination against meningitis.

Meningitis is a serious infection that leads to the **inflammation of the membranes** (meninges) that surround and protect the **brain and spinal cord**.

There are multiple causes of meningitis, including **viral, bacterial, fungal and parasitic** pathogens. **Bacterial meningitis** is the most serious, can also result in **septicaemia (blood poisoning)**, and can seriously **disable or kill within 24 hours those that contract it**.

Infectious Respiratory Particles

- Recently, WHO introduced a new standardised terminology called **Infectious Respiratory Particles (IRP)**.
- The term IRP is used to **describe pathogens transmitted via air**.
- The WHO's clarification distinguishes IRPs from previously used terms like **'aerosols' and 'droplets,'** emphasising a **continuum of particle sizes**.
- IRPs exist on a **continuous spectrum of sizes**, and **no single cut-off points** should be applied to distinguish smaller from larger particles.
- The pathogens include those that cause respiratory infections, for example, **COVID-19**, influenza, measles, **Middle East Respiratory Syndrome (MERS)**, **Severe Acute Respiratory Syndrome (SARS)**, and **tuberculosis (TB)**, among others.

Euvichol-S

- Recently, the World Health Organization (WHO) has prequalified a new oral vaccine for Cholera called Euvichol-S.
- Euvichol-S is the **inactivated oral vaccine to treat Cholera**.

- This new vaccine is **the third product of the same family of vaccines** which are there for **cholera in WHO prequalification list**.
- It is a simplified formulation of the oral cholera vaccine (OCV) Euvichol-Plus.
- Other inactivated oral cholera vaccines are Euvichol and Euvichol-Plus.

Cholera

- Cholera is an **acute diarrhoeal disease** that is caused by the **bacterium Vibrio cholerae**.
- It remains a global threat to public health and an indicator of inequity and lack of social development.
- It is an extremely **virulent disease** that can cause severe acute watery diarrhoea.

Man Portable Anti-Tank Guided Missile (MPATGM) Weapon System



- **DRDO & Indian Army** conducted successful trials of indigenous Man Portable Anti-tank Guided Missile Weapon System.
- The MPATGM Weapon System is a **comprehensive solution** that includes the **MPATGM missile, Launcher, Target Acquisition System, and the Fire Control Unit**.
- It is **equipped with a dual-mode seeker, providing both day and night targeting capabilities**.
- Additionally, the system has a top-attack capability, which is a valuable asset in tank warfare.

Rampage Missiles



- Recently, the **Indian Air Force and Navy** inducted Rampage missiles into their arsenal effectively boosting their firepower.
- **Rampage Missiles** were effectively used against Iranian targets by Israeli Air Forces recently.
- Also known as **High Speed Low Drag Mark 2 missiles** in the Indian Air Force, these missiles are developed by **Israel Aerospace Industries and Israeli Military Industries Systems**.
- These **long range, supersonic, seekerless, surface to air** missiles are designed for **precision strikes**; they are used to **target high-quality, well-protected sites** such as communication centres and air force bases.
- The supersonic speed makes it **challenging to be intercepted** and has a range of approximately **250 kms**.
- The missile is equipped with **GPS/INS navigation with anti-jamming capabilities** and **can change direction mid-path** for precision strikes.

Mercenary spyware

- Apple recently **informed users saying that their iPhones** might be under attack by a type of spyware called **mercenary spyware**.
- Mercenary spyware attacks are **highly complex, targeting specific individuals** with exceptional resources, surpassing regular cybercriminal activity and consumer malware.
- They are difficult to **detect and prevent** due to their **substantial investment and short lifespan**.
- It is **designed to remotely infiltrate and compromise smartphones** and other devices **without the knowledge or consent of the users**.

Gaia BH3

- Astronomers recently spotted the most massive known stellar black hole in the Milky Way galaxy named Gaia-BH3.
- Gaia-BH3 is the **most massive stellar black hole** yet discovered in the Milky Way galaxy.

Stellar-mass black holes are formed from the **gravitational collapse of a single star** or from the merger of **two neutron stars**.

- Therefore, stellar-mass black holes have masses similar to the masses of stars.
- This black hole was spotted in data from the **European Space Agency's Gaia mission** (Space **astrometry mission building the largest**, most precise **three-dimensional map** of our Galaxy).
- It has a mass that is nearly **33 times that of our sun**, and it's located **1,926 light-years away in the Aquila constellation**, making it the second-closest known black hole to Earth.

Kodaikanal Solar Observatory



- The **125th anniversary** of the iconic **Kodaikanal Solar Observatory** was celebrated on 1 April 2024.
- The Kodaikanal Solar Observatory of the **Indian Institute of Astrophysics** is located in the **Palani range of hills**.
- It was established in **1899** as a **Solar Physics Observatory** and **all activities of the Madras Observatory (established in 1792) were shifted to Kodaikanal**.
- Today, it houses a spectrum of advanced instruments like the **H-alpha telescope to perform full disc imaging**, a **White light Active Region Monitor (WARM)** with calcium and sodium filters to make full disc simultaneous observations of the **photosphere and chromosphere layers of the Sun**, a **solar tunnel telescope** and more.

Miscellaneous

USSD based Call Forwarding

- In a bid to curb online fraud, **Department of Telecommunications (DoT)** has ordered the **deactivation of USSD-based call forwarding services** from April 15, 2024
- The DoT noted that USSD-based call forwarding, particularly the ***401# service** for unconditional call forwarding, is being **misused for inappropriate activities**.
- USSD is a **protocol used in GSM networks for sending short text messages**. It facilitates instant messaging without storing messages on the operator or subscriber's device.
- USSD is a feature that allows **users to access various phone services by dialling specific codes on their keypads**. A common use of USSD is checking your **prepaid balance or retrieving your phone's IMEI number**.
- The said scams typically involve **tricking users into activating call forwarding** to a different number, **allowing the scammer to intercept incoming calls** and potentially steal confidential information like **one-time passwords (OTPs) used for financial transactions**.

Operation Meghdoot

- Operation Meghdoot has completed its 40th anniversary.
- **Operation Meghdoot** was the **code-name** for the **Indian Armed Forces operation to capture the Siachen Glacier**.
- It launched on **13 April 1984**, when the **Indian Army and Indian Air Force (IAF)** advanced to the **Siachen glacier** to secure the heights dominating the **Northern Ladakh region**.
- The operation resulted in **India gaining 70 kilometres long Siachen Glacier and all of its tributary glaciers**, as well as three main passes of the **Saltoro Ridge** namely **Sia La, Bilafond La, and Gyong La**.

National Organ and Tissue Transplant Organisation (NOTTO)

- The Union Health Ministry recently announced that **all organ donors and recipients will be assigned a unique National Organ and Tissue Transplant Organisation (NOTTO)-ID**.
- NOTTO is a national-level organisation established under the **Directorate General of Health Services, Ministry of Health and Family Welfare**, based on the **Transplantation of Human Organs (Amendment) Act, 2011**.
- It comprises two **divisions**: the **National Human Organ and Tissue Removal and Storage Network**, which coordinates organ and tissue retrieval, storage, and allocation in Delhi initially, with plans for expansion nationwide, and the **National Biomaterial Centre**, addressing the gap between demand and supply of various tissues while ensuring quality assurance.

Transplantation of Human Organs & Tissues Act (THOTA), 1994

The THOTA, 1994 provides for **regulation of removal, storage and transplantation of human organs & tissues for therapeutic purposes** and for **prevention of commercial dealings in human organs & tissues**.

Brain Stem Death was recognised as a legal death in India for the first time under the act, which has revolutionised the concept of organ donation after death.

The act was **amended in 2011** and the **Transplantation of Human Organs and Tissues Rules** were notified in **2014** to govern the donation and transplantation of human organs and tissues.

Indian Space Situational Assessment Report

- Recently the ISRO released the **Indian Space Situational Assessment Report (ISSAR) for 2023**.
- The Indian Space Situational Assessment Report (ISSAR) for 2023 is compiled by **ISRO System for Safe and Sustainable Space Operations Management (IS4OM)**.

- The report revealed that **more space objects were placed in orbit in 2023 compared to the previous year**, indicating a growing trend in space object population.
- A **total of 127 Indian satellites** launched till December 31, 2023
- There are **22 operational satellites in LEO and 29 in GEO owned by the Govt. of India** as of December 31, 2023.

Project ISHAN

- India has kickstarted the process of unifying its four airspace regions into one spanning the entire nation under Project ISHAN.
- The **Indian Single Sky Harmonized Air Traffic Management (ISHAN)** initiative aims to **streamline and enhance air traffic management**.
- The project involves consolidating the **4 existing Flight Information Regions (FIRs) in Delhi, Mumbai, Kolkata, and Chennai into a single, continuous airspace headquartered in Nagpur**.
- The **Airports Authority of India (AAI)** is responsible for **managing the project and has invited expressions of interest (EoIs)** for the preparation of a detailed project report.
- This will benefit **airlines and passengers by reducing flight delays and improving overall travel experience**.

Places in News

Nimmu-Padam-Darcha Road



- The **Border Roads Organisation (BRO)** recently connected the strategically important **all-weather 298-km long road from Manali to Leh through Darcha and Nimmu on the Kargil-Leh Highway**.
- Nimmu-Padam-Darcha road is now the **third axis apart from Manali-Leh and Srinagar-Leh** which connects Ladakh to the hinterland.
- The Nimmu-Padam-Darcha road derives its strategic importance from two critical factors: **it is shorter compared to the other two axes and crosses only one pass; Shinkun La** on which tunnel work is about to commence by the BRO.
- The all weather connectivity will give a quantum **boost to the defence preparedness along the Northern Borders**. It will also give a boost to **economic development in the Zaskar valley**.

Erez Crossing

- Israel has approved the reopening of the Erez crossing between **Israel and northern Gaza** for the first time since the October 7 Hamas attacks.
- The Erez Crossing is a border crossing between the **Gaza Strip and Israel**.
- It's located at the northern end of the Gaza Strip, between the Israeli kibbutz of Erez and the Palestinian town of Beit Hanoun.



Lake Kariba



- Water levels at Lake Kariba in **Zimbabwe** have dropped dramatically because of the latest **El Nino drought**.
- It is the **world's largest man-made lake** and reservoir **by volume**.
- It lies along the **border between Zambia and Zimbabwe**.
- The Kariba Dam consists of a **double-arch wall**.
- The lake was filled following the completion of the Kariba Dam wall at its northeastern end, flooding the Kariba Gorge on the Zambezi River.

Sittwe Port



- India has secured the rights to operate the Sittwe port in Myanmar.
- It marks India's **second overseas port endeavour** after Chabahar.
- It is a **deepwater port situated at the Kaladan River's estuary** in Myanmar's Rakhine State.

Paradip Port

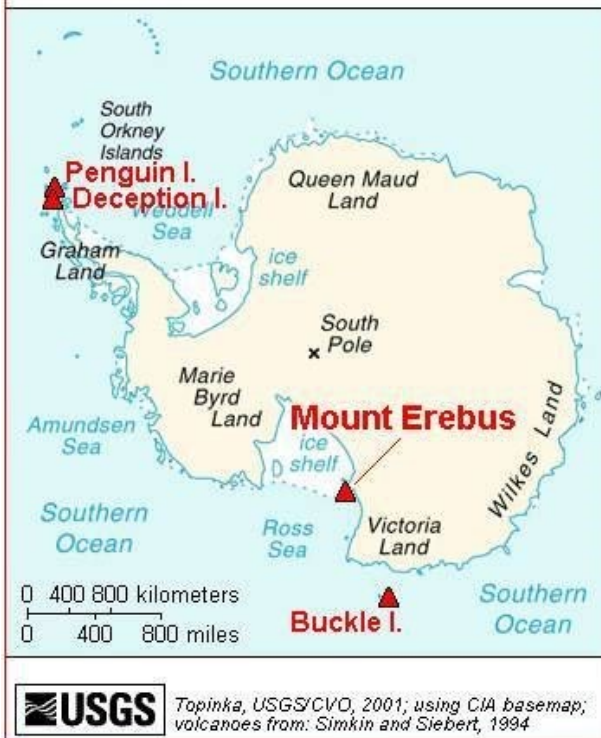
- Paradip Port in **Odisha** has achieved the **highest cargo handling among major ports** in India for the financial year 2023-24, surpassing Deendayal Port in Kandla, Gujarat, which held the record for the past 16 years.
- Situated in Paradip, Odisha, Paradip Port is a **natural deep-water port on the East coast of India**.
- It is the **only major port in Odisha** and the **first major port developed on the east coast post-independence**.
- Strategically located at the confluence of the **Mahanadi River and the Bay of Bengal**, the port is 210 nautical miles south of Kolkata and 260 nautical miles north of Visakhapatnam.



Mount Erebus

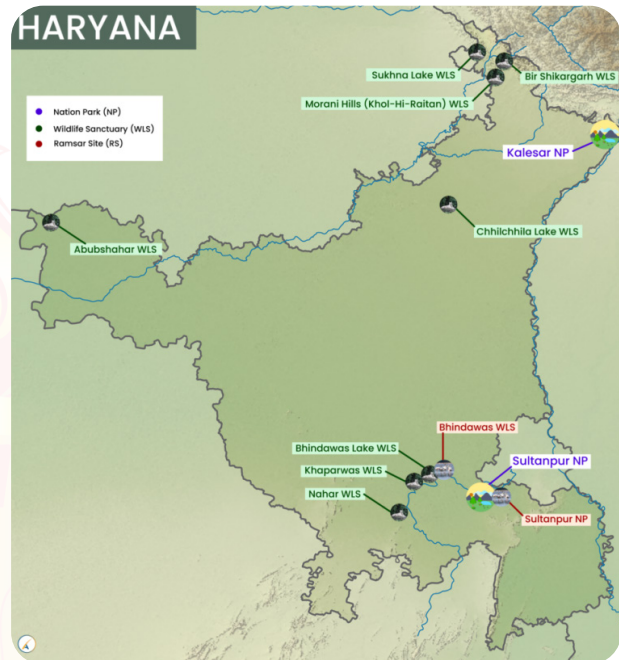


Major Volcanoes of Antarctica

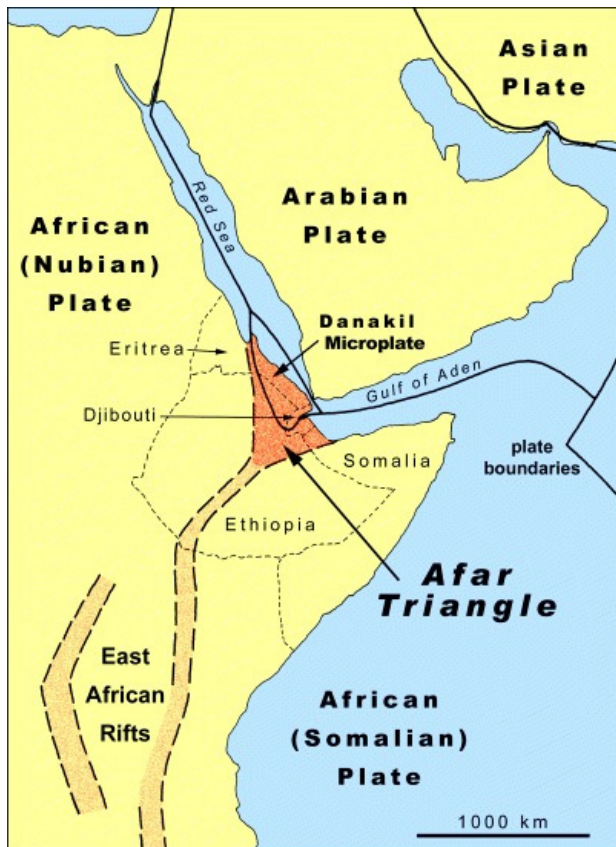


- Mount Erebus, an active volcano **located on Ross Island, Antarctica**, has recently gained attention for **emitting gold dust valued at approximately \$6000 per day**.
- As the **southernmost active volcano on Earth**, Mount Erebus is a **stratovolcano**, featuring a conical shape and **layers of solidified lava, tephra, and volcanic ash**.
- It is renowned for hosting a **persistent lava lake, active since at least 1972**, making it one of the few long-lasting lava lakes globally.
- Mount Erebus exhibits **Strombolian Eruptions**, characterised by moderate-intensity bursts of gas and ash, a distinctive eruptive style for the volcano.

Kalesar Wildlife Sanctuary



- The Supreme Court recently stayed the construction of 4 dams in **Haryana's Kalesar Wildlife Sanctuary**.
- Located in the **foothills of Shivalik ranges** of Himalayas, the topography varies from **plains to hills up to an elevation of 700 m**, interspersed with narrow valleys locally called '**khols**' between the hills.
- **River Yamuna** runs to the East and the sanctuary derives its name from the **Kalesar forests**.
- It is home to many species of animals, including **leopards, sambar deer, barking deer, hyenas, jackals, Indian porcupines, Indian pangolins, and langurs**.
- The sanctuary is also home to several species of birds, such as the **red junglefowl, grey partridge, Indian peafowl, and white-throated kingfisher**.
- Mainly, the forest has trees like **sal, khair, shisam, tun, sain, and amla**.



- Recent geological discoveries indicate that the **Afar Triangle** in Africa may become the **origin of a new ocean** within the next 5 to 10 million years.
- The Afar Triangle, located in the **Horn of Africa** is a geological depression where **three tectonic plates: the Nubian, Somali, and Arabian plates** meet.
- It has a **rich palaeontological history**, revealing fossils of some of the earliest hominins.
- It is part of the Great Rift Valley in East Africa, spanning across **Eritrea, Djibouti, and the Afar Region of Ethiopia**.
- It contains **Lake Assal**, which is **Africa's lowest point**.

Golden Trevally



- Researchers of the **ICAR-Central Marine Fisheries Research Institute (CMFRI)** have succeeded in **captive breeding of golden trevally**.
- Golden trevally is also known as **golden kingfish** is a **high value marine fish**.
- It has a **yellowish belly, scattered black patches, yellow fins, and black tail**.
- These fishes are found in the **reef areas**. The golden trevally is primarily found in reef area fishing grounds in **Tamil Nadu, Puducherry, Kerala, Karnataka, and Gujarat**.
- It is an ideal candidate species for mariculture due to its **faster growth rates, good meat quality** and huge market demand for both **consumption and ornamental purposes**.

IUCN STATUS - Least Concern

Caracals



- With only an estimated 50 individuals remaining, predominantly in western India, the caracal is on the verge of extinction in the country.
- Caracals are **small wild cats** known for their **long ears with tufts and a reddish-tan or sandy-brown fur**. It is called **Siya Gosh** in India.
- It is **nocturnal animal** typically preys upon **small mammals, birds, and rodents**.
- It has traditionally been valued for its **flexibility and its extraordinary ability to catch birds in flight**.
- They **live naturally in India**, especially in **Northwestern India**. They are also found in **Africa, the Middle East, and Central Asia**.
- They are found in **Aravalli hill range, semi-deserts, savannahs, scrublands, and dry forests**.
- Caracals **used to live all over Central India** and the Indo-Gangetic plains, but they **haven't been spotted in those areas for 40 years**.

Conservation Status

IUCN- Least Concern

WPA- Schedule-1

Purple Striped JellyFish



- Marine researchers have reported an **unusual bloom of venomous jellyfish**, specifically the mauve stinger or purple-striped jellyfish, along the **Visakhapatnam coast**.
- This jellyfish species can cause various **degrees of illness, including diarrhoea, extreme pain, vomiting, and anaphylactic shock**.
- Found globally in **tropical and warm-temperature seas**, their habitat is mainly in the open ocean, although **they can also survive in coastal and benthic environments**.

- Unlike other jellyfish, they **possess stingers not only on their tentacles but also on their bell**.
- Additionally, they exhibit **bioluminescence**, producing light in dark conditions.

A **jellyfish bloom** is when the population of the species increases dramatically **within a short period of time**, usually due to a higher reproduction rate. As per marine biologists, jellyfish blooms are reported frequently as a result of rising ocean temperatures, one of the main causes of substantial population growth.

Bumblebees



- A recent study suggests that **bumblebees show resilience to common pesticides**.
- Bumblebees, belonging to the genus Bombini, are primarily found in **temperate climates and measure around 1.5 to 2.5 cm in length**.
- They typically have a **black body with a broad yellow or orange band**.
- Living in colonies, bumblebees include a **queen bee, drones, and worker bees**, each with specific roles supporting the colony.
- Unlike honeybees, **bumblebees do not produce honey**, as they don't need to store food for winter.
- Their colonies are annual, with a **single queen establishing a nest each year**, unlike the perennial colonies of honeybees.

Vasuki indicus

- Recently, researchers in India have discovered the **fossilised remains of a colossal snake** that existed around **47 million years ago**.
- The fossils were found in **Kutch, Gujarat**.
- Vasuki refers to the **mythical snake** often depicted around the neck of the Hindu god Shiva.
- It belonged to the Madtsoiidae snake family (now-extinct).

Malabar trogon



- The Malabar trogon is a species of bird in the trogon family.
- It is **mainly found in the Western Ghats**, hill forests of central India and in parts of the Eastern Ghats.
- They are **insectivorous and although not migratory, may move seasonally** in response to rain in hill forest regions.

Conservation status

IUCN: Least concern

Neptis philyra

- A rare butterfly species named **Neptis philyra** has been recently **discovered for the first time in India in Tale Valley Wildlife Sanctuary**.
- Till date, the butterfly species was known to be found across various regions of **east Asia, including eastern Siberia, Korea, Japan, central and southwest China**.

- Neptis philyra, also known as the **long-streak sailor**, has a **white cell streak forming a "hockey stick" pattern on the forewing**.
- It is known to prefer habitats such as **evergreen forests, riverine vegetation, and rocky streams**.



Ashwagandha



- Ashwagandha (Withania somnifera), also known as **winter cherry**, is gaining popularity in India and abroad.

- This **evergreen shrub** belongs to

the Solanaceae or nightshade family and is native to **India, the Middle East, and parts of Africa**.

- With a rich history in traditional Indian Ayurvedic medicine, it's often called "**Indian ginseng**" for its **reputed health benefits**.
- In Ayurveda, ashwagandha is classified as a **Rasayana**, promoting youthfulness mentally and physically, and as an **adaptogen**, aiding the body's stress adaptation.

Butterfly Cicada



- A **new species of cicada**, informally named the **“Butterfly Cicada,”** has been discovered in **Meghalaya**, marking the first-ever record of the genus Becquartina in India.
- Genus Becquartina is represented by **six species found distributed in China, Thailand, and Vietnam**, often referred to as **“Butterfly cicadas”** due to their colourful wings.
- They are **stout, green or brown in colour with black markings**, and have **four clear wings** that resemble a fly.

Bugun Liocichla



- Buguns, **one of the major tribes**, mainly living adjacent to **Eaglenest Wildlife Sanctuary in Arunachal Pradesh’s** have set an example by donating 1,470 hectares of forest land to the state forest department, giving a push to efforts **for protection of Bugun Liocichla bird**.
- Bugun Liocichla is a **small babbler** with **olive-grey plumage and black cap**.
- It has become an **attraction of birdwatchers** since it was discovered as a new bird species in 2006.

- It is found only in the **Eaglenest Wildlife Sanctuary** landscape and nowhere else in the world.
- The avian species is **critically endangered** with **only 14 individual birds spotted** so far in the **Braiduah village** under the Singchung sub-division.



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