FORTUNE
Prelims Precise

NOVEMBER 2023

INDEX

FORTUNE IAS
Toppers in Top 100

Rank 6
Meera K
2021

Rank 15
Sidharth B
2017

Rank 21
Dilip K Kainikkara
2022

Rank 28
Hamna Mariyam
2017

Rank 29
Sreelakshmi Ram
2019

Rank 33
Anand
2016

Rank 36
Arya V M
2023

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 62
Aparna M B
2021

Rank 63
Dheenah Dastageer
2021

Rank 66
Akhil V Menon
2022

Rank 66
Arjun Mohan
2019

Rank 81
Malini S
2023

Rank 92
Devi Nandana
2020

Rank 99
Archana P P
2020

Rank 100
Kiran P B
2022

History & Culture

Birsa Munda (Dharti Abba – 'Father of the Earth')

» Recently, the **Prime Minister of India** paid his tribute to Birsa Munda on his birth Anniversary (**Janjatiya Gaurav Divas**).
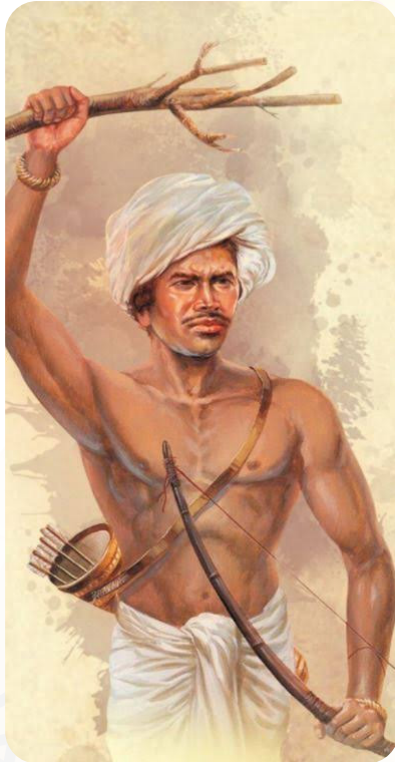
- Birsa Munda was a **freedom fighter, religious leader and folk hero from the Munda Tribe** of the Chhota Nagpur Plateau region.

- In the early 19th century he spearheaded a tribal mass movement against colonial rule in **Bihar and Jharkhand.**

- He rallied the tribals to fight against the **forceful land grabbing** carried out by the British government.

- He started the **Ulgulan (Munda Rebellion 1899-1900)** as a reaction to British oppressions against the people. He died in jail in 1900.

- As a result of the rebellion **the Chotanagpur Tenancy Act, 1908** was passed, which **restricted the passing on of land from the tribal people to non-tribals.**

- He also created a faith called **'Birsait'.**

- As a recognition of his role in the Indian national movement, the **state of Jharkhand** was established on his birth anniversary in 2000.

Sharda Peeth temple

» Recently, the Union Home Minister mentioned that the government will make attempts to build a **corridor to Sharda Peeth in Pakistan Occupied Kashmir.**

- It is an abandoned **Hindu temple and ancient centre of learning.**

- It is located in the village of Sharda in the valley of **Mount Harmukh,** along the **Neelam River.**

- It is believed that scholars like **Kalhana, Adi Shankara, and Vairotsana** used to teach here.

- It is one of the **18 Maha Shakti Peethas** and is considered to be the abode of Hindu **Goddess Saraswati.**

- It is believed that **Panini completed Ashtadhyayi** (**Sanskrit treatise on grammar**) from here.

Lachit Borphukan

- Lachit Borphukan was a 17th century CE **military commander** of the **Ahom Kingdom**, primarily known for **the victory in the Battle of Saraighat in 1671.**

- The victory **thwarted an invasion by the vastly superior Mughal Forces under the command of Ramsingh I.**

- **Borphukan** is the name of title given to one of the five councillors of the Ahom dynasty and had executive, judicial and diplomatic powers.

- The **best passing out cadet of the National Defence Academy** is conferred the **Lachit Borphukan Gold Medal** every year from 1999.

Kambala

- » Bengaluru held its first Kambala race recently.

- Kambala is an **annual buffalo race** practised in **coastal Karnataka districts**, especially in regions where **Tulu speakers** form a majority.

- It is generally held under **four categories;**

  - 🐃 **Negilu:** Light ploughs are used to tie buffaloes for the race.

  - 🐃 **Hagga:** Buffaloes are raced by jockeys with just a rope tying the pair together.

  - 🐃 **Adda Halage:** Jockeys stand over a horizontal plank dragged by buffaloes.

  - 🐃 **Kane Halage:** Wooden plank is tied to buffaloes.

- Kambala was in **2014 banned by the Supreme Court**, but the Karnataka government, keeping its popularity in mind, **amended Prevention of Cruelty to Animals Act to allow the races to go on.** In 2023, SC upheld these amendments.

Geoglyph

- » A geoglyph has been recently unearthed on the outskirts of Mudichu Thalapalli in the Medchal-Malkajgiri district of **Telangana**.

- Geoglyph is a **large design or motif** (generally longer than 4 metres) produced on the ground.

- It is typically **formed by clastic rocks or similarly durable elements of the landscape**, such as stones, stone fragments, gravel, or earth.

- From ancient times, the **most widely known geoglyphs** are the **Nazca Lines of Peru**, which have been a mystery to this day.

- A geoglyph is created by arranging or moving objects within a landscape.

Features of the geoglyph unearthed from Telangana

- ● It is etched on a **low-lying granitoid hillock**, the geoglyph spans 5 metres in diameter and has a perfect circular shape.

- ● It is dated to the **Iron Age**, specifically around 1000 BCE.

- ● It is suggested that this **circle might have served as a model for megalithic communities** in planning their **circular burial sites.**

Kashi Tamil Sangamam

- » The Kashi Tamil Sangamam has been slated for December 2023

- It **aims to unite North and South India through shared history and culture.**

- Led by the **Ministry of Education and Uttar Pradesh Government**, it aligns with the **National Education Policy's** goal of integrating traditional and modern knowledge.

- Implemented by **IIT Madras and Banaras Hindu University,** the initiative embodies **'Ek Bharat, Shrestha Bharat'**, fostering unity and excellence.

Sant Mirabai

- » Recently, Prime Minister Narendra Modi visited Mathura in Uttar Pradesh to take part in **Sant Mirabai Janmotsav.** A **commemorative stamp and a coin in honour of Sant Mirabai** was also released.

- Mirabai was born into a **Rajput royal family** in **Kudki, Rajasthan's Pali region in 16th century.**

- She is believed to be a follower of saint **Ravidas**, an untouchable.

- She **committed her life to Lord Krishna's devotion**.

- She was the **first to introduce the Giridhara Gopala cult (Krishna Bhakti cult) of Brindavan** and also the **first to introduce Bhajan in the Bhakti movement.**

- Her bhajans are said to be composed in the language of **Vraj Bhasha or Rajasthani.**

Polity & Governance

Central Adoption Resource Authority (CARA)

- CARA is an **autonomous body** under the **Ministry of Women and Child Development** set up in 1990.

- It is a **statutory body** under the **Juvenile Justice Act 2015**, designated as the **Central Authority to deal with in-country and inter-country adoptions**.

- It deals with inter-country adoptions in accordance with the **Hague Convention on Inter-country Adoption**, 1993.

- It is headed by a **Chairperson, appointed by the Central Government.**

Functions of CARA include:

- **Monitoring and Regulation** of Adoption Process.

- **Maintenance of a National Adoption Database** which contains information about children legally free for adoption and prospective adoptive parents.

- Setting **Adoption Standards** for uniformity in adoption processes.

- Accreditation of Adoption Agencies.

- Ensuring child welfare.

- Helping **Legal framework formulation.**

Central Bureau of Communication (CBC)

» Recently, the **Ministry of Information and Broadcasting** has approved the **Digital Advertisement Policy, 2023**. The policy empowered the **Central Bureau of Communication (CBC),** the advertising wing of the Central government, to undertake online media campaigns.

- CBC is the nodal agency of the Government of India for **advertising by various Ministries and organisations of Government of India.**

- It functions under the **Ministry of Information and broadcasting.**

- HQ: **New Delhi.**

- It was set up in 2017 by integrating three media units of the Ministry of I&B: **Directorate of Advertising & Visual Publicity (DAVP), Directorate of Field Publicity (DFP) and Song & Drama Division(S&DD).**

- Its primary objective is to undertake **campaigns to inform and educate rural and urban people** about the Government's policies and programmes through available vehicles of communication viz. **Print, Audio Visual, Outdoor, Digital and New Media.**

Jal Diwali-Women for Water, Water for Women Campaign

» Recently, the **Ministry of Housing and Urban Affairs (MoHUA)** launched the Jal Diwali-Women for Water, Water for Women Campaign.

- Its objective is to provide a **platform for the inclusion of women in water governance.**

- It also aims to instil a **sense of ownership and belonging among women towards water infrastructure.**

- **Under Phase 1** - participation from all States/UTs except **Chhattisgarh, Mizoram, Madhya Pradesh, Rajasthan, and Telangana.**

Directorate of Revenue Intelligence (DRI)

» Recently, DRI conducted **search operation** at Havells India corporate office.

- It is the premier **intelligence and enforcement agency** on anti-smuggling matters under the aegis of **Central Board of Indirect taxes & Customs (CBIC),** Department of Revenue, **Ministry of Finance.**

- DRI is also engaged in preventing **commercial frauds and customs duty evasion.**

- Headquarters: **New Delhi**

Electoral Bonds

» **Ministry of Finance** has authorised the State Bank of India (SBI), in the 29th Phase of sale, to issue and encash Electoral Bonds through its 29 Authorised Branches.

- Electoral bonds are a **financial instrument** which can be bought by **companies and individuals (singly or jointly)** whose **identities are kept anonymous** and **donated to a political party,** which can then encash these bonds.

- Introduced by the Government of India in **2018,** such bonds are **sold in multiples of Rs. 1000, Rs.10000, Rs.1 lakh, Rs.10 lakh and Rs. 1 crore.**

- **State Bank of India (SBI)** is the only bank authorised to issue and encash electoral bonds.

- Only **registered political parties** that meet **certain criteria** are eligible to receive electoral bonds;

  ✑ The political party must be **registered under Section 29A of the Representation of People Act 1951.**

  ✑ The party must have secured **at least 1% of the votes** polled in the **most recent Lok Sabha or State Assembly election.**

- The **donations made under this scheme** by corporate and even foreign entities enjoyed **100% tax exemption.**

- The electoral bonds are **valid for 15 calendar days** from the date of issue.

- In an unanimous judgement, the **Supreme Court struck down as unconstitutional and manifestly arbitrary the electoral bonds scheme** in February 2024.

Central Electricity Authority (CEA)

» Data from the Central Electricity Authority (CEA) show increasing power demand among states.

- CEA is a **statutory body** constituted by the **Electricity (Supply) Act, 1948** (now repealed) and continued under the **Electricity Act, 2003** and is an **attached office** of the **Ministry of Power.**

- As per the Act, the CEA shall consist of **not more than 14 members,** including its chairperson and **not more than eight members shall be full time members** that are appointed by the **Central Government.**

- The chairperson oversees the **development of the power sector** in the country.

- CEA advises the government on matters of **National Electricity Policy (NEP)** and **formulates plans for the development of electricity systems.**

- It is the **designated authority for cross border trade of electricity.**

- It also **prescribes the standards** on matters such as construction of electrical plants, electric lines and connectivity to the grid, safety and grid standards and installation and operation of metres.

Rashtriya Vigyan Puraskar (RVP)

» The Government of India has come out with a new set of **National Awards in the field of Science, Technology and Innovation** known as the **Rashtriya Vigyan Puraskar.**

- The RVP will recognise the **notable and inspiring contributions** made by the scientists, technologists and innovators individually or in teams in various fields.

The awards will be given in **4 categories**:

🏆 **Vigyan Ratna (VR) Award:** It will recognise **lifetime achievements** and contributions made in any field of science and technology.

🏆 **Vigyan Shri (VS) Award:** It will recognise **distinguished contributions** in any field of science and technology.

🏆 **Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB) Award:** It will recognise and encourage **young scientists up to the age of 45 years** who made an exceptional contribution in any field of science and technology.

🏆 **Vigyan Team (VT) Award:** To be given to a **team of 3 or more scientists/researche TB rs/innovators** who have made an exceptional contribution working in a team in any field of science and technology.

- The RVP will be given in **13 domains** and **Scientists, technologists and innovators of Indian origin abroad** with exceptional contributions benefiting the Indian society will also be eligible.

- All nominations received for the awards will be placed before the **Rashtriya Vigyan Puraskar Committee (RVPC)** to be headed by the **Principal Scientific Adviser (PSA).**

- The awards will be announced on **11th May (National Technology Day)** every year and the award ceremony will be held on **23rd August (National Space Day).**

ENCORE Software

- The Election Commission of India has **designed in-house software, ENCORE,** for complete Candidate and election management.

- ENCORE software stands for **Enabling Communications On Real-Time Environment**.

- It provides a **seamless facility for Returning Officers** to **process candidate nominations, affidavits, Voter turnout, counting, results, and data management.**

- Another application called the **ENCORE Scrutiny Application allows Returning Officers** to **do scrutiny of the nominations** filed by the candidates online.

- After **verification of the nomination the status** is marked as Accepted, Rejected or Withdrawn **helping the Returning Officer to** prepare the **final list** of contesting candidates and assign the symbols.

e-SCR Portal

» A Hindi version of the e-SCR portal was launched recently as part of Constitution Day celebrations.

- e-SCR Portal was an **initiative by the Supreme Court (SC) of India** to provide the **digital version of the apex court's judgements** in the same manner they are reported in the official law report.

- These verdicts will be **available on the apex court website, its mobile app,** and on the judgement portal of the National Judicial Data Grid (NJDG).

- It is a **free service available for lawyers** across the country.

- The Supreme Court has developed a **search engine** with the **help of the National Informatics Centre** comprising elastic search techniques of text search, search within search, case type and case year search, judge search, year and volume search, and bench strength search options.

Bharatiya Beej Sahakari Samiti Ltd

» Union Home and Cooperation Minister Amit Shah has established a new cooperative society, Bharatiya Beej Sahkari Samiti Limited (BBSSL)

• Bharatiya Beej Sahkari Samiti Limited is a **cooperative society established in 2023** under **Multi-State Cooperative Societies (MSCS) Act, 2002.**

• It aims to **ensure that traditional and certified and scientifically prepared seeds** reach every farmer.

• It focuses on **production, testing, certification, procurement, processing of seeds in the country**.

• This society will increase the availability of improved seeds to the farmers, boost the productivity of crops and enhance the income of the farmers.

National Health Claim Exchange

» The **National Health Authority (NHA)** and **the Insurance Regulatory and Development Authority of India (IRDAI)** have joined hands to operationalize the National Health Claim Exchange (NHCX).

• National Health Claim Exchange is a **digital health claims platform developed by National Health Authority.**

• It is being developed as part of **Ayushman Bharat Digital Mission (ABDM)**

• It will **serve as a gateway for exchanging claims-related information** among various stakeholders in the healthcare and health insurance ecosystem.

• It is designed to be **interoperable and machine-readable, auditable and verifiable** as well as help ensure the information exchanged is accurate and trustworthy.

Special and Local Laws (SLL)

» The recent criminal law acts in India, while amending the Indian Penal Code and Code of Criminal Procedure, highlight the paramount significance of Special and Local Laws (SLLs) containing **critical offences and procedures**.

• A "special law" is a law applicable to a **particular subject** whereas a "local law" is a law applicable **only to a particular part of India.**

• SLLs are set in place to **cater to the unique needs of specific areas or regions, communities or situations** within the country. **For Ex:** - India has different personal laws for Hindus, Muslims and Christians.

• These laws are localised and vary based on the **cultural, social, and historical context** of different regions and communities. **For Ex:** Tribal laws are enacted in states for specific tribal populations with distinctive features.

• These laws **serve to supplement or modify the general laws** applicable to the entire country. **For Ex:** Subjects on Concurrent list have laws from central and state legislative assemblies.

• Nearly **39.9% of all cognisable offences registered in 2021 were under SLLs**.

Cinematograph (Amendment) Act, 2023

» In order to curb film piracy, the Union government has appointed **nodal officers to order taking down pirated content from digital platforms**. The decision is part of the Cinematograph Amendment Act 2023.

• Currently, **Cinematograph Act of 1952** is the **only legislation** in India that guides certification of films for public exhibition. (Only films released in Indian theatres comes under the purview)

• The current Cinematograph Act of 1952 **does not have provisions to check video piracy** and has **limited age-based categories** for certification of films.

Salient Features of the Amendment Act:

🎥 **Certain additional certificate categories based on age are added**. The Amendment Act classifies the U/A category into **U/A 7+, U/A 13+ and U/A 16+** in addition to 'U' and 'A'." (Based on **Shyam Benegal recommendations of 2017**)

🎥 **In order to stop piracy**, the Act prohibits carrying out or abetting the unauthorised recording and unauthorised exhibition of films.

🎥 The film certificates will be of **Lifetime validity** reducing the administrative burden .

- 🎥 **Revisional powers** of the Central Government are removed.

- 🎥 **Films with an 'A' or 'S' certificate** will require a separate certificate for exhibition on television, or any other media prescribed by the central government.

AAINA Dashboard for cities

» The **Ministry of Housing and Urban Affairs (MoHUA)** recently made the portal **www.aaina.gov.in live.**

- AAINA Dashboard is a **permanent platform** where **Urban Local Bodies (ULBs)** across the country can voluntarily submit their key data (such as audited accounts, self-reported performance metrics) on a regular basis.

- It would serve as a **tool to compare similarly placed cities** and promote peer learning among cities.

- It aims to create a **robust database** of the key performance metrics of Urban Local Bodies, which could be accessed by all stakeholders, and subsequently would open for public view once it gets populated.

Key performance metrics:

- ✯ Political & Administrative Structure,

- ✯ Finance,

- ✯ Planning,

- ✯ Citizen Centric Governance and

- ✯ Delivery of Basic Services.

National Efficient Cooking Program (NCEP)

- The **Energy Efficiency Services Limited (EESL)** recently launched the **National Efficient Cooking Programme.**

- The programme NECP is an initiative that **promotes use of induction based cookstoves**, introduced during **G20 energy transitions working group meeting.** It aligns with the **Go-electric initiative by the Ministry of Power.**

- Promotes an affordable,clean and energy-efficient induction-based cook-stoves which offers a **cost advantage o**f **25-30% over traditional cooking methods.**

- As part of this programme, a large-scale deployment of **20 Lakh** energy-efficient induction cook stoves will be distributed nationwide by EESL.

Energy Efficiency Services Limited (EESL)

- Energy Efficiency Services Limited (EESL) is a public energy service company in India, **established under the Ministry of Power,** Government of India.

- It was **founded in 2009** with the **primary mission of promoting and implementing energy efficiency projects.**

- It is a joint venture of **four national Public-Sector Undertakings:**

  - ⚡ NTPC Limited,

  - ⚡ Power Finance Corporation Limited,

  - ⚡ Rural Electrification Corporation Limited and

  - ⚡ POWERGRID Corporation of India Limited.

Economy

National level Monitors for Livestock Scheme

» The government is deploying National Level Monitors (NLM) to **oversee livestock schemes**, including the National Livestock Mission, Rashtriya Gokul Mission, National Programme for Dairy Development, and Livestock Health and Disease Control.

• NLMs will **ensure adherence to Ministry guidelines and transparent beneficiary selection.**

• They consist of Regular and Special monitors, including retired civil/defence officers and academics, selected by the **Department of Animal Husbandry and Dairying (DADH)** for independent monitoring.

Rapid Innovation and Start up Expansion (RISE)

» Atal Innovation Mission(AIM) and NITI Aayog launched a new innovation accelerator called **Rapid Innovation and Startup Expansion (RISE)** to support Australian and Indian circular economy startups.

• The initiative focuses on **startups and small to mid-sized enterprises (SMEs)**.

• **Focus Themes:** With a focus on **Environment and Climate Technology**, the program will focus on accelerating start-ups working on a range of areas like climate smart Agriculture, Climate smart mobility, Clean Energy.

• Participating startups may also be eligible for **up to INR 40,00,000 in non-equity grants.**

Global Digital Public Infrastructure Repository and Social Impact Fund

» The Prime Minister announced the launch of two India-led initiatives: **the Global Digital Public Infrastructure Repository and a Social Impact Fund** as part of the G20 Leaders' summit.

Global digital public infrastructure repository (GDPIR)

☞ It is a **comprehensive resource hub**, pooling essential lessons and expertise from G20 members and guest nations.

☞ Created by the **Ministry of Electronics and Information Technology (MeitY)**, its primary aim is to **bridge the knowledge gap** in the choices and methodologies required for the design, construction, deployment, and governance of DPIs.

☞ The **DPIs from India** that have been incorporated in the **GDPIR** are: Aadhaar, Unified Payments Interface (UPI), DigiLocker, Umang, eSanjeevani, API Setu, Co-WIN, Government e-marketplace, Diksha, E-Hospital, Poshan Tracker and Ayushman Bharat Digital Mission (ABDM). Currently, **54 DPIs from 16 countries** are incorporated in the GDPIR.

Social Impact Fund (SIF)

☞ SIF is envisioned as a **government led, multistakeholder initiative** to fast-track DPI implementation in the global south.

☞ India has pledged an initial commitment of **25 million USD**, which will offer financial support to provide upstream **technical and non-technical assistance** to countries in developing DPI systems.

☞ Contributions to SIF help **accelerate the achievement of the Sustainable Development Goals (SDGs) in Low- and Middle-Income Countries (LMICs) through DPIs.**

PM Gati Shakti

» Recently, **4 infrastructure projects of roads and railways worth Rs 23,500 crore have been recommended** for approval under the PM Gati Shakti initiative.

• PM Gati Shakti, **launched in 2021, is a national master plan** aimed at improving multimodal connectivity and logistics efficiency, addressing critical infrastructure gaps.

• It **integrates various infrastructure schemes** like Bharatmala, Sagarmala, and UDAN. **Economic zones** such as textile clusters and defence corridors will be developed to enhance connectivity and competitiveness.

- The **initiative operates on six pillars:** Comprehensiveness, Prioritization, Optimization, Synchronisation, Analytical, and Dynamic monitoring, facilitating cross-sectoral interactions and centralised project management.

PM- Kisan Bhai Scheme

» The central government **plans to launch the PM-Kisan Bhai (Bhandaran Incentive)** scheme to end trader monopolies in the agricultural sector.

- This scheme incentivizes farmers to **store their produce for at least three months after harvest,** empowering them to decide when and where to sell their crops.

- By breaking the trader's grip on crop prices, the scheme **aims to give farmers more control over their produce.**

- The **pilot phase will be implemented in seven states:** Andhra Pradesh, Assam, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, and Uttar Pradesh.

National Coal Index (NCI)

» The National Coal Index (NCI) has seen the first increase since April 2023. This incline was influenced by **temporary rise of coal prices in global markets.**

- NCI, rolled out in **June 2020** by the **Ministry of Coal,** is a price index which reflects the **change in price of coal in a particular month relative to the fixed base year.**

- Established with the **base year** as **FY 2017-18,** NCI serves as a **reliable indicator of market dynamics, providing valuable insights of price fluctuations.**

Global Lighthouse Network (GLN)

» Indian multinational pharmaceutical company ACG has secured a position in the **Global Lighthouse Network.**

- The GLN is a **community of manufacturers** that shows **leadership in using Fourth Industrial Revolution (4IR) technologies** to transform factories, value chains and business models for compelling financial and operational returns.

- Set up by the **World Economic Forum's Centre for Advanced Manufacturing and Supply Chains** in **2018,** the network has steadily grown from 16 to 153 today.

- **The 4IR, or Industry 4.0,** represents the advancement of manufacturing through digitization, driven by trends such as **increased data and connectivity, analytics, human-machine interaction, GenAI and robotics.**

- **ACG is India's largest capsules maker** and integrated supplier and service provider to the pharmaceutical industry,

Dedicated Freight Corridors (DFCs)

» **The 1337 km Eastern Freight Corridor** has begun commercial operations, marking a milestone in dedicated freight transportation.

- Managed by the **Dedicated Freight Corridor Corporation of India Limited (DFCCIL), a subsidiary of Indian Railways,** the corridor is part of the larger initiative to create high-speed, high-capacity railway networks exclusively for freight transportation.

- **The Eastern Dedicated Freight Corridor (EDFC) stretches from Ludhiana to Sonnagar, with construction fully completed.**

- Initially proposed as a Public-Private Partnership (PPP) project, a 371 km stretch from Sonnagar to New Andal will now be completed under the **Engineering, Procurement, and Construction (EPC) model.**

- **The Western Dedicated Freight Corridor (WDFC) spans 1506 km from Jawaharlal Nehru Port Terminal (JNPT) in Mumbai to Dadri in Uttar Pradesh, with 1176 km already completed.**

- These corridors aim to **lower logistics costs, spur industrial development, and facilitate the establishment of Gati Shakti Cargo Terminals.**

Dedicated Freight Corridors
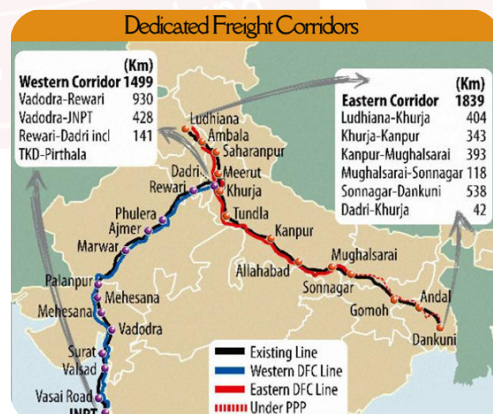
State of Food and Agriculture (SOFA) Report

» **The Food and Agriculture Organization (FAO)** released its annual State of Food and Agriculture 2023 Report, titled **'Revealing the true cost of food to transform agrifood system's.**

• It introduces the concept of **hidden environmental, health, and social costs and benefits** of agrifood systems, proposing an approach called **True Cost Accounting (TCA) to assess them.**

• The report reveals that current agrifood systems impose significant hidden costs, **estimated at least USD 10 trillion annually.**

• The largest portion of these costs **(over 70%) is attributed to unhealthy diets, leading to obesity and non-communicable diseases, causing productivity losses.**

• **India's** total hidden costs in agrifood systems amounted to approximately USD **1.1 trillion, ranking third globally after China and the United States.**

• **Hidden costs** include **environmental expenses** from emissions and land use, **health costs** from dietary patterns and undernourishment, and **social costs** related to poverty among agrifood workers.

• **TCA extends beyond financial costs** to consider the broader environmental and social impacts of food production.

Credit Information Company (CIC)

» Recently, the **Reserve Bank of India instructed Credit Information Companies (CICs) to notify customers** when Credit Institutions access their Credit Information Report (CIR).

• CICs gather **data on credit transactions and payment histories for individuals and companie**s, compiling them into credit reports.

• **Banks and non-banking financial institutions use these reports** and scores to assess borrowers' creditworthiness before extending loans or issuing credit cards.

• CICs, **regulated by the RBI under the Credit Information Companies Regulation Act, 2005,** include Credit Information Bureau (India) Limited (CIBIL), Equifax Credit Information Services Private Limited, Experian Credit Information Company of India Private Limited, and CRIF High Mark Credit Information Services Private Limited.

Investor Risk Reduction Access Platform (IRRA)

» Recently, the **Securities and Exchange Board of India (SEBI)** launched the IRRA platform.

• The objective of IRRA is to **mitigate risks for investors in case of technical glitches** occurring at the trading member's primary and disaster recovery sites.

• It is **not meant for taking fresh positions or orders**, but only to cancel the pending orders.

• It is jointly developed by all major stock exchanges in India – **BSE, NSE, NCDEX, MCX, and Metropolitan Stock Exchange of India.**

Insurance Surety Bond

» Recently, the **National Highways Authority of India (NHAI)** has for the first time accepted Insurance Surety Bond (ISB) for the monetization program of its upcoming highway projects as Bank Guarantees.

• **ISB** is a risk transfer mechanism whereby an **insurer (here, an insurance company)** provides a guarantee to a **beneficiary or obligee (here, the NHAI)** that the **principal or contractor** will meet his contractual obligations.

• The **Ministry of Finance** has made Insurance Surety Bonds at par with Bank Guarantees for all Government procurements.

• Surety Bonds are issued at **comparatively lower collateral** thus helping the contractors**.**

Strategic Petroleum Reserves (SPR)

» Recently, India has decided to **commercialise** its Strategic Petroleum Reserves.

• SPRs are essentially **large stockpiles of crude oil** that are maintained to meet emergency situations where there might be sudden **oil supply disruptions.**

• **Indian Strategic Petroleum Reserves Ltd. (ISPRL)** was created by the Government of India as a Special Purpose Vehicle under the **Ministry of Petroleum & Natural Gas** in 2004 for managing SPRs.

• India's existing SPR capacity is **5.33 Million Metric Tonnes (MMT)** of crude oil.

India's SPR location:

- **Visakhapatnam**, Andhra Pradesh - 1.33 MMT capacity

- **Mangaluru**, Karnataka - 1.5 MMT capacity

- **Padur**, Karnataka - 2.5 MMT capacity

The Union Government recently granted approval for the establishment of two additional commercial-cum-strategic SPR facilities.

- **Chandikhol, Odisha - 4 MMT capacity**

- **Padur, Karnataka - 2.5 MMT capacity**

World Food India 2023

» The **second edition of the 'World Food India 2023' mega food event** was inaugurated at Bharat Mandapam, Pragati Maidan, in New Delhi.

- It was organised by the **Ministry of Food Processing Industries**.

- The primary objective of the event is to **present India as the food basket of the world and commemorate 2023 as the International Year of Millets.**

- The event featured sessions covering various aspects of the **industry, including financial empowerment, quality assurance, innovations in machinery and technology, e-commerce, and logistics.**

- The event concluded with the **signing of MoUs worth Rs 33,129 crore, with companies like Amul, ITC, Mondelez, Kellogg's.**

International Sugar Organisation

» The International Sugar Organisation (ISO) has **appointed India as the Chair for the year 2024.**

- Established in 1968, ISO is an inter-governmental body **focused on improving conditions in the global sugar market.**

- It is headquartered in **London** and comprises **88 member states** representing 87% of global sugar production.

- Initially called the International Sugar Council, it was later formalised into the International Sugar Organization following a recommendation by the **United Nations Conference on Trade and Development in 1968**.

- ISO administers the **1992 International Sugar Agreement (ISA),** aimed at fostering enhanced international cooperation on world sugar matters and related issues.

International Competition Network

» The Competition Commission of India (CCI) has joined the **18-member steering committee of the International Competition Network (ICN)**.

- Established in **October 2001** by officials from 15 competition agencies worldwide, the **ICN originated from recommendations by the International Competition Policy Advisory Committee (ICPAC) in 1997**.

- With 140 competition agencies, the ICN serves as an informal platform for antitrust authorities to address practical competition concerns.

- The **steering committee, ICN's apex body**, oversees its activities.

- The **Chair is elected** from among Steering Group representatives at the ICN Annual **Conference in odd-numbered years**.

- The ICN operates **without a formal Secretariat** or premises.

Event of the Month

One on One Sessions with former UPSC Chairman Prof. DP Agrawal

Fortune Interview Mentorship Programme 2023

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International Relations

Global Tuberculosis (TB) Report 2023

» The **World Health Organization (WHO)** has released the **Global Tuberculosis (TB) report 2023.**

Key Highlights

- A total of **7.5 million people were diagnosed with tuberculosis in 2022**, the highest recorded since WHO began global TB monitoring in **1995.**

- Geographically, in **2022**, most people who developed TB were in the WHO Regions of **South-East Asia (46%), Africa (23%) and the Western Pacific (18 %), Eastern Mediterranean (8.1 %), the Americas (3.1 %) and Europe (2.2 %).**

- There has been a **significant worldwide recovery in the scale-up of TB diagnosis and treatment services** in 2022.

- **India, Indonesia and the Philippines** together accounted for over **60 per cent of the global reductions in the number of people newly diagnosed with TB.**

- The treatment coverage in **India has improved to 80% of the estimated TB cases**, an increase of 19% over the previous year.

- It noted that **India was the only country to have completed a National TB prevalence survey since 2019.**

Project Collaboration Agreement

» Recently, the **Ministry of Ayush and the World Health Organization (WHO)** initiated a Project Collaboration Agreement.

- Its primary objective is to **bridge Traditional and Complementary Medical Systems** with **the National Health System.**

- It aims to incorporate elements such as **standardisation, quality assurance, and safety protocols** of Traditional and Complementary Medical Systems into the National Health System.

- The Ministry and WHO, will also develop an **International Herbal Pharmacopoeia,** an official publication containing a list of medicinal drugs with their effects and directions for their use focusing on herbs found in South-East Asia.

VAJRA PRAHAR 2023

» Recently, the Indo-US Joint Special Forces exercise "VAJRA PRAHAR 2023" commenced at the Joint Training Node, **Umroi, Meghalaya**.

- VAJRA PRAHAR is a joint exercise conducted between the Indian Army and the US Army Special Forces.

- It aims at **sharing best practices and experiences** in areas such as joint **mission planning and operational tactics**.

- It is the **14th Edition** of the Indo-US Joint Special Forces exercise "VAJRA PRAHAR 2023," which commenced at the Joint Training Node, Umroi.

World Local Production Forum (WLPF)

» Recently, the Indian delegation led by the Union Minister of State for Chemicals and Fertilisers participated in the 2nd World Local Production Forum at The Hague.

- World Local Production Forum is an **initiative of the World Health Organisation** launched in 2021.

- It aims at **increasing access to medicines** and other health technologies.

- This forum provides **Member States and the global community** with a regular platform to shape strategies, galvanise collective action, and **foster partnerships on sustainable local production** to improve timely and equitable access to quality assured health products.

UN panel of External Auditors

» Girish Chandra Murmu, the **Comptroller and Auditor General** of India, has been elected as the **vice-chair of the UN Panel of External Auditors** for the year 2024.

- This appointment was made during the **sixty-third session** of the Panel held at the **United Nations** headquarters in New York.

- The **Panel, composed of Heads of 12 Supreme Audit Institutions (SAIs)** worldwide, supervises the **external audit of the UN Secretariat, Funds and Programmes, and Specialized Agencies.**

- Established by General Assembly Resolution 1438 (XIV) in **1959,** the Panel's main objectives include coordinating audits conducted by its members and exchanging information on audit methods and findings.

ASEAN Defence Minister's Meeting - Plus (ADMM-Plus)

» Recently, the Defence Minister of India has participated in the 10th **ASEAN Defence Ministers' Meeting-Plus (ADMM-Plus)** in **Jakarta, Indonesia.**

- The ADMM-Plus is a platform for ASEAN and its **eight Dialogue Partners** Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and the United States (collectively referred to as the "Plus Countries")

- It aims to strengthen **security and defence cooperation** for peace, stability, and development in the region.

- The Inaugural ADMM-Plus was convened in **Ha Noi, Vietnam in 2010.**

ADMM / ADMM-Plus
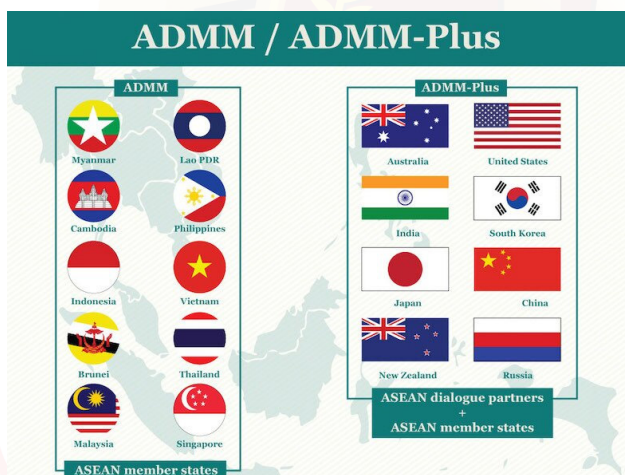
Environment & Ecology

White Hydrogen

» Recently, a **large reservoir of white hydrogen** was discovered in France.

- White hydrogen is also called **natural or gold hydrogen.**

- It is naturally formed in the **Earth's crust** and is considered a potential source of **clean energy.**

- It causes **no CO2 emissions** when used as a fuel and is more abundant and renewable.

Environmental DNA (eDNA)

» Recently, researchers have developed a method for **detecting all life forms in an ecosystem** using environmental DNA (eDNA).

- eDNA is **DNA shed by all organisms into their surroundings** through natural processes during their lifetime or after death.

- It originates from cellular material released by organisms into the environment in the form of skin, excretion etc.

- They can be **collected and monitored** using molecular methods.

Elephant Corridors

- Elephant corridors are **strips of land that enable elephant movement between two or more friendly habitats.**

- According to the **Elephant Corridors of India, 2023 Report** released by the **Ministry of Environment, Forest and Climate Change**, there was a surge of **62 new corridors**, marking a **40% increase since 2010, now totalling 150 corridors across the nation.**

- **West Bengal** has the highest number of elephant corridors, **totaling 26, constituting 17% of the total corridors.**

Climate Equality: A Planet for the 99%

» A new report titled "**Climate Equality: A Planet for the 99%**" by **Oxfam** reveals that the **richest 1% of the global population produced as much carbon pollution in 2019 as the poorest two-thirds of humanity.**

• The report is based on research with the **Stockholm Environment Institute (SEI)** and it **assesses the consumption emissions of different income groups.**

Key Highlights

♻ The report reveals that the **emissions by the richest 1% will cause 1.3 million heat-related excess deaths** with most of these deaths occurring between **2020 and 2030.**

♻ It would take about **1500 years for someone in the bottom 99% to produce as much carbon as the richest billionaires do in a year.**

♻ The **emissions** of the **richest 1% are set to be 22 times greater than the level** compatible with the 1.5 degree Celsius goal of the **Paris Agreement.**

♻ Governments globally need to tackle the **twin crises of inequality and climate change**, by targeting the excessive emissions of the super rich by taxing more.

Adaptation Gap Report

» The Adaptation Gap Report 2023 was released by the **United Nations Environment Programme (UNEP).**

• The Adaptation Gap Report is an **annual publication from UNEP**, released just ahead of the year-ending climate change conference, and **presents the global situation of adaptation to climate change.**

Key Highlights

☛ The **adaptation finance gap** (the difference between estimated adaptation financing needs and costs and existing finance flows) is likely **10-18 times as great as current international adaptation finance flows and at least 50% higher than previous estimates.**

☛ In **2021**, just about **$21 billion went to developing countries for adaptation projects**, which was **down about 15%** from the previous years.

☛ Report calls for a **reform of global financial architecture**, to ensure greater and easier access to finance for climate-related purposes from multilateral agencies the **World Bank** or the **IMF.**

Brazzaville Summit of the Three Basins

» **Brazzaville Summit of the Three Basins of Amazon, Congo and Borneo-Mekong-Southeast Asia** that took place in Brazzaville (capital of the Republic of the Congo) ends with a declaration.

• The three-day meeting was **attended by more than 3,000 delegates from countries** in the three basins of the Amazon, Congo and Borneo-Mekong-Southeast Asia.

• The delegates acknowledged that the three ecosystems of **biodiversity and tropical forests** provide ecosystem services.

• The summit resulted in the **Declaration** of the **Summit of the Three Tropical Forest Basins,** which recognised **the need to establish a platform** to promote cooperation among the countries of the three basins.

Alliance for Transformative Action on Climate and Health

• WHO introduced an Operational Framework for building climate-resilient and low-carbon health systems through the **Alliance for Transformative Action on Climate and Health (ATACH).**

• Established in 2022, ATACH is a **voluntary network where participants collaborate to share information**, exchange views, and enhance technical and political cooperation.

• It aims to **realise the climate change and health goals set at COP26**, including the development of sustainable and climate-resilient health systems.

• ATACH leverages the collective power of WHO Member States and other stakeholders to advance this agenda.

• While it is not a separate legal entity, ATACH operates **under the legal status of WHO, which also provides its Secretariat.**

Interconnected Disaster Risk Report (IDRR)

» A recent **United Nations report** titled Interconnected Disaster Risk Report 2023, warns that **27 out of 31 aquifers** in India are depleting faster than they can be replenished due to excessive groundwater extraction.

• The UN IDRR is an **annual science-based report** released by the United Nations University-Institute for Environment and Human Security (UNU-EHS),first published in **2021**.

Key Findings:

✯ **India is the largest user** of Groundwater (GW) (accounting for 1/4th of total withdrawal).

✯ Currently, **67% of GW units are safe** (extraction< 70% of recharge), **14% Overexploited and 4% at the Critical.**

✯ Extraction is very high in **Haryana, Punjab** (78% of wells are overexploited) and **Rajasthan.**

✯ **Climate Concerns:** In southwest India, increasing temperatures might hinder groundwater replenishment.

✯ **Saudi Arabia** has exploited close to **80% of its aquifers.**

✯ **Over 2 billion people** rely on groundwater as an essential supply of **drinking water.**

World Organisation for Animal Health (WOAH)

» Recently, the **33rd Conference** of World Organisation for Animal Health (WOAH) Regional Commission for Asia and Pacific was organised in New Delhi.

• Delegates from **36 member countries** and officers from international organisations attended.

• The World Organisation for Animal Health (WOAH) has set up **five Regional Commissions** to express **specific problems** facing its Members in the different regions of the world.

• The **Regional Commission for Asia and the Pacific** is one of them. It organises a Conference **once every two years** in one of the countries of the region.

• These conferences aim to develop technical items and foster **regional cooperation for the control of animal diseases.**

• The 33rd conference is being hosted by the **Department of Animal Husbandry & Dairying** at New Delhi.

NEST Initiative

» Recently, the **Indian Green Building Council (IGBC)** launched a rating and certification initiative called 'Nest'.

• Nest is a **rating and certification** initiative developed specifically for individual homeowners to help them reduce energy cost by **20-30%** and reduce water requirements by **30-50%.**

• **Aim:** To encourage individual house owners and the residential sector **to adopt green building measures**.

Geography

Once-in-a-Century event

» Recently, **Somalia faced historic drought followed by severe flooding.**

• The **U.N. Office for the Coordination of Humanitarian Affairs (OCHA)**, has described Floods as a **Once-in-a-Century event.**

• The primary cause of the floods has been attributed to **torrential rainfall**.

• Climatic phenomena like **El Niño and the Indian Ocean Dipole** might have influenced the phenomena.

Recent Addition to the Geographical Indication (GI) Tag List

Item	State/UT	Description
Berinag tea	**Uttarakhand**	• It is crafted from the **leaves of a plant** that thrives in the **Himalayan wilderness**. • The unique process of compressing the leaves into a solid mass sets this tea apart
Bichhu buti fabrics	**Uttarakhand**	• It is manufactured from **Himalayan nettle fibers.** • The plant's **unique ability to accumulate air inside, resulting** in natural insulation and a perfect clothing material **for both winter and summer.**
Jhangora	**Uttarakhand**	• Jhangora is a type of **millet** that is grown in the **Himalayan region.** • It is **a species of grass commonly** called **Barnyard grass or Cockspur grass.** • It is used as **a substitute for rice.**

State of Climate Services Report

» Recently, the **World Meteorological Organization (WMO)** released Climate Services report 2023.

Key Findings-

☀ **Less than 25%** of global health ministries use climate information to monitor **climate-related health risks**.

☀ **Heat warning services** are provided to health decision makers in **only half of the affected countries.**

☀ Despite air pollution being the **fourth-largest health risk factor**, **only 2% of international climate finance** is allocated to address it.

☀ Climate finance has doubled, averaging **$1.3 trillion annually in 2021 and 2022.**

E Prime Layer

» An international research team has discovered a **new layer, dubbed E prime,** at the boundary between liquid core and solid mantle. It might be the remnants of ancient seafloor.

• This layer **forms as tectonic plates carry surface water deep into the Earth** over billions of years. Upon reaching the core-mantle boundary around 1,800 miles below the surface, the **subducted water reacts chemically with core materials** under high pressure.

• This results in the formation of a **hydrogen-rich, silicon-depleted layer** resembling a film-like structure in the outer core.

• This discovery **could impact the overall composition, potentially reducing density and altering seismic characteristics**, aligning with anomalies detected by seismologists.

• This transformed layer in the core has significant implications for **understanding the interconnected geochemical processes** linking surface water cycles with the deep metallic core.

World Energy Employment (WEE) Report

» The **International Energy Association (IEA)** released the **World Energy Employment 2023 report.**

• The report provides a **comprehensive assessment of labour forces in the energy sector globally.**

Key Highlights

✓ Between **2019 and 2022, clean energy jobs increased by 15%, while fossil fuel jobs declined by 4%.**

✓ More than half of job growth in this period is attributable to just five sectors: **solar PV, wind, electric vehicles (EVs) and battery manufacturing, heat pumps and critical minerals mining.**

✓ Several regions saw **fossil fuel employment rise above 2019 levels, notably India, Indonesia, and the Middle East.**

✓ **STEM degrees for the energy sector aren't keeping up with demand.**

Science & Technology

Vampire Viruses

» Scientists from the University of Maryland discovered **vampire viruses on U.S. soil** for the first time.

• These viruses, named **MiniFlayer and MindFlaye**r, latch onto other viruses in order to replicate themselves.

• They emerge when a **bacteriophage attaches to a soil-based virus**, utilising its "life" **for independent survival.**

• A viral relationship between two pathogens is called a **satellite and a helper.** The satellite is the **infectious strand** that relies on the helper for **support through its life cycle.**

• They are being studied for their **potential impact on agriculture.** They have the capability to **combat viruses that harm crops and livestock,** but they **may also affect beneficial viruses crucial for soil health.**

Wi-Fi-7 technology

• Recently, U.S. based company **Qualcomm** suggested that **India should adopt the newest Wi-Fi 7 technology** to meet its **growing demand.**

• **Wi-Fi, or Wireless Fidelity**, is a wireless technology that enables devices to connect to the internet and communicate with each other.

• Wi-Fi 7 is set to launch as the next-generation Wi-Fi standard, based on **IEEE 802.11be**, which is known for its **extremely high throughput (EHT).**

Key Features

▶ **Lower Latency:** This facilitates faster cloud-based operations such as file transfers and gaming.

▶ **Multi-Link Operation (MLO):** The system combines multiple channels on different frequencies to enhance network performance.

▶ **Speed and Capacity:** Wi-Fi 7 can theoretically support a bandwidth of up to 330 Gigabits per second per access point, four times

faster than Wi-Fi 6.

➡️ **Backward Compatibility:** The device connects to devices in 2.4GHz, 5GHz, and 6GHz bands without the need for new hardware.
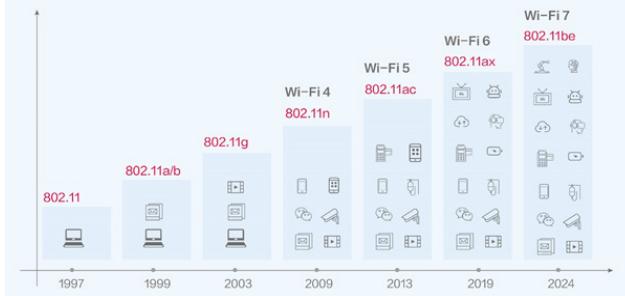

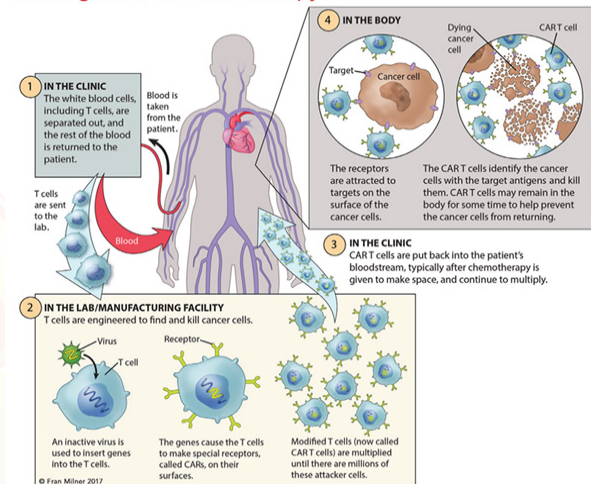Figure 1 IEEE 802.11 Standard Evolution

Ultra processed foods

» According to the 2023 edition of **The State of Food and Agriculture report**, released by **FAO**, unhealthy diets, high in ultra-processed foods, fats and sugars drove a huge hidden cost of over **$7 trillion a year** on our health, environment and environment.

• Ultra-processed foods are a category of food products that have undergone **multiple stages of processing**, often involving the addition of various **artificial ingredients**, such as **preservatives, colours, flavours, and additives**.

• They usually have **five or more ingredients**, including additives that are **not used in home cooking.**

• These foods typically contain **minimal whole or natural ingredients** and are characterised by their convenience, long shelf life, and often addictive taste profiles.

• Being taste enhancers, people automatically get **addicted to them**.

• **Obesity, hypertension, cardiac issues** and lifestyle diseases are possible due to over consumption of ultra processed foods.

Chimeric Antigen Receptor (CAR) T–Cell Therapy

Autologous CAR T-Cell Therapy Process

» Researchers at the National Cancer Institute (NCI) of the United States have developed a way to potentially increase the effectiveness of CAR T-cell therapy, against solid tumours.

• **CAR T-cell therapy** is a type of **immunotherapy** that uses **genetically modified T cells to attack cancer cells.**

• **T cells**, also known as **T lymphocytes**, are a **critical component of the adaptive immune system**, playing a crucial role in **defending your body against infections, diseases, and even cancer.**

CAR T Cell Therapy Process

◆ T cells are **collected from a patient through apheresis.**

◆ T cells are **genetically engineered by introducing DNA into them to produce chimeric antigen receptors (CARs).**

◆ CARs are **proteins that allow the T cells to recognise an antigen on targeted tumour cells.**

◆ The modified T cells-**CAR T cells**-are **multiplied and then infused into the patients.**

Euclid Mission

» The **European Space Agency's (ESA) Euclid mission**, which launched in **July, 2023** released its first five science images.

• The Euclid mission is **designed to explore the composition and evolution of the dark matter and dark energy.**

• About **95 per cent of the universe** seems to be made of dark matter and dark energy that we have **no idea about.**

• The **space telescope** will create a **great map of the large-scale structure of the universe across space and time by observing billions of galaxies out to 10 billion light-years**, across more than a third of the sky.

Ejecta Halo
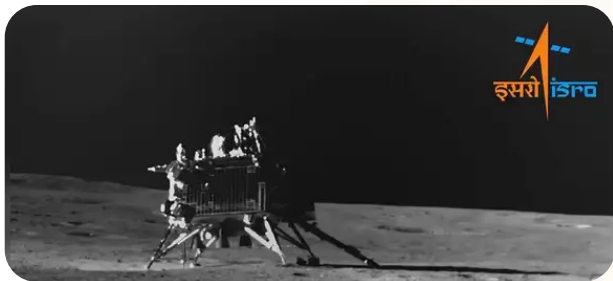
» India's **Chandrayaan-3** moon lander kicked up a 'halo' of dust visible from space.

• As the **Vikram lander of Chandrayaan-3** descended and subsequently **touched down on the lunar surface**, it triggered the **activation of its descent stage thrusters.**

• This resulted in the ejection of a substantial amount of **lunar surficial epi-regolith** (the top surface of lunar soil) material, **creating a bright area around the lander, called an 'ejecta halo'.**

Amyloidosis

» Scientists have fabricated 2D protein monolayer that can help to study diseases like Amyloidosis.

• **Amyloidosis** is a **rare disease that occurs when a protein called amyloid builds up in organs** which can make the organs not work properly.

• Organs that may be affected include the **heart, kidneys, liver, spleen, nervous system and digestive tract.**

• Treatments may include **chemotherapy** with strong drugs used to treat cancer. Some people may benefit from **organ or stem cell transplants.**

Coronal Holes
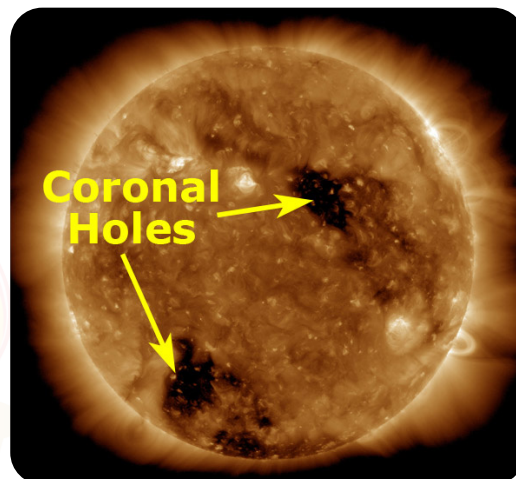
» A phenomenon called "coronal holes" was recently spotted in the sun.

• Coronal holes are areas in the **Sun's outer atmosphere**, known as the **solar corona**, where the **magnetic field allows high-speed solar wind particles** to escape into space.

• Coronal holes are **primary sources of solar wind,** a continuous stream of charged particles (mostly electrons and protons) that flow outward from the Sun into the solar system.

• In **images of the Sun** taken in extreme ultraviolet or X-ray wavelengths, **coronal holes often appear as dark regions**, in contrast to the brighter surrounding areas.

• They are **not static and can change shape and position as the Sun's magnetic activity** evolves during its 11-year solar cycle.

Asteroid Dinkinesh

» NASA's Lucy spacecraft successfully completed its first flyby of an asteroid named Dinkinesh.

• The Dinkinesh asteroid was **discovered in 1999 by the LINEAR survey.**

• It is **an S-type asteroid,** which means **it is composed mainly of silicates and some metal.**

• Dinkinesh **means "marvellous" in the Amharic language of Ethiopia.**

• It is **a main-belt binary asteroid. A Binary asteroid** is a system **of two asteroids orbiting their common centre of mass,** which is also called **the bary-centre.**

MD–15

» Indian Railways' Research Design and Standards Organisation (RDSO) and Indian Oil Corporation Ltd (IOCL) have collaborated to create Methanol Diesel-15 (MD-15).

• This joint effort **aimed to create a cleaner and more sustainable fuel for Indian Railways.**

• **MD-15** is a blended fuel consisting of **three main components: methanol, Mineral Diesel and Additives.**

• It has **demonstrated superior performance** compared to conventional mineral diesel.

• The use of MD-15 is expected to reduce diesel consumption by 15%.

Cervavac Vaccine

» CERVAVAC, the **indigenously developed quadrivalent vaccine** by the Serum Institute of India (SII) in Pune has been declared safe..

• It is a **quadrivalent vaccine** meaning it is **effective against at least four variants of cancer-causing Human Papilloma Virus (HPV)**.

• HPV vaccines are **given in two doses** and the antibodies that develop after both are administered can last up to six or seven years.

• Unlike Covid vaccines, **booster shots may not be required** for the cervical cancer vaccine.

• It is likely to be significantly cheaper, slated to cost approximately Rs 200 to 400.

DeepFakes

» A **Deepfake video** of an Indian actress has raised the concern over the misuse of **artificial intelligence (AI).**

• Deepfake technology refers to **the use of artificial intelligence (AI) and machine learning to create or manipulate audio and visual content** to generate realistic but **fabricated media**.

• It employs sophisticated deep learning algorithms, particularly **Generative Adversarial Networks (GANs)** to analyse and synthesise realistic human faces, voices, and gestures.

Legislations regarding Deepfakes

☞ The **IT Rules of 2021** require that all **content reported to be fake or produced using deep fake** be taken down by intermediary platforms **within 36 hours**.

☞ **Any content that impersonates another person** is illegal under **Section 66D** of the **Information Technology Act of 2000**.

Krishi 24/7

» Recently, the **Ministry of Agriculture & Farmers' Welfare** along with the Wadhwani Institute for Artificial Intelligence developed Krishi 24/7.

• It is **the first-ever AI-powered solution** for automated agricultural news monitoring and analysis.

• It aims to streamline the process of **identifying and managing agricultural news articles,** enabling timely decision-making for the benefit of farmers and sustainable agricultural growth.

• It also has technical support from **Google**.

• Krishi 24/7 **automatically scans agricultural news articles** published online in multiple languages and **translates news articles into English.**

Stable Auroral Arc (SAR)

» Recently, images of a Stable Auroral Arc (rare red-coloured aurora) was captured by the **Indian Astronomical Observatory (IAO) in Ladakh.**

- It is a **rare atmospheric phenomenon** which occurs during a strong **G3-class geomagnetic storm.**

- SAR arcs are different from auroras, which occur when **charged particles from space hit the atmosphere causing it to glow.**

- SAR is an **indication of heat energy leaking into the upper atmosphere** from Earth's ring current system.

- This event was registered in many parts of the world.

Nanostructured Hard–Carbon Florets (NCF)
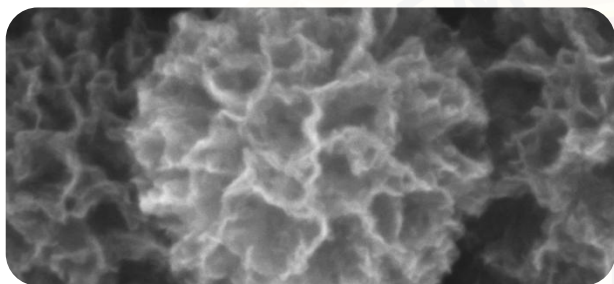
» Recently, researchers at **IIT Bombay** have created **carbon nano florets.**

- NCF is a new material that **absorbs 3 frequencies of sunlight** (Infrared, Visible and Ultraviolet) and **converts it to heat with an efficiency of 87%.**

- The structure of the NCF resembles **marigolds in appearance,** composed of **interconnected tiny cones of carbon.**

- This study is supported by the **Swarna Jayanti Fellowship of the Department of Science and Technology** and demonstrates a green solution to the energy crisis and can aid in the global transition to a sustainable energy process.

Swarna Jayanti Fellowship provides special **assistance and support to a selected number of young scientists** with a proven track record to enable them to pursue basic research in frontier areas of science and technology.

Miscellaneous

3D Digital Twin Mapping Program

» **The Survey of India (SoI) and Genesys International,** Indian mapping technology company, have recently announced a strategic partnership for a **3D digital twin-mapping program in India.**

- Digital twins involve **creating virtual replicas of real-world entities, whether products, processes, people, or locations, to understand and simulate their physical counterparts.**

- This technology aids policymakers **in assessing infrastructure performance under various conditions** like population growth, natural disasters, or high-footprint events.

- The alliance will utilise Genesys' highly accurate navigable maps across India to develop digital twins of **major cities and towns**.

- Leveraging Genesys' sensor constellation and SoI's Continuously Operating Reference Stations (CORS) network allows **real-time high-precision positioning data**.

Nirbhay Cruise Missile

» The Indian armed forces will be inducting the long-range attack cruise missile Nirbhay into their inventory soon.

- It is a **long-range subsonic cruise missile.**

- It is **India's first indigenously-produced cruise missile.**

- The missile was developed by the **Bengaluru-based Aeronautical Development Establishment**, a lab under India's **Defence Research and Development Organisation (DRDO).**

- **Range:** 1000km, **Weighs-** 1500-1600 kg and can carry both **conventional and nuclear warheads.**

- It can be **launched from multiple platforms** and is guided by **INS/GPS with an active-radar terminal seeker.**

Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN)

» The PM JANMAN was approved by the Union Cabinet.

• It aimed at **providing the Particularly Vulnerable Tribal Groups (PVTG) households and habitations with basic facilities** such as safe housing, clean drinking water and sanitation, improved access to education, health and nutrition among others.

• The scheme (**comprising Central Sector and Centrally Sponsored components**) will be implemented by the **Ministry of Tribal Affairs**, in collaboration with the **State governments and the PVTG communities.**

• The community involved scheme will concentrate on **11 critical interventions overseen by 9 line Ministries** such as **community water supply, construction of Anganwadi centres, vocational education & skilling** etc.

Self Assessment Test and Help for Entrance Exams (SATHEE) Platform

» The Department of Higher Education, **Ministry of Education, in collaboration with IIT Kanpur**, has launched the SATHEE portal.

• This platform offers Indian students a **self-paced interactive learning and assessment tool for competitive exams.**

• It features videos created by IIT and IISc faculty members and offers free learning materials, including 800 videos in 12 regional languages.

• Currently, the program focuses on coaching for JEE and NEET exams.

• It utilises an **AI program called Prutor, developed by IIT Kanpur.**

• Additionally, SATHEE provides regular all-India mock tests and mentorship sessions by **IIT and AIIMS students acting as SATHEES.**

Viksit Bharat Sankalp Yatra

» The **Prime Minister** recently launched Viksit Bharat Sankalp Yatra.

• It aims to **promote and publicise government welfare schemes**.

• It also aims to **enrol potential beneficiaries** of these schemes by collecting details during the yatra.

• Specially designed **Information, Education and Communication (IEC) Vans** will carry the message of the government's welfare programmes.

• The target is to cover over **2.55 lakh Gram Panchayats** and over **3,600 urban local bodies** by 25th January 2024.

Amplifi 2.0 Portal

» The **Union Ministry of Housing and Urban Affairs** recently launched the Amplifi 2.0 portal.

• **Amplifi (Assessment and Monitoring Platform for Liveable, Inclusive, and Future-Ready Urban India)** aims to offer comprehensive data on Indian cities.

• It consolidates raw data from various **urban local bodies (ULBs) onto a single platform,** facilitating data-driven policymaking for academics, researchers, and stakeholders.

• Currently, the portal has on-boarded **258 ULBs, with data available for 150 cities**.

• It provides diverse information for these cities, including metrics like total diesel consumption and the number of water quality samples tested.

Ayurveda Gyan Naipunya Initiative (AGNI)

» Recently, the **Central Council for Research in Ayurveda Sciences (CCRAS)** under the **Ministry of Ayush**, launched the AGNI for physicians practising in the field of **Ayurveda**.

• Its primary objective is to provide a **platform for Ayurveda practitioners** to report their innovative practices and experiences in various disease conditions.

• It also promotes the culture of **evidence-based practice** among **Ayurveda practitioners**.

• It also aims to **document** the reported **successful therapeutic regimens** for **various disease conditions** for the purpose of education and academics.

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

Places in News

Gundla Brahmeswaram Wildlife Sanctuary

Andhra Pradesh has a network of 13 sanctuaries and 1 national park in the state. There are 2 zoo parks established in the state.

Wild Life Sanctuaries	Area (in km².)
Papikonda Wildlife Sanctuary[1]	591.00
Coringa Wildlife Sanctuary	235.70
Kolleru	308.55
Krishna Wildlife Sanctuary	194.81
Nagarjunasagar Srisailam (Project Tiger)	3568.00
Rolla Padu	6.14
Gundla Brahmeswara Wildlife Sanctuary	1194.00
Sri Lankamalleswara Wildlife Sanctuary	464.42
Nelapattu	4.58
Pulicat Lake Bird Sanctuary	500.00
Koundinya Wildlife Sanctuary (Project Elephant)	357.60
Sri Penusila Narasimha Wildlife Sanctuary	1030.85
Kambalakonda Wildlife Sanctuary	70.70

National Parks	Area (in km².)
Sri Venkateswara National Park	525.97

data collected from wikipedia with citations

Zoo park	Location	Area (in Acres)
Sri Venkateswara Zoological Park	Tirupati	5,532 acres (22 km²)
Indira Gandhi Zoological Park	Visakhapatnam	625 acres (2.5 km²)

Map of wildlife sanctuaries in the Indian state of Andhra Pradesh. Green is National Park, Red denotes Wildlife Sanctuaries, Blue denotes Bird Sanctuaries.

» Over 50 grass species were recently identified during a two-day workshop and survey on **'Grasses Identification and Grassland Management'** at the Gundla Brahmeswaram Wildlife Sanctuary.

• **Location - Kurnool district of Andhra Pradesh** spread over the **Nallamala hill range**. It lies between **two important hill passes** known as **"Mantralamma Kanuma" and "Nandi Kanuma."**

• The northern part of this Sanctuary forms a major part of the **southern boundary of the Nagarjunasagar-Srisailam Tiger Reserve.**

• **Gundlakamma River** flows through the sanctuary.

• **Flora:** consists of trees like **Teak, Dalbergia, Boswelia, Shisham**, Andug, Prerocarpuss, Terminalia, Albizzia, Anogeissius, and Bamboo.

• **Fauna:** includes **langur, jungle cat, panther, tiger**, mouse deer, hyena, and **bonnet monkey.**

Dayapar Wind Project

» **NTPC Renewable Energy Limited (REL)** has declared the commercial operation of the **50 MW wind project at Dayapar in Kachchh, Gujarat.**

• **Dayapar Wind Project** is the **first project of NTPC REL** and the **first capacity in India to be declared commercial under new Indian**

Electricity Grid Code and General Network Access Regime.

- **The Indian Electricity Grid Code (IEGC)** is a regulation made by the **Central Electricity Regulatory Commission (CERC)** in India that lays down the rules, guidelines and standards to be followed by various participants in the power system.

- The **General Network Access Regime** create a **"one-nation, one-grid, one-frequency"** system by providing non-discriminatory access to the central transmission network for all power producers.

Barda Wildlife Sanctuary

» After Gir National Park and Sanctuary, the **Barda Wildlife Sanctuary (BWLS)** is set to become the **second home to Asiatic lions.**

- The Barda Wildlife Sanctuary is located in **Gujarat, west of Gir Forest National Park.**

- It has a **hilly landscape** and there are two waterways, the **Bileshvary River and the Joghri River, and two dams, Khambala and Fodara.**

- Ethnic races such as **Maldharis, Bharvads, Rabaris, and Gadhvis** live in this region.
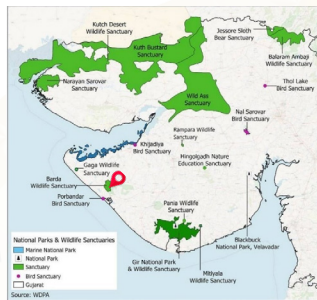
Red Sea

» Recently, cargo vessels passing through are being attacked by **Houthi rebels**.

- The Red Sea is a **seawater inlet of the Indian ocean**, lying between **Africa and Asia**.

- It extends southeastward from **Suez, Egypt** to the **Bab el-Mandeb Strait**, which connects with the **Gulf of Aden and then with the Arabian Sea.**

- Bordering Countries: **Egypt, Saudi Arabia, Yemen, Sudan, Eritrea and Djibouti.**

- The red sea is one of the **saltiest bodies of water in the world,** owing to high evaporation and low precipitation.

- It serves an important role in the global economy by **shortening the path between Asia and Europe almost by half.**
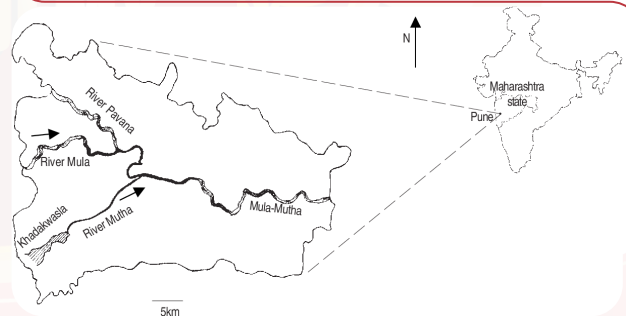
Nugu Wildlife Sanctuary

» The National Tiger Conservation Authority (NTCA) recently recommended to the authorities that the Nugu Wildlife Sanctuary abutting the Bandipur Tiger Reserve be declared a core critical tiger habitat.

- It is situated **north of Bandipur National Park in Mysore District, Karnataka.**

- It covers **about 30 sq km, and the northern part of the sanctuary** is occupied by the Nugu Reservoir, built across the Nugu River, a tributary of the Cauvery.

- In 1974, **Nugu** was declared a **Wildlife Sanctuary,** and later, in 2003-2004, the area of **Nugu Wildlife Sanctuary** was **added to the Nilgiri Biosphere Reserve**.

Pavana River

» Citizens and environmental activists have expressed concern over the thick layer of toxic foam seen on the Pavana River recently in Pune, Maharashtra

- It is a **tributary of the Bhima River** and merges with the Mula River in Pune city.

- It divides Pune City and the Pimpri-Chinchwad area.

Species in News

- The frogs emit a **distinctive call pattern** consisting of two to three notes, **resembling the sounds of wild duck species.**

- The frogs are named after the **Noa-Dihing River** where it was found.

Impatiens Karuppusamyi

A New Species of Magic Frog Discovered in Arunachal Pradesh

Noa-Dihing (Nidirana noadihing)

Biologists from the Wildlife Institute of India and the University of Wolverhampton, along with the state's forest department, found a new music frog species near Gandhigram in Arunachal Pradesh's Namdapha-Kamlang area.

The **Noa-Dihing music frog (Nidirana noadihing)**, named after the **Noa-Dihing river**, features a unique call reminiscent of wild duck sounds. It reaches a length of up to six centimeters and has a cream-colored line along its mid-body.

- Researchers have discovered a new plant species in the genus **'Impatiens' (Balsaminaceae)** in **Kalakkad Mundanthurai Tiger Reserve**, Tirunelveli.

- The species is named **'Impatiens Karuppusamyi'** after **S. Karuppusamy** for his contributions to the **taxonomy of South Indian angiosperms.**

- The plant is **found only in the Agasthyamalai region** in the southern Western Ghats.

- The plant, which belongs to the **scapigerous group (stemless group)**, is **seen only during the monsoon season for a few weeks.**

- Impatiens is a **genus of more than 1,000 species** of flowering plants widely distributed throughout tropical **Africa, Madagascar, India, Sri Lanka, and China.**

Alacalus Fontinalis

- Researchers recently discovered a **new species of frog** named Alcalus fontinalis in the northeast Indian state of Arunachal Pradesh.

- It was discovered in the **Namdapha Tiger Reserve, Arunachal Pradesh.**

- The frog was formally named Alcalus fontinalis, meaning **"spring or fountain,"** referencing the tiny streams or brooks where the frog was found.

- The frog appears to be a **mix of a bush frog and a water frog.**

- They are believed to be members of a **dwarf mountain frog** of the genus Alcalus, hitherto **unknown from India.**

Nidirana Noadihing

- Recently, scientists have discovered a new species of **'music frog'** Nidirana noadihing in **Arunachal Pradesh**.

- The findings **confirm the presence of the Nidirana genus in India for the first time,** with previous known occurrences in **Japan, Taiwan, China, Vietnam, Laos, and Thailand.**

- A unique feature of this discovery is that **both male and female frogs are vocal.**

Paintbrush Swift Butterfly

» The paintbrush swift butterfly has been photographed and documented for the first time in Himachal Pradesh's Chamba district.

• The State is home to **25% of the butterfly species found in India; 120 species of butterflies have been documented** by the **Wild Bhattiyat Project initiated by the State Forest Department in 2022.**

• The paintbrush swift is a butterfly species of the **Hesperiidae family,**

• It is typically found in **northeast, central and south India.**

• This species is legally protected in India under **Schedule IV of the Wildlife (Protection) Act, 1972.**

Sangai

• The sangai (**Manipur brow-antlered deer**) is an **endemic and endangered subspecies of Eld's deer found only in Manipur,** India. It is also the **state animal of Manipur.**

• Its original natural habitat is the **floating marshy grasslands (Phumdis) of the Keibul Lamjao National Park,** located in the southern parts of the **Loktak Lake**, which is the **largest freshwater lake in South Asia.**

• Sangai is nicknamed as **dancing deer** because of the peculiar nature of its habitat that lends this trait.

Conservation Status

• IUCN Red List: **Endangered**

• The Wildlife (Protection) Act, 1972: **Schedule-1**

Pancorius Sebastiani

» Researchers discovered a new species of jumping spider from the **Shendurney Wildlife Sanctuary.**

• The new species, which belongs to the **jumping spider genus Pancorius Simon** and **Salticidae family**, has been named Pancorius sebastiani after the late spider taxonomist P.A. Sebastian.

• The **Pancorius genus of Asian jumping spiders is primarily distributed in southeast Asia**. While its distribution was hitherto limited to the east and northeastern regions in India, **the new species is the first to be reported from the south.**

• The **males and the females of Pancorius sebastiani exhibit reddish brown carapace, yellowish abdomen with black patches and chevron-shaped markings posteromedially.**

Ghol fish

» Recently, **Ghol fish was declared as the state fish of Gujarat.**

• The ghol fish is primarily found in the Indo-Pacific region

• Ghol fish is also known as **'Sea Gold'** for its high market value.

• IUCN Status: **Near Threatened.**

Himalayan black bear

» Recently, an animal keeper died after being attacked by a Himalayan Black Bear in **Indira Gandhi Zoological Park (IGZP), Visakhapatnam**.
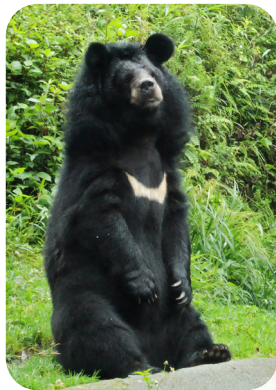
• It is a subspecies of the **Asian black bear**.

• It plays a vital role as a **primary seed disperser** in maintaining the stability of the ecosystem.

• They are typically **nocturnal and omnivores**.

• It **hibernates throughout the winter in the northwestern Himalayas**, while it is usually **active during the entire year in the eastern Himalayas**.

• They are mainly confined in the Himalayas of **India, Bhutan, Nepal, China, and Pakistan.**

• **IUCN Status: Vulnerable**

Odonata species

» Recently, around 50 Odonata species were identified in **Mudumalai Tiger Reserve.**

• Odonata is an insect order consisting of three groups: **Anisoptera, Zygoptera and Anisozygoptera.**

• They are globally distributed, from the tropics, to the boreal forests of Siberia and North America.

• India is highly diverse, with more than **500 known species.**

• More than **80% of their brain is devoted to analysing visual information.**

Attenborough echidna

• An elusive Attenborough's long-beaked echidna which was feared extinct after disappearing for six decades has been rediscovered in a remote part of Indonesia.

• It is also known as **Sir David's long-beaked echidna or the Cyclops long-beaked echidna,** named in honour of naturalist Sir David Attenborough.

• It is one of three species from the genus Zaglossus that inhabits the island of New Guinea.

• It is the **smallest echidna species.**

• It is a member of the **monotremes**, an egg-laying group that separated from the rest of the mammal tree-of-life.

Conservation status

• IUCN Red List: **Critically Endangered**

• CITES : **Appendix II**

Black Stork

» Recently, a Black Stork, a species rarely seen, has been spotted in the Hastinapur Wildlife Sanctuary in Uttar Pradesh.
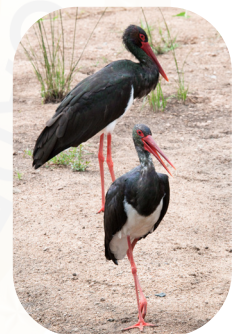
• The **black stork (Ciconia nigra)** is a **large bird in the stork family** Ciconiidae.

• It breeds in swampy, coniferous, and mixed forests.

• It can also be **found in grasslands, agricultural fields, and on the margins of lakes and rivers during winter.**

• It is a **long-distance migrant**, with European populations wintering in tropical Sub-Saharan Africa, and Asian populations in the Indian subcontinent.

Conservation status

• IUCN: **Least concern**

Awaous Motla

» Recently, a group of scientists discovered an edible freshwater fish available in the markets of western Odisha.

• Awaous Motla is a **fish with a vibrant yellow-coloured body and a fleshy upper lip**.

• It was **collected from the Mahanadi River**.

• The species belongs to the **family 'Awaous' (Oxudercidae)** and is **thus named 'Awaous motla.**