

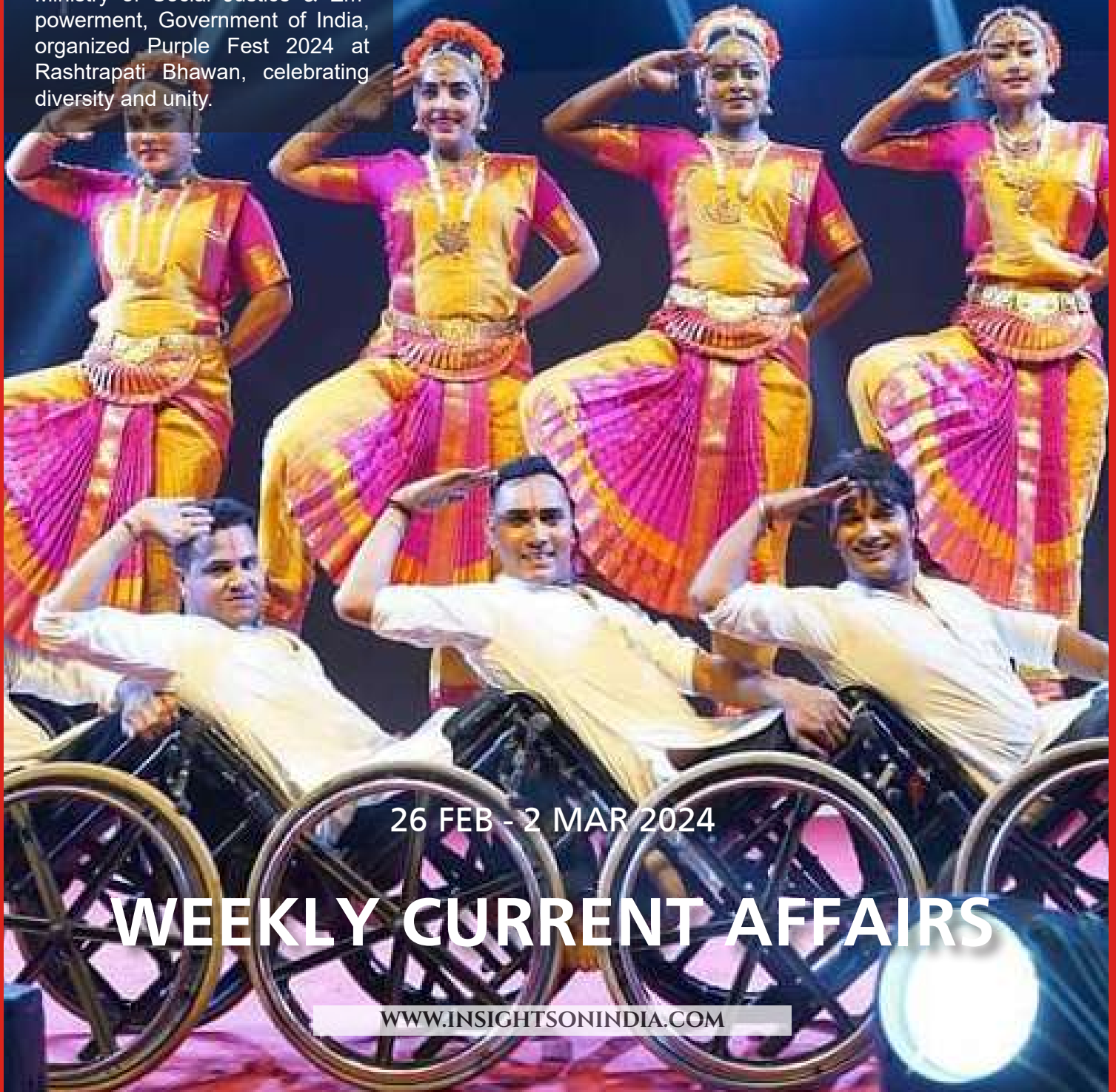


INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

PURPLE FEST 2024

The Department of Empowerment of Persons with Disabilities, Ministry of Social Justice & Empowerment, Government of India, organized Purple Fest 2024 at Rashtrapati Bhawan, celebrating diversity and unity.



26 FEB - 2 MAR 2024

WEEKLY CURRENT AFFAIRS

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Topics: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

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GENERAL STUDIES – 3

Topics: Major crops cropping patterns in various parts of the country, different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

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GENERAL STUDIES – 2

Topics: Structure, organization and functioning of the Executive and the Judiciary; Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

1. REGIONAL BENCHES OF THE SUPREME COURT

Context:

Law Ministry has endorsed the **proposal to establish regional benches of the Supreme Court throughout India**. Previously, the **Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice** had proposed regional benches for the Supreme Court nationwide.

- The apex court has **consistently opposed the notion**, citing ongoing legal considerations.

What are the Regional Benches of the Supreme Court?

Regional Benches of the Supreme Court are **proposed branches of the apex court** established in various parts of the country to **decentralize judicial authority and increase accessibility to justice**.

The need for regional benches of the Supreme Court arises from:

- Backlog in the judicial system:** There is a **significant backlog of cases**, with over 80,000 cases awaiting resolution before the **34 judges of the Supreme Court**.
- The strain on existing judicial infrastructure:** The backlog highlights the strain on the existing judicial infrastructure
- Efficiency and streamlining:** A more efficient and streamlined legal process is required to address the backlog and ensure timely resolution of cases.
- Distribution of workload:** Regional benches can help distribute the workload more evenly across the country, reducing the burden on the main Supreme Court in Delhi.
- Accessibility to justice:** Regional benches can improve accessibility to justice for litigants from different parts of the country, especially those who face challenges in travelling to Delhi for legal proceedings.
- Reduction of travel and expenses:** Litigants and legal professionals would benefit from reduced travel and associated expenses by having access to justice closer to their location.
- Enhanced Focus on Constitutional Matters:** With the main bench in New Delhi exclusively **addressing constitutional issues**, regional benches could specialize in handling **appellate cases**, allowing for more informed decisions.
- Improved Judicial Effectiveness:** Judges familiar with regional contexts at regional benches could deliver more relevant and effective judgments, leading to quicker decision-making.
- Greater Opportunities:** Establishing regional benches could promote the development of legal infrastructure and expertise across the country, empowering local legal professionals and democratizing the Bar.

Viewpoints from legal experts on regional benches:

Legal Position	Details
Article 130	Article 130 states that the Supreme Court shall sit in Delhi or in such other place or places as the Chief Justice of India (CJI) may , with the approval of the President, appoint from time to time.
Law Commission Report	The 229th Law Commission Report (2009) recommended the establishment of four regional benches in Delhi, Chennai or Hyderabad, Kolkata, and Mumbai to hear non-constitutional issues, aiming to enhance accessibility to justice.
Bar Councils	In July 2021, Bar Councils in southern India submitted a representation to the Chief Justice of India, advocating for the establishment of a Supreme Court bench in the region to improve access to justice for people residing in the south .
Parliamentary Standing Committee Report	The Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice endorsed the establishment of regional benches of the Supreme Court , aligning with the recommendations of the 229th Law Commission Report, to address accessibility issues and decentralize judicial authority.

Chief Justices of India	Historically, <u>no Chief Justice of India (CJI) has supported convening the Supreme Court outside of Delhi</u> , expressing concerns that regional benches could potentially undermine the prestige of the apex court.
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Argument Against Regional Benches of SC:

Argument Against	Details
Fragmentation of Jurisprudence	Regional benches may lead to <u>divergent interpretations of laws and legal principles</u> , resulting in inconsistencies in judicial decisions across different regions e.g., former Chief Justice of India (CJI) K.G. Balakrishnan <u>that regional benches could lead to the disintegration of the institution</u> .
Increased Litigation	Regional benches <u>may encourage forum-shopping litigation as litigants seek favourable outcomes from perceived sympathetic benches</u> , potentially leading to increased frivolous litigation.
Potential Bias and Influence	Concerns exist about the <u>potential for regional biases or political influence to impact judicial decisions at regional benches</u> , particularly in areas with strong local interests or political pressures.
Increased Expenditure	Establishing and maintaining regional benches <u>would require significant financial resources and investment in infrastructure</u> , which could strain already limited judicial budgets and resources.
Dilution of the Supreme Court's Authority	Regional <u>benches may overshadow or weaken the central authority of the Supreme Court</u> , potentially diminishing its national stature and impact.
	Confusion about which bench to approach for specific cases could arise, creating complexities in navigating the legal system.

What should be the way forward:

- 1. Consider Alternative Structures:** Explore the establishment of a separate Court of Appeal instead of regional benches, as recommended by the Law Commission.
- 2. Reform High Courts:** Focus on reforming High Courts to scrutinize petitions admitted to the Supreme Court, reducing the need for regional branches.
- 3. National Court of Appeal for SLPs:** Establish a National Court of Appeal to handle Special Leave Petitions, allowing the Supreme Court to focus on constitutional and public law matters.
- 4. Increase Working Days:** Increase the number of working days for the Supreme Court and reduce vacation periods to tackle the backlog of cases.
- 5. Strengthen Infrastructure:** Prioritize modernizing existing judicial infrastructure, including High Courts and district courts, to improve access to justice.
- 6. Feasibility Studies and Pilot Projects:** Conduct feasibility studies and pilot projects to assess the benefits and challenges of regional benches, considering legal, logistical, and financial aspects.
- 7. Retain Exclusive Powers:** Retain exclusive powers of the Supreme Court, ensuring its authority in original, advisory, and writ jurisdictions remains intact.
- 8. Utilize Technology:** Embrace technology such as video conferencing and virtual courtrooms to enhance access to justice, especially in remote areas.

International Experience:

Many countries around the world have instituted **Courts of Cassation that decide cases involving non-constitutional disputes and appeals from the lower level of courts**. These are courts of last resort that have the power to reverse decisions of lower courts. (Cassation: annulment, cancellation, reversal).

Insta links:

[The idea of regional Supreme Court Benches, and 'divisions' of the top court](#)

Mains Links:

Q. Critically examine the Supreme Court's judgement on the 'National Judicial Appointments Commission Act, 2014' with reference to the appointment of judges of higher judiciary in India. (UPSC 2017)

Prelims Links:
Q. With reference to the Indian judiciary, consider the following statements: (UPSC 2021)

- Any retired judge of the Supreme Court of India can be called back to sit and act as a Supreme Court judge by the Chief Justice of India with the prior permission of the President of India.
- A High Court in India has the power to review its own judgement as the Supreme Court does.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Ans: C

[Topics: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.](#)

2. BHARATIYA SAKSHYA ADHINIYAM 2023

Context:

The Bharatiya Sakshya Adhiniyam introduces changes in electronic evidence provisions, addressing definitions and admissibility concerns.

What is Bharatiya Sakshya Adhiniyam?

The Bharatiya Sakshya Adhiniyam is **a new criminal law in India that replaces the Indian Evidence Act**. It introduces changes in provisions relating to electronic evidence, including definitions and admissibility procedures.

It is part of the **three new criminal laws, the Bharatiya Nyaya Sanhita (replacing IPC), Bharatiya Nagarik Suraksha Sanhita (replacing CrPC), and Bharatiya Sakshya Adhiniyam (replacing IEA)**, will be enforced from **July 1, 2024**. The Bharatiya Sakshya Adhiniyam **retains much of the Indian Evidence Act's content**, with minor changes in secondary evidence scope and electronic evidence provisions.

Reforms in Indian Criminal Law

Provisions	Bhartiya Nyaya Sanhita Bill 2023	Bharatiya Nagarik Suraksha Sanhita Bill 2023	Bharatiya Sakshya Bill 2023
Replaces	Indian Penal Code, 1860	Criminal Procedure Code, 1898	Indian Evidence Act, 1872
Focus	Reflects Indian ethos, justice-oriented	Enhances citizens' protection	Modernizes evidence presentation
Sections	356 sections (replacing 511)	533 sections (160 changed)	170 sections (23 changed)
Women and Children	A separate chapter dedicated to them; New offence: false promise of marriage, Employment etc.; Initiating children into crime made punishable.	Sexual intercourse on false promise of marriage, employment, etc., is a new offence.	
Digital Integration	Expanded definition of documents; Address newer crimes, cyber offences	Digitization of processes	Accepted documents include electronic and digital records, video recordings, emails, etc.
Speedy Trials	Summary trials, time limits	Trial expedited; 90-day window for investigation after chargesheet filing; Witness protection scheme to be made by states; Bail after serving 1/3rd of the maximum sentence for first-time offenders.	Video recording of search and seizure operations by the police
Victim Support	Compulsory status updates of victim support	Protection, timely information	Video recording of search and seizure operations by the police
Terrorism and Organized Crime	New definitions of Terrorism for 1 st time; Armed rebellion, separatist activities, organized crimes, etc.; Mob lynching made an offence explicitly	Harsher provisions against gangs	Define and address organized crimes
Fugitive FIR	Zero FIR, e-FIR introduced	Trials for fugitives in absentia	Mandatory digitization of FIR, chargesheets; Mandatory use of Forensic services for offences punishable with 7 or more years
Sedition Law	Repealed	Zero FIR, e-FIR introduced; community service as punishment	

Major provisions of BSA 2023 (more detailed)

Provisions	Details
Provisions retained from Indian Evidence Acts	Admissible Evidence: Parties can present admissible evidence, classified as 'facts in issue' or 'relevant facts'
	A Proven Fact: A fact is proven when the Court believes it to exist based on presented evidence.
	Police Confessions: Confessions made to police officers or in police custody, unless recorded by a Magistrate
Key Changes Incorporated in BSA, 2023	Documentary evidence includes electronic records
	Oral evidence can be given electronically
	Admissibility of electronic or digital records as evidence
	The precise definition of "document" includes electronic records
	Clarity on primary (electronic) evidence , allowing multiple stored recordings to be primary evidence
	Synchronization with IT Act, 2000 terms like 'semiconductor memory' and 'any communication device' for better visibility.

Concerns with BSA, 2023

1. **Tampering of Electronic Records:** The Supreme Court acknowledges susceptibility to tampering without safeguards, potentially leading to miscarriage of justice.
2. **Ambiguity in Admissibility of e-Records:** BSA includes electronic records but lacks clarity on admissibility criteria, potentially affecting trial fairness.
3. **BSA does little to reduce the discrimination faced by Accused** Within or Outside Police Custody
4. **Potential for Coercion in Obtaining Information:** Concerns regarding the circumstances under which information is obtained from individuals in police custody, with implications for the voluntariness and reliability of such evidence.
5. **Overreliance on Expert Opinions:** The requirement for expert opinions to validate electronic evidence may lead to an increased workload for forensic laboratories and potential delays in legal proceedings.

Steps for Enhancing BSA Effectiveness:

1. **Standing Committee Recommendations:** Mandate secure handling of electronic evidence, and ensure proper chain of custody.
2. **Guidelines by Karnataka High Court:** Introduce safeguards during search and seizure, including forensic examiner presence and Faraday bag usage.
3. **Law Commission Recommendations:** Address coercion-related evidence, and revise custody-related provisions for fairness.
4. **Malimath Committee Recommendations:**
 - a. **Introduction of the 'social welfare offences'** category for minor violations, allowing fines or community service as penalties.
 - b. **Adoption of a 'mixed system' blending adversarial** and inquisitorial elements, empowering judges to actively participate in evidence collection.
 - c. **Lowering the standard of proof for conviction** from 'beyond reasonable doubt' to 'clear and convincing evidence'.

International Experience:

The EU is reforming its approach to evidence by proposing a directive for mutual admissibility of electronic evidence in criminal proceedings. This reform aims to establish **uniform standards for electronic evidence** usage across member states. Key aspects include:

- **Mandating the use of electronic evidence** only if its integrity can be verified
- **Ensuring secure handling** from production to

custody

- **Involving IT experts** at the accused's request for fair evaluation.

Insta Links:

- [Bill introduced: Reforms in Indian Criminal Law](#)
- [India's Criminal Justice System](#)

Mains Links:

Q. Mob violence is emerging as a serious law and order problem in India. By giving suitable examples, analyze the causes and consequences of such violence. (USPC 2015)

Q. Comprehensive reforms are needed in the criminal justice system to ensure effective enforcement of the law, uphold accountability, have a well-trained workforce and speedy disposal of the cases. Comment. (250 words)

Topics: Important International institutions, agencies and fora, their structure, mandate.

3. FUTURE OF UNITED NATIONS: UN REFORMS

Context:

The current global order, epitomized by the United Nations, is facing considerable challenges. **António Guterres**, the UN Secretary-General, has recently **expressed scepticism about the organization's future**, citing divisions among members that undermine its authority.

What is the United Nations (UN)?

The United Nations (UN) is an international organization **established in 1945** (with the UN Charter) after World War II. **United Nations Day**, observed on October 24th annually since 1947, commemorates the organization's establishment in 1945. **UN's founding principles are:**

1. Collective security
2. Disarmament
3. Peacekeeping

The UN's structure comprises:

1. **General Assembly** as the primary policymaking body
2. **Security Council** responsible for peace and security
3. **Specialized agencies like UNICEF and WHO** focus on specific global issues such as health and education.

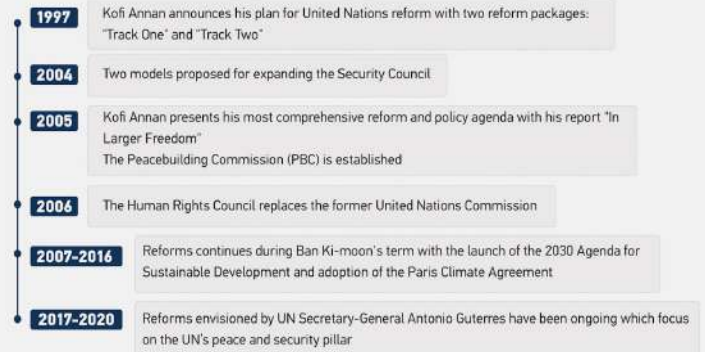
Importance of the UN:

1. **Managing Power Rivalry Between Nations:** The UN anchors the post-World War order, managing power rivalry among nations through its structure and specialized agencies.
2. **Strengthening Multilateral Institutions:**

Through initiatives like the Bretton Woods Conference, the UN established financial and trade institutions to foster international economic cooperation and prevent past mistakes.

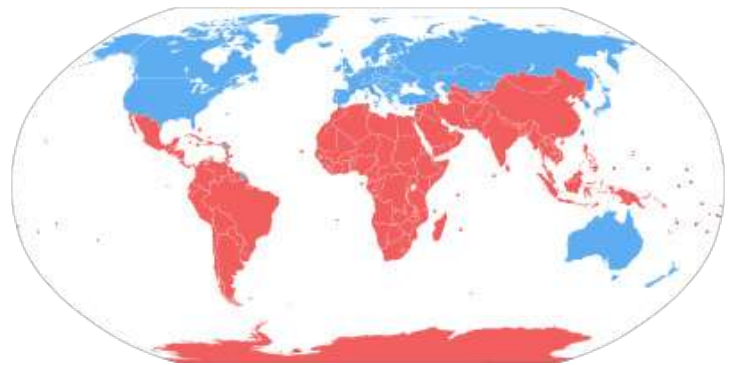
3. **International Law and Human Rights:** The UN promotes adherence to international law and human rights standards, establishing treaties and conventions while monitoring and addressing human rights abuses globally.
4. **Humanitarian Assistance:** The UN provides vital humanitarian aid to populations affected by conflicts and disasters through agencies like UNICEF, WFP, and OCHA, working to alleviate suffering and protect vulnerable populations.
5. **Peacekeeping and Conflict Resolution:** It maintains global peace through peacekeeping missions, deploying troops and mediators to conflict zones.
6. **Environmental and Climate Change Initiatives:** It promotes global cooperation on environmental challenges, exemplified by initiatives like the Paris Agreement to combat climate change.
7. **United Nations Sustainable Development Goals (SDGs):** The 2030 Agenda for Sustainable Development comprises 17 SDGs focused on inclusivity and sustainability.

Key UN reforms



Issues in the Functioning of the UN:

1. **Overrepresentation:** There is a huge European bias in P-5 due to the presence of the United Kingdom and France, including Russia in the UNSC
2. **Under-representation:** While regions like Latin America, the Caribbean Group, the Arab World, and Africa do not have a single permanent member,
3. **Question of Veto:** All five permanent members of the UNSC enjoy veto power. However, the veto has been misused to put national interests ahead of global interests.
4. **Non-transparent:** The **UNSC** has been functioning in the most non-transparent and non-consultative way.
5. **North-South Inequality:** Only China is representative of the global south region, whereas the global north has four nations to present themselves at the UNSC.
6. **Reflecting Colonial Mindset:** Permanent veto power granted to major Allied powers, ignoring newly independent states' voices.
7. **Disbursal of Funds:** Decision-making skewed towards powerful nations, impacting global financial stability and aid distribution.
8. **Contemporary Faultlines:** COVID-19, conflicts like **Russia's invasion of Ukraine**, and divisions over **issues like the Gaza conflict strain UN principles and cooperation.**
9. **Clash of Chinese and US Values:** US-China rivalry marks a shift, challenging traditional multilateralism.
10. **Multiple Crisis Confronting Multilateralism:** Trust deficits, utility crises, and global emergencies strain multilateral cooperation.
11. **Challenges in Concepts, Methods, and Institutions:** Volatile concepts, outdated negotiation methods, and inadequate institutions hamper effectiveness.



Suggestions for Reforming UN:

Suggestions	Details
Development Reform	Implement bold changes to the UN development system.
	Establish new country teams and frameworks for sustainable development.

Management Reform	Simplify processes, work towards gender parity , and enhance efficiency.
Peace and Security Reform	Restructure peace and security operations to meet modern challenges effectively.
Security Council Reforms	Address representation gaps by including permanent members from under-represented continents and emerging powers.
	Role of G-20: Encourage multilateral groupings as a new form of multilateralism and transform them into multi-stakeholder partnerships.
India	India's NORMS reform (New orientation for a reformed multilateral system) in the changing architecture of global governance, including the UNSC, is way ahead
	India has stressed democratic status and global influence , emphasizing the Importance of an Inclusive World Order: It advocates for the UN to reflect emerging powers. It further calls for democratizing decision-making processes

Conclusion:

Looking towards the future, the **21st century presents a myriad of complex challenges**, ranging from climate change to cybersecurity threats and economic inequality. Despite its imperfections, the **United Nations (UN) stands uniquely positioned to address these multifaceted issues**, given its convening power, diplomatic role, and extensive network of agencies.

However, **realizing its full potential requires implementing reforms** to enhance its effectiveness. **Streamlining bureaucracy, reducing inefficiencies, and ensuring more equitable representation** within the organization are crucial steps towards achieving this goal. Despite these challenges, the **UN remains indispensable in global governance, humanitarian assistance, and crisis management**. While the need for reform is evident, the UN's continued role in fostering cooperation, dialogue, and collective action underscores its enduring importance in tackling the world's most pressing problems.

Insta Links:

- [If not reformed, the UN will be overtaken by other organisations](#)

Mains Links:

Q. What are the main functions of the United Nations Economic and Social Council (ECOSOC)? Explain different functional commissions attached to it. (10 M) (UPSC 2017)

Prelims Links:

Q. With reference to the "United Nations Credentials Committee", consider the following statements: (UPSC 2022

1. It is a committee set up by the UN Security Council and works under its supervision.
2. It traditionally meets in March, June and September every year
3. It assesses the credentials of all UN members before submitting a report to the General Assembly for approval.

Which of the statements given above is/is/are correct?)

- (a) 3 only
- (b) 1 and 3
- (c) 2 and 3
- (d) 1 and 2

Ans: (a)

GENERAL STUDIES – 3

Topics: Major crops cropping patterns in various parts of the country, different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

1. COOPERATIVE SECTOR AND ITS ROLE IN INDIAN FARMING

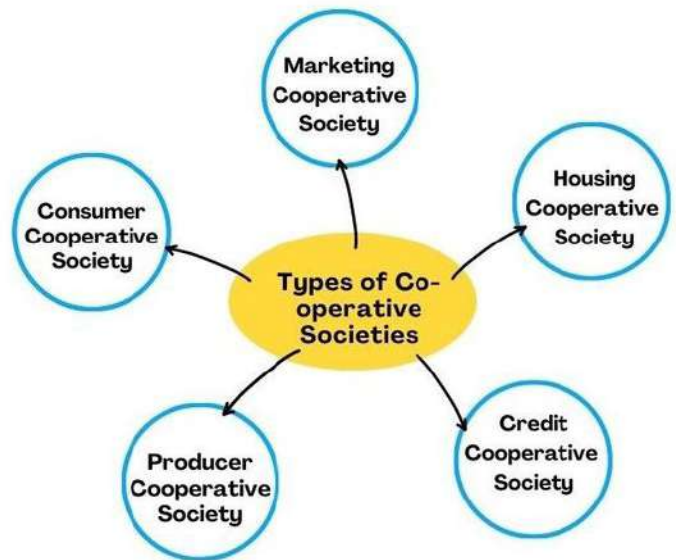
Context:

The Prime Minister inaugurated and laid the **foundation stone for several key initiatives** in the cooperative sector. This included:

1. Pilot project of the **'World's Largest Grain Storage Plan in Cooperative Sector'** in 11 Primary Agricultural Credit Societies (PACS) across 11 states
2. The foundation stone for an **additional 500 PACS for the construction of godowns** and other agricultural infrastructure nationwide.
3. **Project for computerization in 18,000 PACS** across the country

What is the Cooperative Sector?

A cooperative society is a **voluntary association aiming to fulfil common economic interests** through **self-help and mutual assistance**. India's cooperative movement dates back to its independence era. The **97th Constitutional Amendment Act of 2011** recognized the right to form cooperative societies as **a fundamental right** (Article 19), introduced a new Directive Principle (**Article 43-B**) on promoting cooperatives, and added a new part to the Constitution focusing on cooperatives (**Articles 243-ZH to 243-ZT**). This amendment empowers both **Parliament and state legislatures to enact laws governing cooperatives**. In 2021, **the Union Ministry of Cooperation** was established to oversee cooperative affairs, which were previously managed by the Ministry of Agriculture.



The Indian cooperative movement is the world's largest cooperative movement, with more **than 8 lakh cooperatives**. The collective strength of the agricultural cooperatives offers unique benefits to farmers in various ways.

Role of Cooperatives for Indian Farmers:

Market access and bargaining power:

- **Marketable surplus:**
 - With agricultural cooperatives, the constraint of **small and fragmented landholdings** and less produce is overcome.
 - The marketable surplus of food grain and industrial raw materials can be **transported and marketed on a bulk basis** for remunerative prices.
- **Market reach:**
 - With collective strength, cooperatives enable farmers to **control supply and marketing channels**.
 - Agricultural cooperatives assist farmers in **expanding their market reach** so they may sell their products for remunerative prices.
 - Cooperatives increase the **farmers' creditworthiness**, and thus, they have a better capacity to sell surplus items for more money.
- **Collective strength:**
 - Small farms would not have been able to **expand irrigation potential** and land production on their own.
 - Farmers in cooperative farming have access to **more land and resources**, including men, materials, and money, thus increasing production capacity.
- **Better price realization:**
 - Cooperatives could offer better **competi-**

tiveness for smallholder farmers.

- They can thus give farmers more **negotiating leverage**, access to new markets and technology, and **cost savings** by pooling their resources and expertise.
- Farmers who are efficiently organized can form a **collective voice** to advocate for their needs and access services at affordable prices for better yields, sales, and profits.
- **Government interaction:**
 - From the administrative viewpoint, cooperatives facilitate easier interaction and transactions with the government.
 - E.g., **collecting taxes, distributing subsidies**, introducing improved methods of production, etc.
 - This, in turn, increases the **bargaining power** of the cooperatives in terms of price fixing, subsidies, etc.

Profitability:

- **Knowledge sharing:**
 - Agricultural cooperatives can play a vital role in **educating the farmers** to reduce the cost of cultivation through balanced use of fertilizer, and improve water-use efficiency.
 - It also helps farmers understand new technologies in farming.
- **Credit facilitation:**
 - Cooperatives can give farmers **access to finance**, which they can use to buy farming-related supplies and equipment.
 - It facilitates credit to farmers at a **reasonable rate of interest**
- **Income generation:**
 - Cooperatives can help establish more warehouses to avoid distressed sales of produce, link with the **National E-market (e-NAM)**, emphasize value addition and encourage farmers to take up other allied activities like poultry, beekeeping, and fisheries.

Challenges with Cooperatives in India:

1. **Regulation and Supervision:** Fragmented regulatory framework and dual control issues lead to inconsistencies in supervision.
2. **Governance and Management:** Poor governance and management contribute to mismanagement and fraud, leading to failures.
3. **Capital Adequacy:** Struggles to maintain sufficient capital levels hinder operational resilience and expansion.

4. **Credit Risk Management:** Lending to SMEs and individuals with limited credit history poses challenges in managing credit risks.
5. **Technology and Innovation:** Lack of investment in modern technology limits competitiveness against larger banks and fintech firms.
6. **Competition:** Intense competition from commercial banks and fintech companies makes customer retention difficult for financial cooperatives.

Other Government Initiatives for the Cooperative Sector:

1. **Financial Support:** The government ensures that every farmer in the country receives approximately ₹50,000 annually through various means, providing financial security and assistance.
2. **Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs):** This Central Sector Scheme aims to empower farmers by enabling them to enhance their bargaining power, leverage economies of scale, reduce production costs and increase their incomes through the aggregation of agricultural produce, contributing to sustainable livelihoods.
3. **Fertilizer Subsidy:** Over the past nine years, the government has allocated ₹10 lakh crore towards fertilizer subsidies, ensuring that farmers have access to crop nutrients at affordable prices despite global price fluctuations.
4. **Parliament passed the Multi-State Cooperative Societies (Amendment) Bill, 2022,** aimed at enhancing transparency, accountability, and ease of doing business in the cooperative sector. The bill introduces provisions such as the **establishment of a Cooperative Election Authority, the creation of a Cooperative Rehabilitation Reconstruction and Development Fund**, the appointment of a cooperative ombudsman and information officers, and the representation of women and SC/ST members on cooperative society boards.
5. **Government's Electronic Marketplace (GeM):** GeM version 4 is an innovative online platform dedicated to marketing goods and services from MSMEs and non-financial cooperatives, boasting over 62,000 government buyers, 49 lakh sellers, and numerous products and services.
6. **Welfare Schemes for Dairy Development:** Several welfare schemes support dairy development and fisheries, pivotal for rural households, with milk cooperatives proving successful.
7. **Cooperatives as a Business Model:** Cooperatives serve as a viable business model for post-harvest processing, warehousing, and packaging.
8. **Use of Technology:** The government envisions rural development through technology adoption

in schemes like **Digital India, BharatNet, and e-Governance.**

For FPOs: **Role of Farmer Producers' Organizations (FPOs)**

Conclusion

Cooperatives play a **vital role in supporting farmers by offering financial aid**, sharing modern farming knowledge, facilitating the marketing of produce, and procuring essential inputs. Their efforts contribute significantly to the advancement of the agricultural sector and the well-being of farmers.

Mains Links:

Q. "In the villages itself, no form of credit organization will be suitable except the cooperative society." – All Indian rural credit survey. Discuss this statement in the background of agriculture finance in India. What constraints and challenges do financial institutions supply agricultural finances? How can technology be used to better reach and serve rural clients? (UPSC 2014)

Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.

2. LAND DEGRADATION AND LAND MANAGEMENT POLICY

Context:

An urgent need exists for a comprehensive land management policy, considering land's critical role in **ecological, economic, social, and cultural aspects**. India, with a small geographical area but a large population, faces numerous land management issues, including the **degradation of around 30% of its total land.**

What are Soil degradation, Land Degradation and Desertification?

- Soil Degradation** refers to the decline in **soil quality and fertility** due to various factors such as erosion, chemical pollution, and loss of organic matter. It primarily affects the health and productivity of the soil.

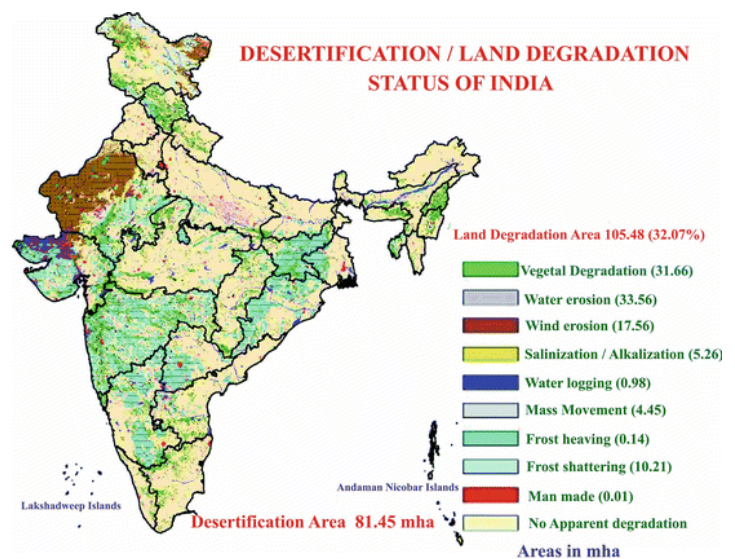
For Soil Degradation: **World Soil Day: Soil Degradation**

- Land degradation** is a broader term that encompasses not only soil degradation but also degradation of other land resources like **vegetation, water resources, and biodiversity**. It includes processes such as soil erosion, deforestation, salinization, and loss of biodiversity.

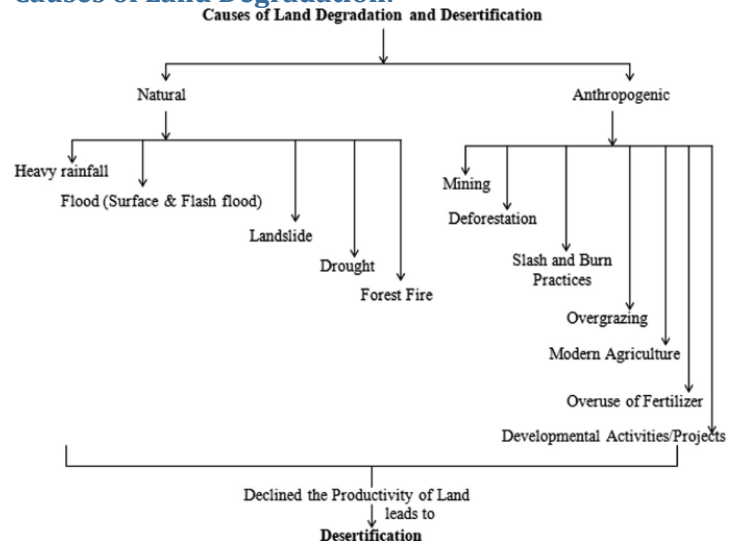
- Desertification** specifically refers to the process by which **fertile land becomes increasingly arid and barren, ultimately transforming into desert-like conditions**. It is a type of land degradation in **dry regions like arid, semi-arid, and dry sub-humid areas**, where biological productivity declines. It **doesn't necessarily involve the expansion of existing deserts** but rather the deterioration of land quality and productivity within these dryland regions.

Status of Land Degradation:

The **Desertification and Land Degradation Atlas of India**, published by ISRO's Space Applications Centre, estimates India's land degradation and desertification at over **97 million hectares in 2018-19**



Causes of Land Degradation:



Consequences of Land Degradation:

- Food and Water Security:** For instance, Land degradation and climate change are estimated to lead to a reduction of global crop yields by **about 10% by 2050**. Most of this will occur in **India, China, and sub-Saharan Africa**.

2. **Impact on Lives:** According to UNCCD, The degradation impacts the lives of an estimated **1.3 billion people** who are directly exposed to land degradation.
3. **Economic Impact:** The economic impact of land degradation is significant, with countries spending **billions of dollars annually to combat desertification, land degradation, and drought.**
4. **Drought-Stricken Population:** A significant proportion of the world’s population live on land affected by drought. Out of **1.84 billion people, 4.7% are exposed to severe or extreme drought.**
5. **Biodiversity Loss:** Land degradation leads to loss of biodiversity, affecting ecosystems and species survival.

What is Land management policy?

It refers to a **set of guidelines, regulations, and practices** established by governments or other relevant authorities to govern the use, development, conservation, and protection of land resources within a particular region or jurisdiction.

Challenges of Land Management in India:

Challenges	Description
Acute Disparity Between Land Area and Population	India’s small geographical area (2.4% of the world’s) and large population (17% of the world’s) create significant challenges in managing land. Only about 55% of land is arable, 22% forest cover, leaving 30% degraded. Access to agricultural land is crucial for livelihoods.
Competition Between Agriculture and Other Land-resources Based Sectors	Increasing land stress leads to competition among farmers and sectors, escalating land prices and conflicts.
Adverse Effects of Climate Change	Land degradation not only affects livelihoods but also weakens natural ecosystems’ resilience against disasters like floods, droughts, and pollution, exacerbated by climate change.
Sectoral Approach to Land Management	Land management practices in India are fragmented among departments and states, with private land ownership complicating synchronized approaches.
Inadequate Land Management Practices	Administrative complexity, knowledge gaps, short-term planning bias, fragmented approaches, lack of preparedness for unforeseen events, and regulatory barriers hinder effective land management in the country.

Suggestions for Effective Land Degradation Management:

1. **Effective land restoration involves a continuum of activities:**
 - i. **Avoid:** Eliminate practices degrading the environment, from land conversion to socio-economic inequalities.
 - ii. **Reduce:** Adopt sustainable land and water management practices to mitigate degradation.
 - iii. **Reverse:** Revitalize soil, watersheds, and ecosystems to restore degraded land, meeting human needs and improving ecology.
2. **Achieving Land Degradation Neutrality (LDN):** Maintaining or improving land resources to sustain ecosystem functions, services, and food security.
3. **Integrated Land Use Planning:** Identifying optimal land use combinations to meet stakeholder needs sustainably, including identifying global restoration hotspots for maximum benefit.
4. **Regenerative Agricultural Practices:** Implementing techniques like terrace farming and rainwater harvesting to restore land, increase crop yields, reduce emissions, sequester carbon, and support livelihoods.
5. **Establish Multi-Stakeholder Platforms:** Create district-level platforms involving farmers, policymakers, civil society, and businesses to integrate sectors and address challenges collectively.
6. **Adopt Climate-Smart Landscape Approach:** Utilize landscape assessment to allocate land effectively, contributing to climate goals, agricultural productivity, livelihoods, and biodiversity conservation.
7. **Promote Integrated Landscape Management:** Emphasize the systemic approach to land management, drawing on experiences and institutional support, aligning with international conventions for societal well-being.
8. **Ensure Inclusive Engagement:** Engage parliamentarians to address emerging challenges, and involve all stakeholders horizontally and vertically for sustainable land management policies.
9. **Conduct Country-Level Land Management Assessment:** Undertake comprehensive assessments of land management practices at the national level, guided by international recommendations, prioritizing co-benefits

and ecosystem services conservation.

- 10. Follow FAO Recommendations:** Urgently address land degradation as highlighted by the FAO, recognizing the critical role of land, soil, and water in ensuring long-term public welfare and sustainability.

Initiatives:

- **UNCCD Data Dashboard:** Highlighting rapid global land degradation.
- **Bonn Challenge:** Restoring 350 million hectares by 2030.
- **Great Green Wall:** Combatting land degradation in Sahel-Saharan Africa.
- **G20 Global Initiative on Reducing Land Degradation and Enhancing Conservation of Terrestrial Habitats:** Launched in 2020, it aims to prevent, halt and reverse land degradation and reduce degraded land by 50% by 2040.
- **UN Decade on Ecosystem Restoration:** The Decade (2021-2030) is being championed by the UNEP and FAO.
- **India's Commitment:**
 - **Signatory to UNCCD,** aiming to restore 26 million hectares by 2030.
 - **Pursuing Land Degradation Neutrality (LDN)** under SDG 15.3.
 - **Key Reports:**
 - **COP14:** Focused on achieving land degradation neutrality.
 - **IPCC Report:** Suggested country-level stocktaking of land management.
 - **FAO Report:** Urged action to address land degradation crisis.
 - **Other Initiatives:** IWMP, Desert Development Programme, NAP, GIM, National Action Programme to Combat Desertification, Desertification and Land Degradation Atlas, [Soil Health Card Scheme](#).

Conclusion:

Land degradation is a complex issue with multiple causes and far-reaching consequences. Addressing this issue requires a comprehensive approach that includes sustainable **land management practices, conservation efforts, and policies** aimed at mitigating the impacts of climate change.

Insta Links:

- [Forest landscape restoration](#)

Mains Links:

Q. The process of desertification does not have climate boundaries. Justify with examples. (UPSC 2020)

Q. In what way do micro-watershed development projects help in water conservation in drought-prone and semi-arid regions of India? (UPSC 2016)

Prelims Links:

Q. What is/are the importance/importances of the 'United Nations Convention to Combat Desertification'? (UPSC 2016)

1. It aims to promote effective action through innovative national programmes and supportive international partnerships.
2. It has a special/particular focus on South Asia and North Africa regions, and its Secretariat facilitates the allocation of major portion of financial resources to these regions.
3. It is committed to a bottom-up approach, encouraging the participation of local people in combating desertification.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (c)

3. GLOBAL WASTE MANAGEMENT OUTLOOK 2024

Context:

Global Waste Management Outlook 2024, published by **UNEP and ISWA (International Solid Waste Association)**, assesses global waste management trends and costs.

Key findings:

1. Municipal solid waste is predicted to grow from **2.3 billion to 3.8 billion tonnes by 2050**.
2. The global direct cost of waste management was estimated at USD 252 billion in 2020, expected to nearly double by 2050 without urgent action.
3. **Barriers in waste management:** Lack of urgency **recognition, incomplete data, and climate impact underestimation;** Gendered aspects and informal sector undervaluation; Inadequate legislation, weak enforcement, and lack of enabling environment.

Recommendations:

1. **UNEP:** Redefine waste as a resource
2. **By adopting circular economy models,** which decouple waste generation from economic growth, there's potential for a **net gain of over USD 108 billion** annually by 2050
3. **Utilize data and digitalization** to enhance the

waste management value chain.

4. **Replicate and scale up zero waste** initiatives.
5. **Implement producer responsibility fees** to prioritize waste reduction and prevent greenwashing.
6. **Utilize behavioural science** to engage people in waste reduction efforts.
7. **Harness the expertise of informal waste workers** and recognize the influence of women in waste management.

Role of Innovative Waste Management Solutions

1. **Recycling Technologies:** Advanced recycling technologies, such as **chemical recycling**, break down waste into its basic components which can be used to produce high-quality raw materials for new products.
2. **Robotic Waste Sorting: Artificial intelligence and machine learning** are being used to improve waste separation efficiency.
 - a. For instance, **ZenRobotics** has developed a robotic waste sorting system.
3. **Biodegradable Materials:** The development of biodegradable and compostable materials helps **reduce waste generation**.
 - a. E.g. Innovations in eco-friendly packaging, such as **edible food containers and biodegradable plastics**, are gaining traction.
4. **Biotechnology:** The use of biotechnology, such as the development of **fungi-based packaging** materials, is on the rise.
5. **Circular Economy Principles:** The implementation of circular economy principles in waste management keeps materials in use for longer periods, reducing waste generation and **promoting resource efficiency**.
6. **Zero Waste Strategies:** The promotion of zero waste strategies helps reduce waste generation and minimize environmental pollution.
7. **Smart Solutions:** Companies are developing smart solutions for waste management, transforming waste into energy and reusable products.
 - a. E.g. companies like **Ecube, and Enevo** focus more on technology.
8. **Consumer Education:** Companies also need to educate end users about sustainable and innovative solutions for waste management. This increases **awareness and encourages responsible waste disposal**.
9. **Government Regulations:** Government regulations and policies can encourage the adoption of innovative waste management solutions. These can include **incentives for recycling and penalties for improper waste disposal**.
10. **Collaboration Across Value Chains: Phool, an Indian start-up**, collects floral waste from temples and transforms it into charcoal-free incense sticks and biodegradable packaging material.

Importance of Waste-to-energy (WtE):

WtE refers to a group of technologies that **convert non-recyclable waste into usable forms of energy**, primarily electricity and heat. This is often done through direct combustion using waste incinerators i.e. burning the waste or the production of a combustible fuel from a gas such as methane.

WtE plants play a vital role:

1. **Energy generation:** Waste-to-energy (WtE) plants contribute to electricity generation by harnessing the calorific value of solid waste.
 - o **Eg:** India has a total installed capacity of over **554MW** from WtE plants.
2. **Waste reduction:** WtE helps in reducing the volume of solid waste, minimizing the burden on landfills and improving overall waste management.
 - o **Eg:** Incineration reduces the **volume** of waste by up to 90%, aiding in efficient disposal.
3. **Remote and rural energy solution:** WtE plants can play a crucial role in addressing energy deficits in remote and rural areas. They can produce electricity from waste generated locally, reducing reliance on centralized grids and expensive diesel generators.
 - o **E.g.:** Biogas plants at the village level supported by the **National Biogas programme**.
4. **Resource utilization:** WtE facilities recover valuable **resources** from waste, such as metals and certain chemicals, promoting resource conservation.
5. **Environmental benefits:** Properly managed WtE can contribute to reducing methane emissions from landfills, thereby mitigating greenhouse gas effects.

Government Initiatives:

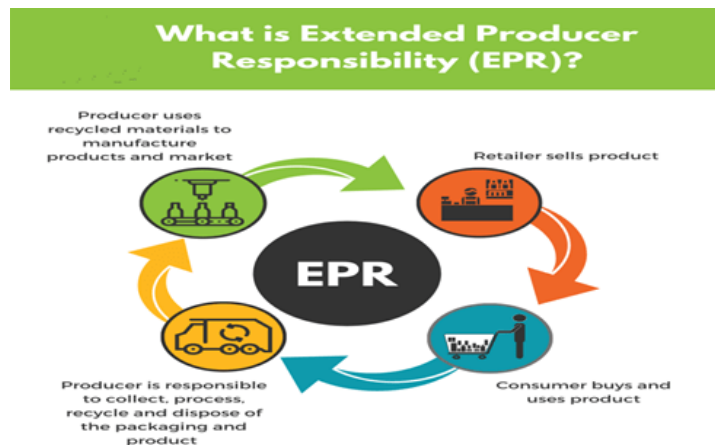
Initiative	Description
Extended Producer Responsibility (EPR) Mechanism	EPR holds producers accountable for the lifecycle of their products , including collection, recycling, and disposal. It aims to reduce environmental impact by shifting waste management responsibility to producers.

Waste Processing Capacity	Significant increase in waste processing capacity since 2014 , covering various waste types like solid, hazardous, biomedical, E-waste, plastic, and construction and demolition waste. Notable growth observed under the Swachh Bharat Mission (Urban) .
Swachh Bharat Mission for Solid Waste Management	Government initiative targeting “Garbage Free Cities” through door-to-door collection, source segregation , and scientific waste processing. Focus areas include source segregation, single-use plastic reduction, construction waste management, and legacy waste site remediation.
Waste Management Rules and Guidelines	Implementation of various waste management rules and guidelines under the Environment (Protection) Act, 1986 , covering solid waste, plastic waste, biomedical waste, construction waste, hazardous waste, E-waste, and battery waste. Emphasis on environmentally sound practices.

What is Extended Producer Responsibility (EPR)?

It is a policy approach and environmental strategy that places the responsibility for the entire lifecycle of a product, including its disposal, on the manufacturer or producer rather than on the end consumer or local government.

The fundamental idea behind EPR is to **encourage producers to minimize the environmental impact of their products** by considering their entire lifecycle, from the design and production phase to the end-of-life phase.



Key provisions of the Plastic Waste Management Amendment Rules, 2022

Key Provisions	Description
Provision of Extended Producer Responsibility (EPR)	Plastic packaging producers are accountable for end-of-life collection and recycling, incentivizing sustainable design and recyclable material use. This shift reduces municipal burden and ensures responsible disposal.
Collection Targets	Mandates producers to collect 35% of plastic waste by 2024 , escalating to 70% by 2025 in phases, ensuring higher collection rates and mitigating environmental pollution.
Minimum Recycled Content	Requires firms to use 10% recycled plastic in packaging by 2023 , increasing to 20% by 2026, fostering the growth of the recycling industry and reducing virgin plastic production.
Collection Mechanism	Producers must establish collection systems, individually or collectively , ensuring efficient post-consumer waste retrieval for recycling, preventing landfilling and environmental pollution.
Cost Attribution	Producers bear collection and recycling costs , incentivizing sustainable practices and discouraging non-recyclable material use. This financial responsibility promotes environmental stewardship and reduces plastic pollution.

Conclusion:

The key to sustainable waste management lies in a holistic approach. Prioritizing source reduction and waste minimization through awareness campaigns and responsible consumption patterns should be paramount which is also an emphasis under **SDG Goal-12**.

Insta Links:

1. [Swachh Bharat Abhiyan: A Critical Review](#)
2. [75% of Villages Are Now ODF Plus under Swachh Bharat Mission – Grameen](#)

Prelims Links:

Q. As per the Solid Waste Management Rules, 2016 in India, which one of the following statements is correct? (UPSC 2019)

- (a) Waste generator has to segregate waste into five categories.

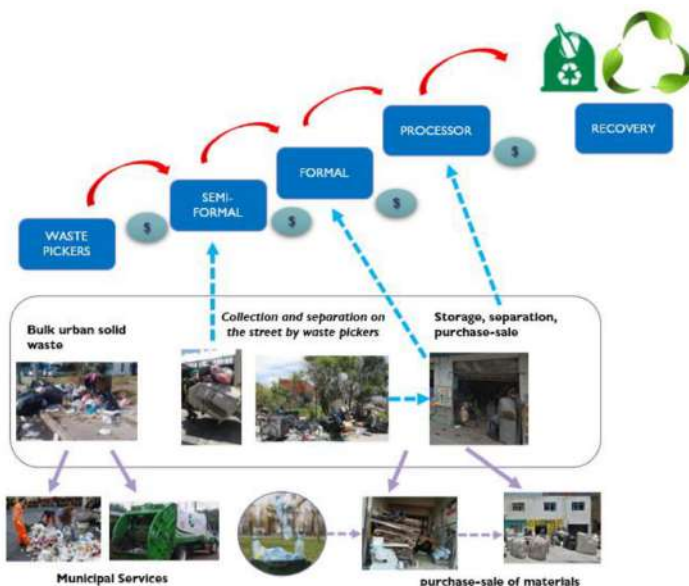
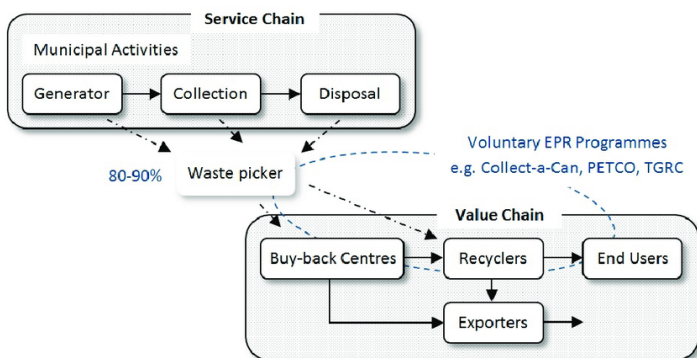
- (b) The Rules are applicable to notified urban local bodies, notified towns and all industrial townships only.
- (c) The Rules provide for exact and elaborate criteria for the identification of sites for landfills and waste processing facilities.
- (d) It is mandatory on the part of the waste generator that the waste generated in one district cannot be moved to another district.

Ans: (c)

4. WASTE MANAGEMENT: INFORMAL WASTE PICKERS

Who are informal Waste Pickers?

Informal waste pickers are marginalized workers who play a crucial role in waste management by collecting, sorting, and trading recyclable materials. Often facing systemic marginalization and exclusion, they operate outside formal waste management systems, enduring health hazards and lack of legal protection. International Waste Pickers Day, observed on March 1, highlights the challenges encountered by informal waste pickers globally.



Challenges Faced by Informal Waste Pickers:

1. **Systemic Marginalisation:** The majority of waste pickers belong to the marginalized section. Their subordinate **position in the caste hierarchy exacerbates vulnerabilities**.
2. **Lack of equipment:** Nearly **1.5 million** waste pickers in India's urban workforce, with half being women, **undertake hazardous work without safety equipment**, leading to health issues and injuries.
3. **Economic Uncertainty:** Irregular work, low income, and susceptibility to exploitation perpetuate the poverty cycle.
4. **Lack of Recognition and Representation:** Excluded from policy and legal frameworks despite integral role in waste management.
5. **Exclusion of Informal Waste Pickers:** Private sector involvement in waste management limits access to dump sites, exacerbating vulnerability

Extended Producer Responsibility (EPR) presents a promising shift in waste management, assigning responsibility to commercial waste producers and promoting eco-friendly practices. In theory, it holds **potential for social inclusivity by recognizing informal waste pickers**. However, practical concerns arise regarding its impact on the informal sector.

1. **Implementation Issues:** EPR may divert waste from the informal sector, threatening livelihoods and risking displacement.
2. **Neglecting Informal Waste Pickers:** EPR guidelines lack specific inclusion of informal waste pickers or their representative organizations.
3. **Conflict Between Solid Waste Management Rules and EPR Guidelines:** Solid Waste Management Rules prioritize waste pickers' inclusion, while EPR guidelines fail to do so.

Way Forward:

Recalibrating EPR policies is crucial for sustainable waste management and social inclusion, **necessitating the recognition of waste pickers' traditional knowledge** and active involvement in decision-making processes. Additionally, the impending global Plastic Treaty should prioritize a just transition for waste pickers, acknowledging their significant contributions and safeguarding their livelihoods. As India faces mounting challenges with plastic waste, **integrating informal waste pickers into waste management frameworks is imperative**. Their expertise can enhance EPR effectiveness, urging a reconsideration of EPR norms to include them in a legal framework. International cooperation and local initiatives must converge to **recognize, protect, and empower these workers**, fostering a more inclusive and resilient waste management ecosystem.

CONTENT FOR MAINS ENRICHMENT

1. EQUAL OPPORTUNITIES POLICY FOR TRANSGENDER PERSONS

Context:

The Ministry of Social Justice and Empowerment has introduced **India's First Equal Opportunities Policy for Transgender Persons**, aimed at fostering a workplace environment devoid of discrimination, harassment, and bias.

Key highlights of the Policy:

Highlights	Details
	The policy aligns with the Transgender Persons (Protection of Rights) Rules 2020 and Transgender Persons (Protection of Rights) Act, 2019 . It allows transgender individuals to choose their pronouns, gender, and preferred names , which must be respected in all official communications. It emphasizes confidentiality regarding gender identity and prohibits disclosure without consent . Bullying based on gender identity is strictly prohibited .
Scope	Applicable to all employees of MoSJE and its operations. Acts as a guiding document for business partner workforce, interns, trainees, etc.
Objective	To create an atmosphere ensuring fair treatment of transgender individuals , free from discrimination, harassment, and bias, while establishing a robust grievance redress mechanism.
Policy Statements	Non-discrimination and enabling work environment: Prohibits discrimination based on gender identity in recruitment, appointment, promotion, etc.
	Privacy and Confidentiality: Non-disclosure of gender identity without explicit consent.
	Access to Facilities: Ensure infrastructure facilities (such as Unisex toilets) and amenities (such as hygiene products) are provided to transgender persons.
	Grievance Redressal Mechanism: To redress instances of experienced discrimination or harassment based on gender identity.

2. ACCORDION TAX

The **“accordion tax”** is a progressive taxation system aimed at **redistributing income from the wealthy to the poor** while maintaining incentives for innovation and entrepreneurship. It operates by **taxing higher-income individuals more heavily**, similar to how an accordion expands and contracts.

Example:

In India, the **income tax rates increase as the taxable income increases**. Individuals with higher incomes are subject to higher tax rates, while those with lower incomes face lower tax rates.

Economic Thinker:

Economic Thinker	Views
Adam Smith	Emphasizes the importance of market forces and individual self-interest in driving economic growth . Argues against excessive government interference in taxation , favouring policies that promote competition and free exchange.
John Maynard Keynes	Supports progressive taxation and government intervention to reduce income inequality, aligning with principles of social justice and equitable wealth distribution.
Amartya Sen	Argues for a nuanced approach to taxation that considers its impact on social welfare and individual freedoms, emphasizing the importance of balancing redistribution with incentives for innovation and growth .

Jagdish Bhagwati	Expresses scepticism towards excessive taxation , warning of potential negative consequences on entrepreneurship and economic growth. Advocates for policies that encourage investment and innovation.
Abhijit Banerjee	Supports progressive taxation as a means to address income inequality and promote social welfare, but emphasizes the need for careful implementation to avoid disincentivizing wealth creation and economic dynamism.
Raghuram Rajan	Advocates for policies that strike a balance between addressing income inequality and fostering economic growth . Suggests that taxation should be designed to promote fairness while incentivizing productivity and investment.

3. HOMOSEP ATOM

Context:

India's **first septic tank cleaning robot, the Homosep Atom**, developed by the startup Solinas incubated at the **DST-TBI of IIT Madras**, is revolutionizing sanitation practices across India.

Benefits: This innovative technology **eliminates manual scavenging** by employing robotic cleaning methods, reducing costs, and promoting sewer sanitation. The Homosep Atom has been **deployed in 16 cities**, offering extensive cleaning capabilities and **employing AI for the inspection and management** of confined spaces.

Solinas, with support from DST, specializes in developing miniature robots, addressing water and sanitation challenges, climate change issues, and human concerns like manual scavenging. Their technologies, such as **Endobot and Swasth AI**, detect and mitigate water contamination and pipeline defects, contributing significantly to water access and environmental sustainability.

Usage: The example can be used to show the values of:

- Firstly, it promotes human dignity** by preventing individuals from being subjected to hazardous and degrading work conditions.
- Secondly, it fosters equality by providing a safer and more dignified work environment** for sanitation workers, regardless of their background or social status.
- Additionally, it demonstrates responsibility towards society** by addressing a pressing social issue and contributing to public health and well-being.
- Finally, it reflects a commitment to innovation and progress** by leveraging technology to solve longstanding societal challenges and improve the quality of life for vulnerable populations.

4. GREEN ELECTION

Context: Encouraging **eco-conscious electoral practices** in India is imperative amidst the climate crisis.

What is a Green Election?

A Green Election refers to an electoral process that **prioritizes eco-conscious practices** to minimize environmental impact. This includes **reducing carbon footprints** through measures such as using sustainable materials for campaign materials, adopting digital voting systems, **promoting energy-efficient transportation, and minimizing waste generation**

Initiatives for Green Elections in India and Worldwide:

India:

- Electronic Voting Machines:** Introduced during 1998-2001
- Kerala's Ban on Single-Use Plastic:** During the 2019 general election, the Kerala State Election Commission urged political parties to **avoid single-use plastic materials while campaigning**. The Kerala High Court subsequently imposed a **ban on flex and non-biodegradable materials in electioneering**.
- Goa's Eco-Friendly Election Booths:** In 2022, the **Goa State Biodiversity Board** implemented eco-friendly election booths for the Assembly elections, **utilizing biodegradable materials** crafted by local traditional artisans.

Worldwide:

- Sri Lanka: Carbon-Sensitive Election Campaign:** Sri Lanka's SLPP party launched the world's first carbon-sensitive environmentally friendly election campaign in 2019. They **measured carbon emissions from campaign vehicles and electricity usage** and compensated for these emissions by planting trees in each district, involving public participation.
- Estonia: Digital Voting:** Estonia introduced digital voting as an online alternative during elections. This method encouraged voter participation and reduced the environmental impact associated with traditional voting methods.

FACTS FOR PRELIMS

GS-1

1. MAKHA BUCHA

Context:

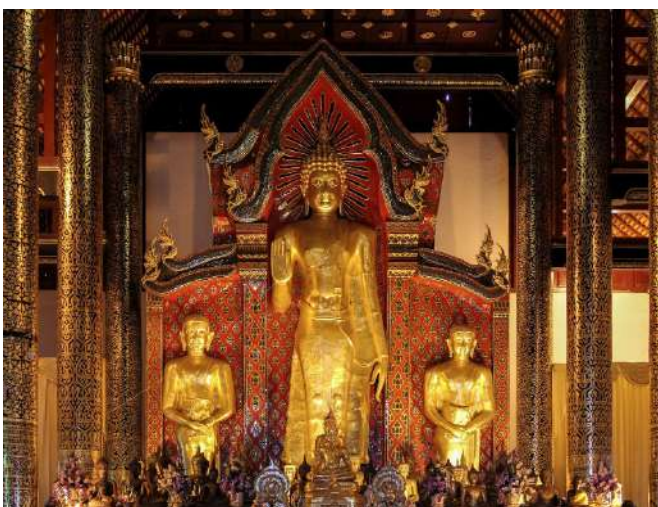
On **Makha Bucha**, nearly 100,000 devotees in **Bangkok** paid homage to the **Sacred Relics** of Lord Buddha and his two disciples, Arahata Sariputra and Arahata Maudgalyayana.

Arahata Sariputra and Arahata Maudgalyayana are two of the **Buddha’s most important disciples**. They are often depicted together in **Buddhist art**, with Sariputra on the **Buddha’s right** and Maudgalyayana on his left.

- These relics were brought from India.
- The four **Holy Piparahwa Relics** were enshrined at the specially **built Pagoda in the Sanam Luang Pavilion in Bangkok on February 23rd for public veneration.**

Makha Bucha, also known as **Māgha Pūjā**, is a **Buddhist holiday** that marks a three-day period and is celebrated in **many countries, including Thailand, Cambodia, Myanmar, and Sri Lanka.**

Makha Bucha Day is a significant Buddhist holiday that commemorates the **“fourfold assembly of 1,250 enlightened monks”** that took place over **2,500 years ago**. The meeting is known as the **Chaturangasannibat, or the Fourfold Assembly**, and is considered a religious miracle in Buddhist lore.



2. BADAMI CHALUKYA TEMPLES

Context:

Two **Badami Chalukya temples**, estimated to be **1,300-1,500 years old**, along with a 1,200-year-old label inscription, were recently **discovered in Mudimanikyam village on the banks of the Krishna River.**

- The Badami **Chalukyas**, established by **Pulakesi I in 550 AD, ruled from Badami (Vatapi) in Karnataka.**
- They were known for their **unique Vesara style of architecture**, a blend of **South Indian and North Indian styles**, seen in monuments like the rock-cut temples of Pattadakal, Badami, and Aihole.

3. ‘VIKRAMADITYA VEDIC CLOCK’

Context:

The world’s first Vedic clock, the **‘Vikramaditya Vedic Clock’ based on Indian ‘panchang’ calculations**, was inaugurated at Jantar Mantar in Ujjain, Madhya Pradesh.

Ujjain is located at the precise point of interaction with the zero meridian and the Tropic of Cancer. According to Hindu astronomical belief, **Ujjain was once considered India’s central meridian**, determining the country’s time zones and time differences.

What is a Vedic clock?

It is a timekeeping device based on ancient Indian astronomical calculations, particularly those found in **Vedic texts and panchang** (Hindu calendar). It incorporates traditional methods of time **measurement and celestial observations** to determine accurate time, aligning with Hindu cosmology and astrology.



Jantar Mantar, an astronomical observatory (a UNESCO World Heritage site) constructed by Maharaja Jai Singh II, can be found in the following cities in India:

1. Delhi
2. Mathura
3. Varanasi
4. Jaipur
5. **Ujjain**

GS-2

1. INCOME TAX BY POLITICAL PARTIES

Context:

The Congress party alleged that the **Income Tax Department instructed banks to transfer over Rs. 65 crore from its accounts**, amidst a **pending challenge of a Rs. 210 crore tax demand**.

- **Section 13A of the Income Tax Act, 1961** provides **100% exemption** to political parties on income from **specified sources, subject to conditions such as maintaining proper accounts, auditing, and reporting donations**.
- Parties must **file returns if their total income exceeds the exemption limit**.
- Despite the exemption, **political parties are required to file income tax returns, with the responsibility** falling on the Chief Executive Officer of the party.

2. G-33

Context:

The **G-33, a coalition of developing countries with India as a key member**, called for progress on **agricultural trade negotiations** ahead of the **13th WTO Ministerial Conference in Abu Dhabi**.

- They urged for a **permanent solution on public stockholding for food security purposes and emphasized the importance of the Special Safeguard Mechanism**.

Additionally, they highlighted the **need to preserve special treatment for developing countries and consider non-trade** concerns in future negotiations.

The **G-33 (Friends of Special Products in Agriculture)** is a coalition of **developing countries** that was established **before the 2003 Cancun ministerial summit**.

The **G-33 has 47 member nations**, including India, China, Indonesia, Pakistan, Nigeria, Philippines, Turkey, Tanzania, Kenya, and South Korea.

3. NORDIC-BALTIC COOPERATION - NB8

Context:

The joint delegation of **eight Nordic-Baltic countries**, known as **NB8**, visited India to emphasize the importance of **trust, dialogue, and cooperation in global affairs**, particularly in light of **geopolitical shifts and conflicts like Russia's invasion of Ukraine**.

- The NB8 countries **share deep historical, economic, and cultural ties and are committed to democracy, human rights, and multilateralism**

The **Nordic-Baltic cooperation (NB8)** is a regional cooperation format that was **founded in 1992**. It includes **five Nordic countries and three Baltic countries**:

Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Sweden



4. PURPLE FEST 2024

Context: The Department of Empowerment of Persons with Disabilities, Ministry of Social Justice & Empowerment, Government of India, organized **Purple Fest 2024** at Rashtrapati Bhawan, celebrating **diversity and unity**.

- Major launches included the **“INDIA NEURODIVERSITY PLATFORM”** and a handbook **addressing language barriers**.

The ‘Purple Fest’, organised by the Ministry of Social Justice and Empowerment, Government of India, aims to raise **awareness about different disabilities and their impact on people’s lives and to promote understanding, acceptance and inclusion of persons with disabilities within society**.

5. RECENT MAJOR AMENDMENTS AND SCHEMES

Amendment	Summary
2024 Amendment to IT Rules, 2009	The Central Government amended the IT Rules, 2009, under the IT Act, 2000 , mandating the destruction of interception records every six months . This power, previously held only by security agencies, is now extended to competent authorities, including the Union Home Secretary or equivalent state officials .
Support to Poor Prisoners Scheme	Nationwide relief for poor prisoners unable to pay fines or secure bail due to financial constraints , administered by MHA, involving district Empowered Committees and state-level Oversight Committees , offering maximum assistance of Rs. 40,000 for under-trials and Rs. 25,000 for convicts , with proposals exceeding this needing state-level approval.
Surrogacy (Regulation) Amendment Rules, 2024	The Government, under the Surrogacy (Regulation) Act 2021 , amended rules to allow couples certified by a District Medical Board with medical conditions to use only one gamete from the intending couple for surrogacy . Previously, Rule 7 prohibited donor gametes. Single women undergoing surrogacy must use self-eggs and donor sperm. A 2023 Supreme Court case allowed surrogacy with donor eggs for women with MRKH Syndrome , a rare congenital disorder causing infertility.
Pension Fund Regulatory and Development Authority Amendments	Key reforms include strengthening provisions for NPS Trust , bringing pension funds under PMLA , establishing additional board committees, requiring PFRDA approval for trustee bank changes, and implementing fraud prevention measures by CRA (Central Recordkeeping Agency), including fit and proper criteria similar to SEBI.

6. A.M. KHANWILKAR: NEW LOKPAL CHAIRMAN

Context:

Former Supreme Court judge A.M. Khanwilkar has been appointed as the **chairperson of the anti-corruption ombudsman Lokpal**, filling a vacancy that existed for nearly two years.

The **Lokpal** had been **operating without a regular chief** since the completion of Justice Pinaki Chandra Ghose's term on May 27, 2022. Additionally, retired justices Lingappa Narayana Swamy, Sanjay Yadav, and Ritu Raj Awasthi have been appointed as judicial members, while Sushil Chandra, Pankaj Kumar, and Ajay Tirkey will **serve as non-judicial members**.

About Lokpal:

It consists of a chairperson and up to eight members, with **50% being judicial members**. 50% of Lokpal members are from SC/ST/OBCs, minorities, and women. Selection is made by a committee comprising the PM, Speaker of Lok Sabha, leader of opposition in Lok Sabha, and Chief Justice of India or a nominated Supreme Court judge. **An eminent jurist** is nominated by the President based on consensus among the committee members. Lokpal's jurisdiction **covers all public servants and entities receiving over Rs 10 lakh per year** in foreign donations under FCRA are also under its purview.

7. SWAYAM PLUS PLATFORM

Context:

Union Minister of **Education and Skill Development and Entrepreneurship** launched the **SWAYAM Plus platform**, in collaboration with **industry leaders such as L&T, Microsoft, and CISCO**.

- Operated by the **Indian Institute of Technology, Madras (IIT Madras)**, the platform aims to offer courses **focusing on employability and professional development**, covering sectors like **manufacturing, energy, computer science, engineering, IT, management studies, healthcare, hospitality, and tourism**.
- SWAYAM Plus** combines academic **rigour with real-world expertise from industry partners** to enhance the **employability of college students and lifelong learners**.

SWAYAM is a **free online platform** that offers **educational courses for college and university students**. It is an initiative by the Government of India that aims to **provide access to the best teaching and learning resources to everyone, including the most disadvantaged**

8. 'UNLAWFUL ASSOCIATION'

Context:

The government has extended the ban on '**Jamaat-e-Islami Jammu Kashmir**' as an 'Unlawful Association' for another five years under the Unlawful Activities (Prevention) Act (UAPA) 1967.

This extension comes **after the outfit was initially declared unlawful on February 28, 2019**. Jamaat-e-Islami Jammu Kashmir has been involved in **fostering terrorism and anti-India propaganda**, leading to secessionist sentiments in Jammu and Kashmir.

What is an 'Unlawful Association'?

An 'Unlawful Association' refers to an organization or group **that has been deemed illegal or prohibited by the government** due to its involvement in activities that pose a threat to national security, sovereignty, or integrity.

What is UAPA?

The **Unlawful Activities (Prevention) Act (UAPA)** is an **anti-terrorism law** enacted in India (in 1967) with the aim of **preventing unlawful activities and combating terrorism**. The Act assigns **absolute power to the central government**, by way of which if the Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.

Key features of UAPA:

- Under UAPA, **both Indian and foreign nationals** can be charged.
- It will be applicable to the offenders in the same manner, **even if the crime is committed in a foreign land**, outside India.
- It has the **death penalty and life imprisonment** as the highest punishments.
- Under the UAPA, the investigating agency can file a charge sheet in **maximum of 180 days** after the arrests and the duration can be extended further after intimating the court.
- As per **amendments of 2019**: The Act empowers the Director General of **National Investigation Agency (NIA)** to grant approval of seizure or attachment of property when the case is investigated by the said agency.
- The Act empowers the **officers of the NIA, of the rank of Inspector or above**, to investigate cases of terrorism in addition to those conducted by the DSP or ACP or above rank officer in the state.
- It also included the provision of **designating an individual as a terrorist**.

9. CENTRAL EMERGENCY RESPONSE FUND (CERF)

Context: The UN has allocated US\$100 million from the Central Emergency Response Fund (CERF) to support underfunded humanitarian crises in seven countries across Africa, the Americas, and the Middle East.

About UN Central Emergency Response Fund (CERF)

It was established in 2005 by the UN General Assembly to **provide rapid and life-saving assistance** to vulnerable populations during humanitarian crises. Managed by the **Emergency Relief Coordinator on behalf of the UN Secretary-General**, CERF releases resources for underfunded **emergencies twice a year**. It addresses critical funding gaps exacerbated by increased **global conflicts, climate-induced disasters, and poly-crisis phenomena**. The fund is replenished annually through contributions from governments, the private sector, foundations, and individuals. CERF's allocations are divided into:

1. **Rapid Responses:** providing immediate aid during sudden crises
2. **Underfunded Emergencies support** countries facing prolonged humanitarian challenges.

10. FIR VS GENERAL DIARY

Context:

In **Lalita Kumari v. Government of Uttar Pradesh & Others (2014)**, the Supreme Court ruled that information disclosing a cognizable offence must be recorded as a First Information Report (FIR) in a book maintained by the officer in charge of the police station, not in the General Diary.

The Court analyzed the **interplay between Section 154 of the Criminal Procedure Code (CrPC) and Section 44 of the Police Act, 1861**, concluding that FIR registration takes precedence.

Aspect	General Diary (GD)	First Information Report (FIR)
Purpose	Records all important transactions and events within the police station, including complaints, arrests, confiscated property, and visits of senior officers.	Summarizes information about the commission of a cognizable offence, initiating the investigation process .
Content	Contains details of complaints, charges, arrests, confiscated property , witnesses examined, and other significant events within the jurisdiction.	Includes details of the offence, complainant, accused, witnesses , and other relevant information.
Handling	An internal police record is maintained for administrative and operational purposes. Not sent to judicial magistrates, but may be inspected by them.	A legal document filed by the police based on information provided by the complainant or other sources. Copies are sent to superior officers and judicial magistrates, and it is the basis for initiating the investigation.
Signature	Does not require the signature of the complainant.	Requires the signature of the complainant , acknowledging the submission of the complaint to the police.
Legal Status	Serves as an internal administrative record for the police station.	Forms the basis for criminal proceedings and investigations. It is admissible as evidence in court.

Cognizable Vs Non-Cognizable Offence:

Aspect	Cognizable Offence	Non-Cognizable Offence
Definition	Serious crimes are where police can arrest without a warrant and investigate without court permission.	Lesser offences where police require a warrant for arrest and court permission for investigation.
Police Action	Police can take immediate action upon receiving a complaint or credible information.	Police require the court's permission to investigate and arrest after receiving a complaint.
Examples	Murder, robbery, kidnapping, etc.	Public nuisance, defamation, simple assault, etc.

11. PRADHAN MANTRI ANUSUCHIT JAATI ABHYUDAY YOJNA (PM-AJAY)

Context:

The Ministry of Social Justice and Empowerment inaugurated and laid the **foundation stone for 34 residential hostels** across various states and central institutes (under PM-AJAY), in order to cater to the accommodation needs of Scheduled Castes (SC) and Other Backward Classes (OBC) students.

What is PM-AJAY?

PM-AJAY (Pradhan Mantri Adarsh Gram Yojana) is a **Centrally Sponsored Scheme** aimed at reducing poverty among Scheduled Castes (SC) communities and increasing literacy rates while encouraging SC enrollment in schools.

The scheme comprises several components:

- Development of SC-dominated villages into "Adarsh Gram"** (model villages) to uplift their socio-economic status.

2. **Provision of grants-in-aid for District/State-level Projects** focused on the socio-economic betterment of SC communities.
3. **Construction of hostels in Higher Educational Institutes (HEIs)** that are top-ranked according to the National Institutional Ranking Framework (NIRF), providing accommodation and support for SC students.
4. **Financial support for Monitoring and Evaluation** to ensure effective implementation and impact assessment of the scheme.

GS-3

1. POTASH DERIVED FROM MOLASSES

Context:

Sugar mills in India are now permitted to sell **Potash Derived from Molasses (PDM) to fertilizer companies**, offering them an **additional revenue source**.

- PDM contains **14.5% potash content and can be sold at a price of Rs 4,263 per tonne**, allowing sugar mills to potentially manufacture 10-12 LMT of potash over the next three years.
- PDM is derived from **ash in molasses-based distilleries**, a by-product of the sugar-based ethanol industry, and can be used as a **potassium-rich fertilizer alternative to Muriate of Potash (MOP)**.

This initiative aims to **reduce India's dependency on imported potash fertilizers**.

Potash is a **common name for a group of minerals and chemicals that contain potassium**. Potassium is a basic nutrient for plants and an important ingredient in fertilizer.

2. ENERGY CHARTER TREATY

Context:

The **UK, along with France, Germany, Spain, and the Netherlands**, is withdrawing from the **Energy Charter Treaty**, which allows fossil fuel companies to **sue governments over climate policies**.

- This decision follows **failed negotiations to modernize the treaty**.

About The Energy Charter Treaty:

- The Energy Charter Treaty (ECT) is an **international agreement** that establishes a framework for **cross-border cooperation in the energy industry**. It was **founded in 1991 and covers all aspects of commercial energy activities**, including trade, transit, investments, and energy efficiency.
- The ECT's purpose is to **promote long-term cooperation in the energy field, based on complementar-**

ities and mutual benefits.

- It provides its member states with a unique legal framework for **cooperation through its comprehensive provisions on investment protection and technology transfer**.
- The ECT also aims to protect foreign investments in energy and allows foreign investors to claim compensation **through arbitration for unfair losses due to government regulation**.

3. INDIAN GHARIAL

Context:

The Indian Gharial, a **critically endangered crocodile species**, has been sighted in the **Greater Kaziranga landscape for the third consecutive year**.

- Kaziranga's abundance of **freshwater fish species** makes it one of the best habitats for **gharials**.

The Indian gharial, also known as the **fish-eating crocodile or gavial**, is a crocodylian that lives in the **Indian Subcontinent**. It is one of the **largest crocodylians**.

The gharial has a **uniquely long and thin snout**, with a **large bulb at the tip** called the "ghara".

The gharial is the **most aquatic of all crocodylians**, as it **never moves far from the water**.

India has **three species of Crocodylians** namely:

1. **Gharial (Gavialis gangeticus): IUCN Red List- Critically Endangered**
2. **Mugger crocodile (Crocodylus palustris): IUCN-Vulnerable.**
3. **Saltwater crocodile (Crocodylus porosus): IUCN-Least Concern.**

All three are listed on **Appendix I of CITES and Schedule I of the Wild Life (Protection) Act, 1972**.

Species of crocodylians

There are **three species of crocodylians**—saltwater, Mugger and Gharial. Latest Saltie census 2023 have estimated higher count of estuarine crocodiles in Bhitarkanika



Saltwater Crocodile (estuarine crocodile)

- It is the **largest** of all living reptiles. It is found throughout the east coast of India - **Bhitarkanika mangroves and Sunderbans National Parks**.
- Males are much larger than females, weighing even upto 1000Kg.
- **Habitat:** They inhabit coastal brackish mangrove swamps and river deltas.
- **IUCN:** Least concern

Mugger:

The mugger crocodile (Indian crocodile) is found throughout the Indian subcontinent.

- The mugger is mainly a **freshwater species**, and found in lakes, rivers and marshes.
- They have **broadest snout of all**, they are keystone species of their habitat.
- **IUCN:** Vulnerable



Gharial:

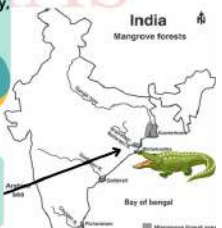
The Gharial or fish-eating crocodile is native to the Indian subcontinent.

- Small released populations are present and increasing in the rivers of the **National Chambal Sanctuary, Katarniaghat Wildlife Sanctuary, Son River Sanctuary** and the rainforest biome of Mahanadi in Sankosia Gorge Sanctuary, Orissa.
- They are easily distinguishable due to their **long snouts (nose)**
- **IUCN:** Critically Endangered



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Bhitarkanika National Park (Kendrapara district in Odisha): The park is **second-largest mangrove forest (after Sunderbans)** and is lying in the estuarial region of **Brahmani, Baitarni, Dharma and Patasala River**. It is also a **Ramsar Site**.



4. KALA AZAR

Context:

India achieved a significant milestone in the **fight against Kala Azar in 2023 by reporting less than one case per 10,000 population across all blocks**, marking the first time it met its elimination target.

- The **National Vector Borne Disease Control Programme** reported 595 cases and four deaths in 2023, down from 891 cases and three deaths in 2022.

To receive World Health Organization (WHO) certification, **India must sustain this momentum for the next three years.**

Kala-azar, also known as **visceral leishmaniasis**, is a disease characterized by a **slow progression caused by a protozoan parasite of the genus Leishmania.**

The term “kala-azar” originates from India, meaning “**black disease,**” referring to the **dark discolouration of the skin during infection.**

In India, **Leishmania donovani is the primary parasite causing this disease.** The parasite predominantly infects the **reticuloendothelial system and is commonly found in high concentrations in the bone marrow, spleen, and liver.**

Post Kala-azar Dermal Leishmaniasis (PKDL) is a condition where the parasite invades skin cells, leading to dermal lesions.

5. GUINEA WORM DISEASE

Context:

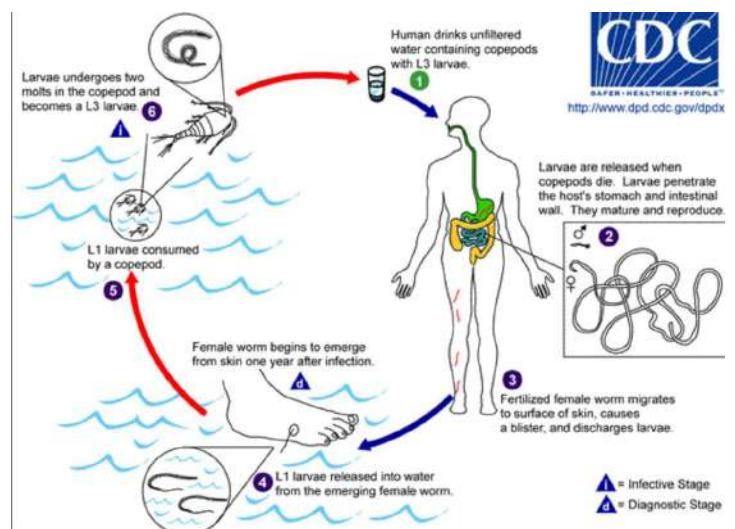
Guinea worm disease, caused by the Guinea worm, is on the **verge of eradication globally, with only six cases reported in 2023.**

- The infection cycle involves excruciating symptoms, **including painful skin lesions and ulcers, primarily affecting the legs.**
- India successfully eliminated the disease in the late 1990s** through a comprehensive strategy focusing on water **safety interventions and community education.**

Guinea worm disease (GWD), is a **parasitic infection caused by the Dracunculus medinensis** parasite. GWD is spread by **drinking water containing guinea worm larvae, which are immature forms of the worm.**

GWD is a **neglected tropical disease (NTD)** that mainly affects people in rural, isolated, and deprived communities who rely on stagnant surface water sources like ponds for drinking water.

GWD has historically been considered an anthroponosis, or infectious disease that only affects humans. However, it is now considered a zoonosis because several mammals, **mainly dogs, act as reservoirs of the disease in several African countries.**



6. HOUSEHOLD CONSUMPTION EXPENDITURE SURVEY 2022-23

Context:

The **Household Consumption Expenditure Survey (HCES) for 2022-23** indicates a significant **increase in rural consumption spending** compared to **urban areas over the past 11 years.**

Key Findings:

Aspect	Rural	Urban
Average monthly consumption spending per person	Increased by 164%, reaching ₹3,773 per month	Increased by 146%, reaching ₹6,459 per month
The gap between rural and urban spending	Reduced to 71.2% in 2022-23 from 83.9% in 2011-12	N/A
Expenditure on food	Decreased in both rural and urban areas	Decreased, impacting CPI-based inflation
Expenditure on non-food items	Increased, driven by rising spending on conveyance, consumer services, and durable goods	Increased

7. HUNGER MOON

Context:

The **full moon on February 24, 2024**, is known by various names such as **“Snow Moon,” “Hunger Moon,” and “Minimoon.”**

- It occurs when the **Moon is directly opposite the Earth from the sun.**

This particular full moon is called a **“minimoon”** because it happens a little over a day before apogee when the Moon is **farthest from the Earth in its orbit.**

The term “Snow Moon” originates from the **1930s Maine Farmers’ Almanac, referring to the heavy snows typical of February.**

Additionally, it is termed the **“Hunger Moon”** due to the challenges faced by tribes in the northeastern US in **hunting during this snowy season.**

8. MILITARY EXERCISES IN NEWS:

Exercises	Details
5th edition of Joint Military Exercise ‘DHARMA GUARDIAN’	Between: Indian Army and Japan Ground Self Defence Force. Location: Rajasthan. Frequency: Annual exercise conducted alternately in India and Japan
16th biennial trilateral Coast Guard exercise: ‘DOSTI-16’	Between: India, Maldives, and Sri Lanka. Observer: Bangladesh. Frequency: Biennial
NATO’s Steadfast Defender 2024	Organizer: North Atlantic Treaty Council (NATO). Location: Europe. Purpose: Largest military exercise aimed at showing solidarity against Russia, following its invasion of Ukraine two years ago. Time: Started at the end of January 2024

9. INVESTOR INFORMATION AND ANALYTICS PLATFORM

Context:

The **Union Minister of State for Electronics and IT**, Skill Development and Entrepreneurship, and Jal Shakti launched the **‘Investor Information and Analytics Platform’ developed by IIT Madras.**

- This platform serves as a **comprehensive resource for startups**, providing access to **venture capitalists, investor networks, government schemes, and various components of the startup landscape.**

Features of the Platform:

- Developed by researchers at **the Centre for Research on Start-ups and Risk Financing (CREST) of IIT Madras**, the platform aims to aid **startup founders, entrepreneurs, and young Indians in building innovative devices, services, and platforms.**

- It includes features like **“StartupGPT,” an AI-based conversational platform for easy information access.**
- The platform contains information on over 200,000 startups, nearly 11,000 angel investors, 5,000 VCs, 1000 incubators, over 100 government agencies funding startups, and 550 banks supporting startups.

10. CHROMOSOMAL DISORDERS DISCOVERED FROM PREHISTORIC SKELETAL REMAINS

Context:

Researchers have reported the **discovery of chromosomal disorders**, including six cases of **Down syndrome and one case of Edwards syndrome**, in **prehistoric skeletal remains dating back approximately 5,500 years.**

- These findings represent the **first identification of Edwards syndrome from historic or prehistoric remains.**
- The individuals affected by these disorders mostly died either before or shortly after birth, **with some cases dating as far back as the Bronze Age and Neolithic period.**
- The study suggests a potentially **higher frequency of burials of trisomy carriers in certain ancient societies**, indicating a recognition of these individuals as part of their communities.

The findings **shed light on how ancient societies may have perceived and responded to genetic disorders**, offering insight into their **cultural practices and beliefs surrounding such conditions.**

Condition	Description
Down syndrome	A condition characterized by the presence of an extra chromosome or an additional piece of a chromosome , leading to changes in the development of a baby’s body and brain . It can result in both mental and physical challenges throughout life.
Edwards syndrome (trisomy 18)	A genetic disorder that causes delays in physical growth during fetal development . Children diagnosed with Edwards syndrome typically have a short life expectancy due to various life-threatening complications . Survivors may experience significant intellectual challenges, especially if they live beyond their first year.

11. HANOOMAN

Context:

The **BharatGPT group**, has unveiled **‘Hanooman’, a se-**

ries of large language models (LLMs) capable of responding in 11 Indian languages, with plans to expand to over 20 languages.

- **Hanooman** is designed for use in **healthcare, governance, financial services, and education sectors.**
- It is a multimodal AI tool that can **generate text, speech, videos, and more in multiple Indian languages.**
- One customized version, **VizzhyGPT, is tailored for healthcare.**

Large language models utilize deep learning techniques to process and understand vast amounts of **text data, learning meanings and relationships between words through training on large datasets like Wikipedia and OpenWebText.**

12. BITCOIN HALVING

Context:

The **upcoming Bitcoin Halving**, predicted to occur around April this year, **entails a 50% reduction in the reward paid to Bitcoin miners for processing transactions.**

- This event is significant as it **impacts the supply and scarcity of Bitcoin, potentially affecting its price.**

Bitcoin halving is a significant event in the cryptocurrency world where the **reward for mining Bitcoin transactions is reduced by half.**

This process **occurs roughly every four years**, with the next halving **expected in early-to-mid 2024, reducing the block reward to 3.125 bitcoins.**

Halving diminishes the **rate of new coin creation, aiming to simulate diminishing returns and increase demand.**

The halving event has occurred **three times since Bitcoin’s inception**, with the most recent halving in May 2020 reducing the block reward to 6.25 bitcoins.

As the reward decreases over time, miners may consolidate, and the network relies on transaction fees to incentivize participation **beyond the final supply of 21 million bitcoins, expected around 2140.**



13. GARBHINI-GA2

Context: Researchers have developed **Garbhini-GA2, an India-specific artificial intelligence model, to accu-**

rately determine the gestational age of a fetus during the second and third trimesters of pregnancy.

- This model, created by the **Indian Institute of Technology Madras and Translational Health Science and Technology Institute**, is part of the **DBT India initiative (GARBH-Ini) program**.

Features:

- Garbhini-GA2 is the **first late-trimester gestational age estimation model** validated using Indian **population data, addressing variations in fetal growth** compared to Western populations.
- It significantly **reduces estimation errors and enables precise prenatal care**, potentially reducing maternal and infant mortality rates.

14. INDIA'S LARGEST SOLAR-BATTERY PROJECT

Context:

The **Solar Energy Corporation of India Limited (SECI)** has commissioned **India's largest Battery Energy Storage System (BESS) in Rajnandgaon, Chhattisgarh**, with an installed **capacity of 40 MW/120 MWh**.

- This project combines **solar photovoltaic (PV) panels with battery storage to meet peak energy demands**.
- The project ensures power stability **through efficient power evacuation and transmission**.

It is estimated to save tonnes of carbon dioxide emissions annually and is **financially supported by the World Bank, Clean Technology Fund, and domestic lending agencies**, demonstrating collaborative efforts to drive sustainable financial arrangements.

15. HAM OPERATOR

Context:

A team of **amateur radio operators (HAMs)** conducted an **Island On The Air (IOTA) expedition** from cyclone shelters on Nachugunta Island, Andhra Pradesh.

- The team made **4,000 global contacts, promoting emergency communication preparedness through sessions in local schools and villages**.

HAM is an abbreviation for **Hyman-Almy-Murray**, the call sign of the **first amateur wireless station in 1908**. The station was operated by **Albert S. Hyman, Bob Almy, and Poojie Murray**, members of the Harvard Radio Club. The term "ham radio" refers to the hobby of amateur radio, not the equipment.

16. AMMUNITION-MISSILE MANUFACTURING COMPLEX

Context: **Adani Defence and Aerospace** inaugurated **two facilities for ammunition and missile manufac-**

turing in Kanpur, Uttar Pradesh, marking the **first private-sector venture in this domain**.

- The complex aims to become **one of South Asia's largest integrated ammunition manufacturing facilities, producing ammunition for the armed forces, paramilitary forces, and police**.

The government has taken several steps to **promote indigenous defence production, including:**

- Prioritizing the **procurement of capital items** from domestic sources under the **Defence Acquisition Procedure (DAP)-2020**.
- Liberalizing the **Foreign Direct Investment (FDI) policy** by permitting up to **74% FDI under the automatic route**.
- Launching the **Innovations for Defence Excellence (iDEX) scheme** to foster innovation in defence technologies.

17. AMRIT BHARAT STATION SCHEME

Context:

The Prime Minister launched the **Amrit Bharat Station scheme**, laying the foundation for **554 railway stations** as part of a government initiative to **upgrade key railway infrastructure across India**.

- The scheme aims to **transform railway stations, enhancing amenities such as access, waiting areas, cleanliness, WiFi connectivity, and local product kiosks**.
- Design of station buildings inspired by local **culture, heritage and architecture**.

18. AFRICA CLUB

Context:

During the **37th African Union Summit**, held in **Addis Ababa, Ethiopia**, African leaders **launched the 'Africa Club', an alliance of African multilateral financial institutions**.

- Focusing on the urgent need for **reforming the global financial system to address climate and development needs**.
- To tackle this, there was a call for **increased access to high-quality finance for climate and development efforts, which led to the**
- African leaders also **demanding solutions to the debt crisis**, increased grant and concessional money to Africa, and rechanneling of **Special Drawing Rights (SDR)** to African financial institutions.

19. WOMEN EXPORTERS IN THE DIGITAL ECONOMY (WEIDE) FUND

Context:

The **World Trade Organization (WTO)** and the **International Trade Centre (ITC)** have jointly launched a **USD 50 million global fund called the Women Exporters in**

the Digital Economy (WEIDE) Fund.

- The aim of this fund is to **assist women-led businesses and women entrepreneurs in developing economies and least-developed countries in adopting digital technologies and expanding their online presence.**
- The **United Arab Emirates (UAE) has allocated USD 5 million as the first donor** to the fund.

Additionally, the ITC hosted the **SheTrades Summit**, bringing **together women entrepreneurs, global business leaders, and development partners to discuss solutions** to challenges faced by women in accessing new markets in the digital trading system.

20. UNIFORM KNOW YOUR CUSTOMER (KYC) MECHANISM

Context:

A committee led by **Finance Secretary TV Somanathan** has been tasked with suggesting ways to **enforce a uniform Know Your Customer (KYC) mechanism.**

- The committee, comprising members from various ministries and regulators, was formed after the **Finance Stability and Development Council (FSDC) decided to simplify and digitalize the KYC process in the financial sector.**

This initiative is deemed crucial, especially in light of the **ongoing Paytm Payment Bank crisis, which revealed non-compliance with KYC norms.**

“ KYC means **Know Your Customer and sometimes Know Your Client.** KYC or KYC check is the **mandatory process of identifying and verifying the client’s identity** when opening an account and periodically over time. In other words, **banks must ensure that their clients are genuinely who they claim to be.**

21. FCV TOBACCO

Context:

The Government of India has taken several measures to **support Flue-Cured Virginia (FCV) tobacco growers in Andhra Pradesh and Karnataka**

Flue-cured Virginia (FCV) tobacco is a **type of tobacco leaf that is cured by exposing it to heat in a flue, or enclosed space.**

This process **removes moisture from the tobacco leaves while retaining their bright colour and producing a mild, sweet flavour.**

FCV tobacco is commonly used in **cigarette blends, prized for its high sugar content and smooth smoking characteristics.**

It is grown in various regions around the world, **with notable production in countries like the United States, Brazil, Zimbabwe, and India.**

FCV tobacco is mainly produced in India in **Andhra Pradesh and Karnataka.** In Karnataka, the **Mysore and Hassan districts produce more than 95% of FCV tobacco**

22. ‘10,000 GENOMES’ PROJECT

Context:

The **Department of Biotechnology (DBT)** announced the **completion of India’s ‘10,000 genome’ project,** aiming to create a **reference database of whole-genome sequences representative of the country’s diverse population.**

- India’s population diversity, **consisting of over 4,600 population groups, contributes to distinct genetic variations, including disease-causing mutations prevalent within certain groups.**

The Genome India Project (GIP) is a national project that aims to sequence 10,000 genomes by the end of 2023. The project is funded by the Government of India’s Department of Biotechnology and is led by the **Centre for Brain Research (CBR).** The GIP’s first phase aims to **identify genetic variations by sequencing the genomes of 10,000 people across India.** The project’s goal is to develop personalized medicine based on **patients’ genomes.**

23. FIRST EU LAW TO RESTORE DEGRADED ECOSYSTEMS

Context: The European Parliament has adopted a **ground-breaking law aimed at restoring degraded ecosystems across the EU’s land and sea areas called as Nature Restoration Law (NRL).**

- The law sets ambitious targets, **including restoring at least 20% of the EU’s land and sea areas by 2030 and all ecosystems in need of restoration by 2050.**
- Member states must restore specific habitats, **such as forests, grasslands, wetlands, rivers, lakes, and coral beds, to good condition by 2030, increasing to 90% by 2050.**

24. CENTRE FOR FOURTH INDUSTRIAL REVOLUTION (C4IR)

Context:

The World Economic Forum’s Centre for Fourth Industrial Revolution (C4IR) was inaugurated during **BioAsia 2024 in Hyderabad.**

Aim: It aims to create **10,000 job opportunities in health tech,** support emerging companies, and generate novel ideas.

1. The focus areas include **real-world evidence, healthcare analytics, and informatics**.
2. Initiatives like a **clinical registry, innovation sandbox, and data analytics** lab are underway.
3. The centre aims to **develop industry-ready talent through skilling programs**.

What is C4IR?

C4IR stands for the Centre for Fourth Industrial Revolution. It is an initiative by the World Economic Forum (WEF) to establish centres that **focus on harnessing the potential of the Fourth Industrial Revolution (4IR) technologies** and driving collaboration between governments, businesses, and academia to address global challenges and opportunities.

About 4IR:

The Fourth Industrial Revolution (4IR), also known as the Digital Revolution, is characterized by the integration of technologies that blend the physical, digital, and biological realms. **Coined by Klaus Schwab, Founder and Executive Chairman of the WEF,** 4IR includes technologies such as **IoT, robotics, VR, AI, quantum computing, and 3D printing.** It brings about advancements in technology, boosts productivity and efficiency, contributes to economic growth, and facilitates good governance.

About WEF:

The World Economic Forum is an international non-governmental organization for public-private sector collaboration based in Cologny, Canton of Geneva, Switzerland. It was founded on 24 January 1971 by German engineer Klaus Schwab.

25. SEMICONDUCTOR MANUFACTURING

Context:

The Union Cabinet, led by the PM, approved the establishment of three semiconductor units as part of the **‘Development of Semiconductors and Display Manufacturing Ecosystems in India’ initiative.**

The approved units include:

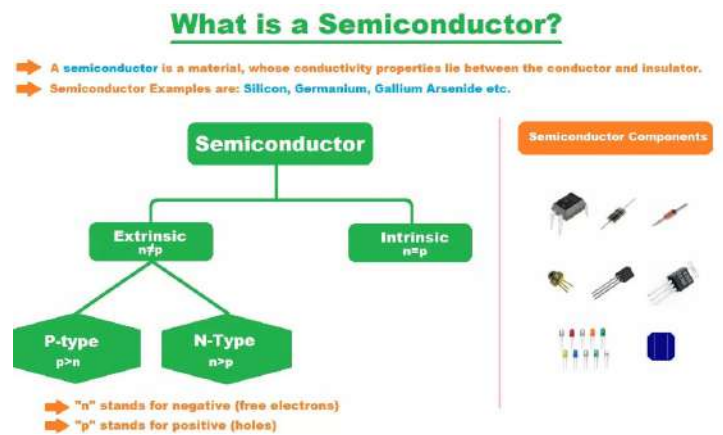
1. **Semiconductor Fab in (Dholera) Gujarat**
2. **Semiconductor ATMP unit in Morigaon, Assam**
3. **Semiconductor ATMP unit for specialized chips in Sanand (Gujarat)**

Aim: These units are **poised to generate significant employment opportunities** and **accelerate** India’s capabilities in **chip fabrication and advanced packaging technologies**

What are Semiconductor and its Fabrication?

Semiconductors are materials that have **electrical conductivity between that of a conductor and an insulator.** They are crucial components in electronic devices, enabling the control and flow of electrical current.

Semiconductor fabrication, often referred to as “fab,” is the process of manufacturing semiconductor devices, such as **integrated circuits (ICs) and transistors, on semiconductor wafers.** This involves various steps including wafer preparation, deposition, lithography, etching, doping, and packaging.



26. INDIA'S GAGANYAAN MISSION

Context:

The Prime Minister announced the **names of the four astronauts undergoing training for India’s Gaganyaan mission** during his visit to the Vikram Sarabhai Space Centre.

- The astronauts are Group Captain **Prashanth Balakrishnan Nair**, Group Captain **Ajit Krishnan**, Group Captain **Angad Pratap**, and Wing Commander **Subhanshu Shukla.**

The PM also inaugurated three major space infrastructure projects of ISRO during his visit:

Project	Description
PSLV Integration Facility (PIF)	Boosts frequency of Polar Satellite Launch Vehicle (PSLV) launches from 6 to 15 per year
	Caters to launches of Small Satellite Launch Vehicle (SSLV) and other small launch vehicles designed by private space companies.
	PSLV is a four-stage launch vehicle capable of launching satellites into Geosynchronous and Geostationary orbits
	SSLV is a 3-stage Launch Vehicle capable of launching satellites in low earth orbit at low cost
Semi-cryogenics Integrated Engine and Stage Test facility	Enables the development of semi-cryogenic engines and stages , which will increase the payload capability of present launch vehicles.
	Equipped with liquid Oxygen and kerosene supply systems to test engines up to 200 tons of thrust.
Trisonic Wind Tunnel at VSSC	Used for aerodynamic testing for characterization of rockets and aircraft during flight in the atmospheric regime.
	The Vikram Sarabhai Space Centre (VSSC) is the leading centre of the ISRO, named after Dr. Vikram A Sarabhai, the pioneer of the Indian space program. The Virtual Launch Control Centre (VLCC) at VSSC plays a crucial role in overseeing launches, and conducting system checks remotely for optimal mission performance.

About Gaganyaan Mission:

Aspect	Description
About	The Gaganyaan mission is aimed at demonstrating ISRO's human spaceflight capability by launching a human crew to an orbit of 400 km and safely bringing them back to Earth.
Launch Vehicle	The GSLV Mk III, also known as LVM-3 , will serve as the launch vehicle for the Gaganyaan mission. It has been reconfigured to meet human safety standards and is now called Human-Rated LVM-3 .
Astronaut Training	The astronauts selected for the Gaganyaan mission underwent training in Russia , where they will be acquainted with flying in weightless conditions.
Collaborative Endeavors	Various entities including the Indian Armed Forces, Defence Research Development Organization, Indian Meteorological Department, Indian maritime agencies, academic institutes , CSIR Labs, and industry partners are collaborating for the success of the Gaganyaan mission.
Aims & Objectives	The mission aims to demonstrate India's capability to launch humans into low earth orbit and back safely, while also inspiring people to pursue careers in Science and Technology.
Integral Components of Spacecraft	The spacecraft comprises the Orbital Module (OM), Service Module (SM), and Crew Module (CM) . The OM orbits the Earth and consists of advanced avionics systems. The SM supports the CM while in orbit, providing necessary systems and mechanisms. The CM provides a human-friendly environment in space.
Mission Stages and Milestones	The mission involves stages such as the Integrated AirDrop Test (IADT) to test the Parachute Deceleration System, the Pad Abort Test (PAT) to check the spacecraft's launch abort system, the Crew Abort Test Mission to simulate abort conditions, and the manned flight where a human astronaut will be launched and safely brought back to Earth.
Vyomitra	Vyomitra , a humanoid robot, will be on board the second uncrewed Gaganyaan mission to perform microgravity experiments and monitor module parameters. It simulates human functions and can detect environmental changes within the cabin.
Manned Flight	The final phase of the mission involves launching a human astronaut into space and safely returning them to Earth through a soft landing in the Arabian Sea off the coast of Gujarat . This phase is the culmination of the mission, following rigorous testing and preparation stages.

27. HARIT NAUKA INITIATIVE

Context:

PM Modi will inaugurate **India's first green hydrogen fuel cell inland waterway vessel** as part of the **National Green Hydrogen Mission**.

What is Harit Nauka initiative?

The Harit Nauka initiative is a program launched by the Ministry of Ports, Shipping, and Waterways aimed at promoting the adoption of greener technologies in inland waterway vessels. It focuses on shifting inland vessels towards sustainable alternatives, such as hydrogen fuel cells, to reduce environmental impact.

This initiative aims to **establish the V.O.Chidambaranar Port as India's first Green Hydrogen Hub Port**, with projects including a **desalination plant and hydrogen production** facility.

The National Green Hydrogen Mission, launched in 2023, seeks to make India a global hub for green hydrogen production, usage, and export.

28. INTERNATIONAL INTELLECTUAL PROPERTY INDEX

Context:

The **US Chamber of Commerce** released its **12th edition of the International IP (Intellectual Property) Index**, where India ranked **42 out of 55 countries** with an **overall score of 38.64%**.

- The **United States topped the list, followed by the United Kingdom and France**.
- The index assesses the **IP framework of the world's top economies**, noting 20 economies showing significant improvement.
- While **India's IP framework is strengthening**, it still lags behind the top performers.

The top 10 economies for IP rights include the **United States, United Kingdom, France, Germany, Sweden, Japan, Netherlands, Ireland, Spain, and Switzerland**.

Intellectual property (IP) is a category of property that includes **intangible creations of the human intellect**. It can include the **subject matter, methods, and tools created as part of research or studies**.

Some types of IP include:

Patents, Copyrights, Trademarks, Trade secrets, Publicity rights, Moral rights, and Rights against unfair competition.

IP is protected in **law by patents, copyright, and trademarks**. For example, a patent is an exclusive **right granted for an invention**. The patent owner can decide how or

whether others can use the invention.





29. HAEMOPHILIA A

Context:

India has successfully conducted the **first human clinical trial for gene therapy targeting 'haemophilia A'**.

- The trials utilized a **novel technology involving a lentiviral vector** to **express an FVIII transgene in the patient's own haematopoietic stem cell**, leading to the **expression of FVIII from specific differentiated blood cells**.

Hemophilia A, also known as **classical haemophilia or factor VIII deficiency**, is a **hereditary bleeding disorder**. It's caused by a **mutation on the X-chromosome's Factor VIII gene**, which means that **only boys are affected**. In most cases, the **mutation is passed down from parent to child**.

MAIN TYPES OF HEMOPHILIA			
	Definition	Missing clotting factor	Prevalence
Hemophilia A	 Genetic bleeding disorder caused by mutations in the F8 gene	Factor VIII	<ul style="list-style-type: none"> • More common in men • 1 in every 5,000 male births
Hemophilia B	 Genetic bleeding disorder caused by mutations in the F9 gene	Factor IX	<ul style="list-style-type: none"> • More common in men • 1 in every 25,000 male births
Hemophilia C	 Genetic bleeding disorder caused by mutations in the F11 gene	Factor XI	<ul style="list-style-type: none"> • Affects men and women equally • 1 in every 100,000 people
Acquired hemophilia	 Autoimmune condition caused by the immune system's misdirected attack against clotting factors	Factor VIII in most cases	<ul style="list-style-type: none"> • Affects men and women equally; more common in older individuals • 1.5 in every million people

30. OBELISKS

Context:

A recent discovery by a team at Stanford University has unveiled a **new type of biological entity called obelisks**, found in **large numbers within the human mouth**

and gut.

- These microscopic circular bits of **genetic material self-organize into a rod-like shape and contain one or two genes.**

About Obelisks:

- Obelisks are **situated somewhere between viruses and viroids**, with a **circular single-stranded RNA genome like viroids but containing genes that may code for proteins like viruses.**
- Named **obelisks due to their shape, they are distinct from known biological entities** and have been overlooked until now.
- They are **not rare and are present in around 7% of gut microbiome datasets and 50% of mouth datasets.** Obelisks likely **rely on microbial host cells, potentially bacteria or fungi, for replication.**

31. 3 NEW MOONS DISCOVERED AROUND URANUS AND NEPTUNE

Context:

Three new **moons, one around Uranus and two around Neptune**, have been confirmed by the **International Astronomical Union.**



- Uranus' moon, **S/2023 U1**, is about **5 miles across** making it one of the **smallest known moons around any of the eight planets in the solar system**, and will be **named after a Shakespeare character.**
- **Neptune's moons, S/2002 N5 and S/2021 N1**, will be named after the **Nereids** — the daughters of the **sea god Nereus from Greek mythology.**

Previously it was discovered that :

Saturn



Context: Saturn has regained its title as the planet with the most moons in the solar system. The discovery of **62 new moons brings Saturn's total to 145**, surpassing Jupiter, which has **95 officially recognized moons.**

	Jupiter	Saturn
		
Diameter	Largest Planet. More than twice as massive as all other planets combined	Second largest planet in the solar system
Orbital Period	11.9 Earth years	29.5 Earth years
Number of Moons	95	145
Why do they have so many moons?	Saturn and Jupiter have many moons due to their large size, gravitational influence, and the presence of debris and material in their respective regions of the solar system.	
Notable Features	Great Red Spot (giant storm), Galilean satellites (Io, Europa, Ganymede, Callisto)	Spectacular ring system with seven rings, including the moon Titan
Composition	Thick atmosphere of helium and hydrogen	
Exploration	Galileo (1989); Juno (2011); Europa Clipper (2024)	Visited by Pioneer 11, Voyagers 1 and 2, and Cassini (orbited Saturn)

32. NORTH ATLANTIC RIGHT WHALES

Context:

North Atlantic right whales, the most endangered of their species, are experiencing a **decrease in size, impacting their ability to reproduce.**

- A study found that **smaller females had fewer calves, with body length significantly influencing the probability of giving birth.**

The **decline in size is attributed to stressors like climate change**, reducing **the availability of nutrients.**

The **North Atlantic right whale (Eubalaena glacialis)** is a **baleen whale and one of the world's most endangered large whales.** They are **filter feeders that primarily eat zooplankton, krill, and other small crustaceans.** They use their baleen plates, which are comb-like structures in their mouths, to filter tiny organisms from the water.



MAPPING

1. BADWATER BASIN IN DEATH VALLEY (USA)

Context:

NASA images show **Badwater Basin in Death Valley, North America's driest place**, hosting a lake for **6 months due to increased precipitation since August 2023.**

About Badwater Basin in Death Valley National Park, California:

It is **North America's and the United States' lowest point**, reaching 282 ft (86 m) below sea level. It features a **spring-fed pool of "bad water,"** surrounded by **salt flats**, making the water undrinkable. Despite its inhospitable conditions, the pool sustains some animal and plant life.

Named after its brackish pool, Badwater Basin was once believed to be the lowest spot in the Western Hemisphere until **Laguna del Carbón in Argentina** was discovered. Additionally, the **Badwater crater on Mars** shares similarities with this terrestrial basin.

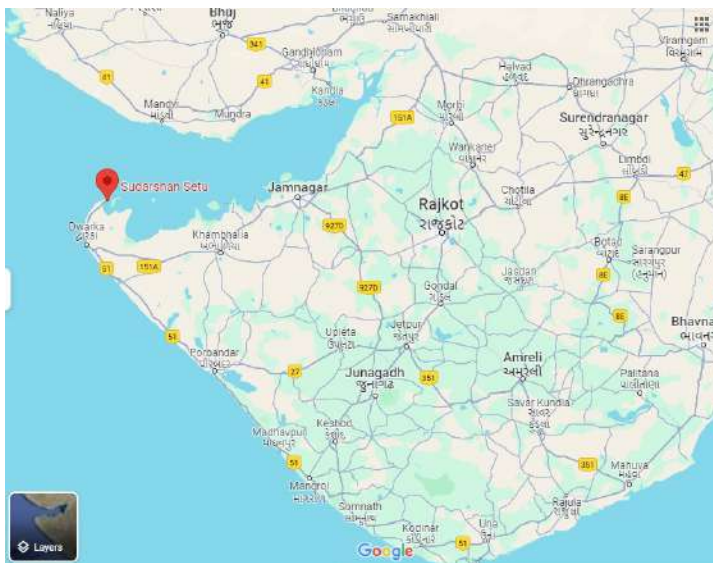


2. SUDARSHAN SETU

Context:

The Prime Minister inaugurated the **Sudarshan Setu, a cable-stayed bridge connecting Okha mainland and Beyt Dwarka island in Gujarat.**

The bridge, **spanning 2.32 km**, is India's **longest cable-stayed bridge.** Featuring a unique design with verses from the **Shrimad Bhagavad Gita and images of Lord Krishna**, the Sudarshan Setu also incorporates solar panels generating one megawatt of electricity. The bridge aims to enhance transportation and reduce travel time for devotees visiting **Dwarka and Beyt-Dwarka**, replacing the reliance on boat transport.



3. BANIHAL-SANGALDAN RAILWAY (J&K)

Context:

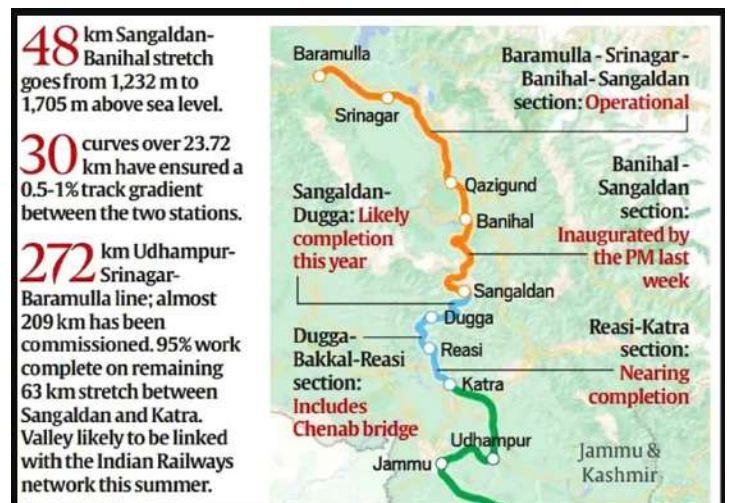
The PM inaugurated the **Banihal-Sangaldan railway line in Jammu and Kashmir**, aiming to connect **Baramulla in North Kashmir to Udhampur in Jammu.** The railway section includes tunnels, bridges, and escape tunnels for passenger safety.

Benefits:

- This route provides a crucial travel option **when the National Highway-44** is closed due to landslides. Additionally, it **promotes tourism and economic activity** in remote areas of the Jammu division.
- While the Valley is not yet fully integrated into the Indian railways network, completion is expected by May.
- The new train route **significantly reduces travel time between Srinagar and Jammu** and facilitates the transportation of goods, benefiting the people of Kashmir economically.

About the Jammu-Baramulla railway line:

It aims to **connect the Kashmir Valley with the rest of India**, stretching 338 km from Jammu to Baramulla. **Managed by the Ferozpur railway division** of Indian Railways' Northern zone, it includes the **Udhampur-Srinagar-Baramulla Rail Link (USBRL)**, featuring the **world's tallest railway bridge, the Chenab Bridge.** **It was initiated in 1996 by Prime Minister PV Narasimha Rao** and declared a national project in 2002 by Prime Minister Atal Bihari Vajpayee.



4. BELGIUM

Context: **Belgium**, often hailed as the cockpit of Europe, has become the **first country on the continent to recognize 'ecocide'** as both a national and interna-

tional crime.

What is Ecocide?

Ecocide refers to **unlawful acts that result in substantial, widespread, or long-term damage to the environment**. Recognizing ecocide as a crime aims to **hold individuals and corporations accountable for their actions that harm the planet**, with penalties including imprisonment and fines. The term was invented by **American Biologist Arthur Galston in 1970**.

The countries with domestic ecocide laws are France (2021), Ukraine (2001), Kazakhstan (1997), Kyrgyzstan (1997), Russia (1996), Tajikistan (1998), Uzbekistan (1994), Vietnam (1990) etc. India is yet to make it an offence.

About Belgium:

It is a country in **Northwestern Europe, bordered by the Netherlands, Germany, Luxembourg, France, and the North Sea**. Belgium is known for its complex institutional organization, divided into three autonomous regions: **Flanders, Wallonia, and the Brussels-Capital Region**. Linguistically diverse, it has a majority Flemish and minority French-speaking population, along with a small German-speaking community. It boasts a developed, high-income economy and is a **founding member of the European Union, Eurozone, NATO, OECD, and WTO**. Brussels serves as the **de facto capital of the European Union**, hosting key EU institutions and major international organizations.



5. MUDUMALAI TIGER RESERVE

Context:

The **first-ever herpetofaunal survey in Mudumalai Tiger Reserve recorded 82 species of reptiles and amphibians**. Conducted in February, it covered Theppakadu, Kargudi, and Nilakottai forest ranges.

Aim: The survey aimed to **estimate the region's diversity and aid conservation efforts**. It identified species like the **Indian rock python and mugger crocodile**, guiding species-specific conservation plans.

What is herpetofaunal survey?

A herpetofaunal survey is a systematic study **conducted to document and assess the diversity, distribution, abundance, and ecology of reptiles and amphibians** within a specific geographical area.

About Mudumalai Tiger Reserve

Mudumalai Tiger Reserve is located in the **Nilgiris District of Tamil Nadu state** at the tri-junction of three states, viz, Karnataka, Kerala and Tamil Nadu. It is a part of the **Nilgiri Biosphere Reserve (1st Biosphere Reserve in India)**. The Reserve has tall grasses, commonly referred to as '**Elephant Grass**'



6. PANCHESHWAR MULTIPURPOSE PROJECT (PMP)

Context:

The recent Nepal-India official dialogue **did not address progress on the significant Pancheshwar Multipurpose Project (PMP)**, despite the signing of a long-term power-sharing agreement over a month ago.

The project **remains stalled due to disagreements over benefit sharing**, posing challenges to its initiation.

About the Pancheshwar Multipurpose Project (PMP):

It is a joint hydropower **initiative situated on the Mahakali River**, shared by Nepal and India. It is governed by the integrated **Mahakali Treaty signed in 1996**. The project aims to generate approximately **6,480 MW of energy**, with equal division between the two countries, and provide irrigation water for 130,000 hectares of land in Nepal and 240,000 hectares in India.

Figure 1.1: Map of the Kali River and Pancheshwar region

