

ASTRA

COMPLETE COVERAGE OF MONTHLY CURRENT AFFAIRS

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Why in News?

- **Prime Minister Narendra Modi** presented **Sohrai Painting** to Russian President Vladimir Putin during the **BRICS Summit** in Kazan, Russia.

About Sohrai Painting

- **Origins:**
 - Practiced predominantly in the **Hazaribagh district of Jharkhand**.
 - Associated with **Sohrai**, a local festival celebrating **harvest and cattle**.
- **Art Form:**
 - **Mural Art:** Created on the walls of **mud houses** by **tribal women** during the festival.
 - **Symbolism:**
 - Reflects **agrarian lifestyles, wildlife reverence, and nature's harmony**.
 - Common depictions include **animals, birds, and natural elements**.
- **Features:**
 - **Natural Pigments:** Derived from local sources like **clay, charcoal, and soil**.
 - **Tools:** Brushes made from **twigs, rice straw, or even fingers**.
 - **Designs:** Intricate geometric patterns with vivid, earthy tones.
- **Geographical Indication (GI) Tag:** **Sohrai-Khovar Paintings** received the **GI tag** in **2020**, recognizing their cultural and historical significance.

Cultural Significance

- **Preservation of Tribal Art:** Represents the rich cultural heritage of **Jharkhand's tribal communities**.
- **Connection to Nature:** Highlights the **sympiotic relationship** between humans, animals, and the environment.

Global Recognition

- **Prime Minister Modi's Gift:** The presentation of this artwork to a global leader underscores India's effort to **showcase its rich cultural heritage** on the international stage.

Why in news?

- The Government is set to **revive and relaunch** the National Mission for Manuscripts (NMM), likely to be renamed as the **National Manuscripts Authority**, under the **Ministry of Culture**.

About National Mission for Manuscripts (NMM)

- **Establishment:**
 - Launched in **2003** by the Ministry of Tourism and Culture.
 - Currently part of the **Indira Gandhi National Centre for the Arts (IGNCA)**.
- **Mandate:** **Identification, documentation, conservation, and accessibility** of India's manuscript heritage.
- **Scope:** Covers themes including **scripts, languages, calligraphy, illuminations, and illustrations**.
- **Motto:** "Conserving the past for the future."

Key Achievements of NMM

- **Manuscript Documentation:**
 - Prepared **52 lakh manuscripts**.
 - Digitized **over 3 lakh titles**, though only one-third has been uploaded.
- **Conservation:** Conserved **9 crore folios** using **preventive** and **curative** measures over the past 21 years.
- **Publications:** Published over **100 books** since inception.
- **Infrastructure:** Established **100+ Manuscripts Resource and Conservation Centres (MRCCs)** across India.

- **Significance of Manuscripts**

- **Cultural Heritage:** Manuscripts are a repository of India's **civilizational knowledge** in fields such as **philosophy, medicine, arts, and sciences**.
- **Historical Importance:** Provide insights into **historical events, local governance, and societal practices** of various periods.
- **Linguistic and Calligraphic Diversity:** Highlight India's **multilingual and multi-script** tradition.
- **Global Recognition:** Manuscripts are of interest to **researchers** globally for their historical, cultural, and literary value.

ICCR Organises Conference on Pali as Classical Language

History, Art & Culture

Why in news?

- Recently, the Indian government added **Pali, Prakrit, Marathi, Bengali, and Assamese** to the list of **Classical Languages**, bringing the total to **11**.

Key Highlights

- **Classical Languages of India (11):**

- Recognized in different years:
 - **Tamil** (2004)
 - **Sanskrit** (2005)
 - **Telugu** (2008)
 - **Kannada** (2008)
 - **Malayalam** (2013)
 - **Odia** (2014)
 - **Marathi** (2024)
 - **Pali** (2024)
 - **Prakrit** (2024)
 - **Assamese** (2024)
 - **Bengali** (2024).



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Why in News?

- A recent **Central Water Commission (CWC)** report highlighted a **33.7% increase in the surface area of glacial lakes** in India from 2011 to 2024, raising concerns about the growing risks of **Glacial Lake Outburst Floods (GLOFs)**.

Key Findings of the Report

- Expansion of Glacial Lakes:**
 - 33.7% increase** in the surface area of glacial lakes in India (2011-2024).
 - 10.81% increase** in transboundary regions (e.g., Nepal, Bhutan, and China).
- High-Risk Glacial Lakes:**
 - 67 lakes** in India identified as high-risk, with over a 40% surface area increase.
 - Most expansions are in **Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh**.

About GLOFs

- Definition:** Sudden release of meltwater from a **moraine** or **ice-dammed lake** due to dam failure.
- Characteristics:**
 - Rapid onset, lasting hours to days.
 - High discharge rates causing downstream floods.
 - Potentially devastating impacts on infrastructure and communities.

Causes of GLOFs

- Climate Change:**
 - Accelerated glacial melting due to rising temperatures.
 - Increased rainfall destabilizing moraines.
- Moraine Instability:**
 - Loose, unconsolidated moraines prone to collapse.
 - Example: **South Lhonak GLOF in Sikkim (2023)**.
- Ice Dam Failure:** Triggered by thermal stress, water pressure, and internal melting.
- Seismic Activity:** Himalayan region's tectonic activity can destabilize glacial structures.
- Human Activities:** Deforestation, unregulated construction, mining, and hydropower projects.

Examples of GLOFs

- South Lhonak Lake, Sikkim (2023):** Destroyed the **Teesta III Dam** and caused widespread devastation.
- Chorabari Lake, Uttarakhand (2013):** Triggered floods in the **Mandakini River**, causing heavy casualties.

Government Initiatives to Manage GLOFs

- NDMA Guidelines:** Comprehensive framework for risk assessment and mitigation strategies.
- High-Risk Identification:** **67 high-risk lakes** identified in India for targeted mitigation.
- Dam Design Reviews:** **Central Water Commission (CWC)** mandates GLOF risk assessment for dams in glacier-fed regions.
- GLOF Risk Mitigation Projects:** Approved for **Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh**.
- National Mission on Himalayan Studies (NMHS):** Glacial lake monitoring and status reports.

Global Initiatives for GLOF Management

- HKH Cryosphere Initiative:** Conducts glacial lake monitoring in the Hindu Kush Himalaya region.
- Sendai Framework:** Encourages international cooperation on disaster risk reduction.
- UNESCO Programmes:** Focus on minimizing human interference in vulnerable ecosystems.

Challenges in Managing GLOFs

- **Inaccessible Terrain:** Difficult to conduct regular surveys in remote Himalayan regions.
- **Lack of Early Warning Systems (EWS):** Limited robust infrastructure for real-time alerts.
- **Seismic Vulnerability:** Himalayan region's high seismic activity increases risks.
- **Climate Change:**
 - Accelerating glacial melt exacerbates the frequency of GLOFs.
 - **ICIMOD Estimate:** Up to **80% of current glacier volume** in the HKH region may disappear by 2100 under high-emission scenarios.

State-Specific Disasters

Geography

Why in news?

- The Tamil Nadu government has officially declared **heatwaves** as a **state-specific disaster**.

About Heatwaves

- **Definition:** A heatwave is a prolonged period of excessively hot weather that significantly exceeds the typical temperature for a region.
- **Criteria by Indian Meteorological Department (IMD):**
 - **Plains:** Maximum temperature of at least **40°C**.
 - **Hilly regions:** Maximum temperature of at least **30°C**.
 - **Heatwave conditions:**
 - When the temperature deviation from normal is:
 - **5°C to 6°C:** Heatwave.
 - **7°C or more:** Severe heatwave.
 - When the actual maximum temperature is **45°C or more**, heatwaves are declared irrespective of normal temperatures.

Significance of Declaring Heatwave as a State-Specific Disaster

- **Immediate Relief:** Enables timely financial and logistical support to victims and families.
- **Utilization of SDRF:** Allows the state to use funds from the **State Disaster Response Fund (SDRF)** for heatwave relief operations.
- **Inclusion of Additional Disasters:** Tamil Nadu also declared **sea erosion, lightning, thunder, whirlwinds, and gale winds** as state-specific disasters.

State-Specific Disasters

- **Definition:** Disasters specific to a state's unique geographical, environmental, or climatic conditions that are not listed as national disasters by the Ministry of Home Affairs.
- **Examples:**
 - Odisha declared **snakebite** a state-specific disaster in 2015.
 - Kerala declared **man-animal conflict** a state-specific disaster in 2024.

Disaster Management Framework in India

- **Legal Framework:** Governed by the **Disaster Management Act, 2005**.
 - Nodal Agency: **Ministry of Home Affairs**.
 - Institutions:
 - **NDMA:** Develops policies and ensures disaster preparedness.
 - **NIDM:** Builds disaster management capacities.
 - **NDRF:** Specialized disaster response units.
- **State-Level Mechanism:**
 - **SDMA:** State Disaster Management Authorities implement disaster management policies.
 - **SDRF:** Financial mechanism for disaster relief.



Factors Influencing State-Specific Disasters

- **Geographical Features:**
 - Mountainous states (e.g., **Uttarakhand, Himachal Pradesh**) face earthquakes and landslides.
 - Coastal states (e.g., **Tamil Nadu, Odisha**) face cyclones and sea erosion.
- **Climatic Conditions:**
 - Seasonal heatwaves and droughts in arid regions.
 - Cloudbursts in Himalayan states.
- **Human Activities:**
 - Urban flooding due to poor drainage (e.g., **Chennai, Bengaluru**).
 - Deforestation and unplanned construction causing landslides.
- **Biodiversity:**
 - Man-animal conflicts in regions like Kerala due to habitat loss.

Efforts for Local Disaster Management

- **Hazard Mapping:**
 - Utilize **GIS** and remote sensing for risk identification.
 - Example: Landslide-prone zones mapped in **Uttarakhand**.
- **Localized Research:**
 - Data collection on region-specific vulnerabilities.
 - Example: Study of river patterns in flood-prone **Bihar**.
- **Early Warning Systems:** Establish robust systems for timely alerts using advanced technologies.
- **Community Training:** Conduct mock drills and awareness campaigns for disaster preparedness.
- **Urban Planning:** Increase green cover and design heat-resilient infrastructure to mitigate urban heatwaves.

DANA (Depresión Aislada en Niveles Altos)

Geography

Why in news?

- Recent flash floods in Spain were caused by the weather phenomenon known as **DANA** (Depresión Aislada en Niveles Altos), or the "cold drop."

About DANA

- **Definition:** DANA stands for "**Isolated Depression at High Altitudes**", commonly referred to as the "**cold drop**" in Spanish.
- **Mechanism:**
 - Occurs when a **pocket of cold air descends** from higher altitudes and interacts with **warmer waters** of the Mediterranean Sea.
 - This collision between **cold and warm air masses** leads to **atmospheric instability**, facilitating the rapid formation of **cumulonimbus clouds**.
- **Role of Polar Jet Stream:**
 - The **polar jet stream**, a high-altitude, fast-moving air current at the boundary between polar and tropical air masses, can **detach pockets of cold air**.
 - These cold air pockets mix with warm Mediterranean air, triggering the DANA phenomenon.
- **Seasonal Occurrence:** Most common in **autumn and spring**, particularly in **western Mediterranean regions**.
- **Impact of Climate Change:**
 - **Global warming** has increased the **frequency and intensity** of DANA events.
 - Areas **inland**, such as **Madrid**, are now experiencing significant rainfall, unlike in the past.

Impact of DANA

- **Intense Rainfall:**
 - DANA can lead to **extremely heavy rainfall** within a short duration.
 - Example: Certain regions in Spain have experienced **a month's worth of rain in a single day**, causing severe flash floods.
- **Flooding and Infrastructure Damage:**
 - Leads to **widespread flooding**, submerging towns and cities.
 - Causes extensive damage to **roads, bridges**, and other critical **infrastructure**.
- **Societal and Economic Impact:**
 - Strains **emergency services** and affects **livelihoods**.
 - Results in **economic losses** due to damage and disruption of activities.

Why in news?

- The **Global Soil Conference 2024** was recently inaugurated in **PUSA, New Delhi**. The event focused on **sustainable soil management** to address challenges like **climate change mitigation** and **ecosystem resilience**.

About the Global Soil Conference 2024

- Organised by:**
 - Indian Society of Soil Science (ISSS), New Delhi
 - Under the aegis of the **International Union of Soil Sciences (IUSS)**, Italy
 - Collaborators: Indian Council of Agricultural Research (ICAR) and the National Academy of Agricultural Sciences (NAAS).
- Venue:** PUSA, New Delhi
- Theme:** "Caring Soils Beyond Food Security: Climate Change Mitigation & Ecosystem Services"

Key Objectives

- Improving Soil Health and Fertility:** Focus on **farmer-centric solutions** to enhance soil fertility, ensuring sustainable agricultural productivity.
- Aligning with Climate Change Goals:** Integrating **soil health initiatives** with global **climate mitigation strategies** and **Sustainable Development Goals (SDGs)**.
- Highlighting Ecosystem Services**
 - Emphasizing soil's role in:
 - Supporting **biodiversity**
 - Regulating **water cycles**
 - Acting as a **carbon sink** to mitigate greenhouse gas emissions.
- International Cooperation:** Promoting collaboration between nations, institutions, and scientists to advance **soil research** and implement **sustainable policies**.

Significance of the Conference

- Climate Change Mitigation:** Healthy soils contribute to **carbon sequestration**, reducing the carbon footprint and mitigating climate change impacts.
- Biodiversity Conservation:** Sustainable soil practices support **microbial diversity** and **ecosystem health**, benefiting agriculture and natural habitats.
- Water Management:** Improving soil structure enhances **water retention** and reduces runoff, ensuring water availability for crops.
- Farmer Resilience:** Actionable policies to improve soil resilience help farmers combat soil degradation and adapt to climate variability.

India's Initiatives for Soil Health

- Soil Health Card Scheme (SHCS):** Provides farmers with detailed information on soil health to optimize nutrient use.
- National Mission for Sustainable Agriculture (NMSA):** Focuses on soil conservation and improving productivity.
- PM PRANAM Scheme:** Aims to promote **balanced fertilization** and reduce excessive chemical fertilizer usage.
- Organic and Natural Farming:** Promoted under **Paramparagat Krishi Vikas Yojana (PKVY)** and other schemes.
- Carbon Sequestration Goals:** India promotes soil-based **natural climate solutions** as part of its climate targets under the **Paris Agreement**.

Why in news?

- The Ministry of Jal Shakti launched the **"Bhu-Neer" Portal** during the concluding ceremony of **India Water Week 2024**, aimed at improving **groundwater management** and regulatory compliance.

About Bhu-Neer Portal

- Developed By:** Central Ground Water Authority (CGWA) in collaboration with the **National Informatics Centre (NIC)**.
- Purpose:** To streamline **groundwater withdrawal permits** and ensure better compliance with regulatory frameworks.

Key Features

- Centralised Database**
 - Provides a **one-stop platform** for:
 - Information on **groundwater policies**, compliance norms, and regulations.
 - Covers **state and national-level legal frameworks**.
- User-Friendly Interface**
 - Designed for **project proponents** seeking **permits** for groundwater withdrawal.
 - Simplified navigation for improved user experience.
- PAN-Based Single ID System:** Ensures **unique identification** for users, simplifying registration and compliance processes.
- NOC with QR Code:** No Objection Certificates (NOCs) will include a **QR code** for easy verification and enhanced compliance monitoring.
- Advanced Features: Significant Upgrade:** The portal replaces the earlier **NOCAP (NOC Application System)**, offering improved transparency and efficiency.

Significance of the Bhu-Neer Portal

- Enhanced Governance:** Facilitates transparent and real-time processing of groundwater withdrawal permits.
- Improved Compliance:** Ensures better monitoring of **groundwater extraction**, helping reduce illegal withdrawals.
- Data Centralization:** Serves as a repository for state-wise and national groundwater regulations, ensuring easy access for stakeholders.
- Technology Integration:** PAN-based ID and QR-enabled NOCs improve tracking, verification, and accountability.
- Environmental Sustainability:** Promotes responsible and sustainable use of groundwater resources by ensuring regulatory oversight.

Why in News?

- The rules for **carbon trading under Article 6 of the Paris Agreement** were finalized after a decade of negotiations, enhancing the framework for international cooperation on reducing greenhouse gas emissions.

About Article 6 of the Paris Agreement

- Objective:** Provides mechanisms for countries to voluntarily cooperate in achieving their Nationally Determined Contributions (NDCs) through carbon markets.
- Mechanisms:**
 - Article 6.2:** Internationally Transferred Mitigation Outcomes (ITMOs) – allows bilateral or multilateral trading of carbon credits between countries.
 - Article 6.4:** A centralized carbon credit trading mechanism supervised by a UN body to facilitate global market-based mitigation.
 - Article 6.8:** Non-market approaches (e.g., capacity-building and technology transfer).

About Carbon Markets

- **Definition:** Trading systems where entities buy carbon credits to offset greenhouse gas emissions.
 - **1 Carbon Credit = 1 Metric Tonne of CO₂ reduced, sequestered, or avoided.**
- **Types:**
 - **Compliance-based markets:** Regulated by law (e.g., Emission Trading Systems).
 - **Voluntary markets:** Organizations voluntarily offset their emissions.

Carbon Trading Mechanisms in India

- **Carbon Credit Trading Scheme (CCTS), 2023:**
 - Established under the **Energy Conservation (Amendment) Act, 2022**.
 - Two mechanisms:
 - **Compliance Mechanism:** Mandatory for energy-intensive industries (e.g., steel, cement, fertilizers).
 - **Offset Mechanism:** Voluntary for entities outside the compliance scope.
- **Green Credit Program:** Encourages environment-positive actions like tree plantations and sustainable agriculture through a voluntary market mechanism.
- **Other Instruments:**
 - **Perform, Achieve and Trade (PAT) Scheme:** Targets energy-intensive industries to reduce specific energy consumption.
 - **Renewable Energy Certificates (REC):** Promotes renewable energy by allowing entities to meet their Renewable Purchase Obligations (RPO).

Climate Finance in India

- **India's Climate Finance Needs**
 - **2015–2030:** Requires **\$6–8 trillion** to transition energy systems.
 - **Net-Zero by 2070:** Estimated cost of **\$10 trillion**.
- **Steps Taken by India**
 - **National Adaptation Fund for Climate Change (NAFCC):** Established in 2015 for adaptation projects.
 - **Green Bonds:** India's first green bond issued in 2015.
 - **Sovereign Green Bonds:** Announced in Union Budget 2022-23 for green infrastructure investments.
 - **Priority Lending:** Renewable energy projects included under priority sector lending.
 - **Regulatory Support:** RBI's **Sustainable Finance Group** and membership in the **Network for Greening the Financial System (NGFS)**.

India's First Zoo with IGBC Certification

Environment

Why in news?

- Himachal Pradesh Chief Minister announced that the **Durgesh Aranya Zoological Park** will be the **first zoo in India** to receive certification from the **Indian Green Building Council (IGBC)**.

Significance of IGBC Certification

- This certification will recognize the zoo's commitment to **sustainable and eco-friendly infrastructure**, setting a precedent for conservation efforts in the country.
- The certification will affirm the park's commitment to high environmental standards, emphasizing sustainability and ecological balance.
- The certification process ensures that the park meets high standards in **energy efficiency, water conservation, and waste management**.

About Indian Green Building Council

- Indian Green Building Council (IGBC) is part of the **Confederation of Indian Industry (CII)** which was formed in the year **2001**.
- **It is India's Premier certification body.**
- The council offers a wide array of services which include developing new green building rating programmes, certification services and green building training programmes.

- The rating is based on six environmental categories which include sustainable station facility, health, hygiene and sanitation, energy efficiency, water efficiency, smart and green initiatives and innovation and development.
- **Headquarter:** Hyderabad.

COP-16 to the UNCBD

Environment

Why in News?

- The **16th Conference of Parties (CoP-16)** to the **UN Convention on Biological Diversity (UNCBD)** concluded in **Cali, Colombia**, under the theme "**Peace with Nature.**" This was the first CoP since adopting the **Kunming-Montreal Global Biodiversity Framework (KMGBF)**.

About the UNCBD

- **Establishment:** Adopted at the **Earth Summit (1992)** in Rio de Janeiro, entered into force in **1993**.
- **Objectives:**
 - Conservation of biodiversity.
 - Sustainable use of biodiversity components.
 - Fair and equitable sharing of benefits arising from the utilization of genetic resources.
- **Members:** 196 Parties (India joined in **1994**; **USA** is not a party).
- **Secretariat:** Montreal, Canada.

Kunming-Montreal Global Biodiversity Framework (KMGBF)

- **Adopted:** COP-15 (2022).
- **Aim:** Halt and reverse biodiversity loss by **2030**.
- **Goals by 2050:**
 - Protect and restore ecosystems.
 - Promote sustainable use.
 - Ensure equitable benefit-sharing.
 - Mobilize biodiversity finance to close the \$700 billion annual gap.
- **Targets by 2030:**
 - **30x30 Target:** Conserve 30% of land, sea, and inland water and restore 30% of degraded ecosystems.
 - Reduce invasive alien species introduction by 50%.
 - Develop mechanisms for equitable benefit-sharing of **Digital Sequence Information (DSI)**.

Key Outcomes of COP-16

- **Cali Fund for Digital Sequence Information (DSI):**
 - Operationalized for equitable benefit-sharing from DSI utilization.
 - Companies to contribute **1% of profits** or **0.1% of revenues** to benefit **Indigenous Peoples and Local Communities (IPLCs)**.
- **Indigenous Rights:**
 - Permanent **Subsidiary Body on Article 8(j)** established to enhance IPLC participation.
 - At least **50% of Cali Fund** allocated to IPLC needs, including those of women and youth.
- **Financial Mobilization:**
 - **Kunming Biodiversity Fund (KBF)** launched under **Global Environment Facility (GEF)** to support KMGBF goals.
 - Earlier, **Global Biodiversity Framework Fund (GBFF)** was also established.
- **Ecologically or Biologically Significant Marine Areas (EBSAs):** Agreement to update mechanisms for identifying EBSAs, crucial for achieving the **30x30 Target** and implementing the **BBNJ Agreement**.
- **Invasive Alien Species:** New guidelines and databases to align management efforts with KMGBF goals.
- **Biodiversity and Health:** Approved **Global Action Plan on Biodiversity and Health**, embracing the **One Health** approach to curb zoonotic diseases and prevent non-communicable diseases.
- **Capacity-Building:** Thematic Action Plan addressing inequity in technology transfer and capacity-building for synthetic biology.

India's Commitments at COP-16

- **Updated National Biodiversity Strategy and Action Plan (NBSAP):** Aligns with KMGBF, adopting a **Whole of Government** and **Whole of Society** approach.
- **Budget Allocation:** Announced **₹81,664 crore** for biodiversity efforts (2025–30).
- **Resource Mobilization:** Advocated for **\$200 billion/year** in global biodiversity funding (Target 19 of KMGBF).
- **Key Initiatives:**
 - **Plant4Mother Campaign** for conservation.
 - Establishment of the **International Big Cat Alliance (IBCA)**.
 - Increase in **Ramsar Sites** from 26 (2014) to 85.

National Biodiversity Strategy and Action Plan (NBSAP)

Environment

Why in News?

- India unveiled its updated **NBSAP for 2024-30** at **CoP-16 to the UN Convention on Biological Diversity (UNCBD)**, reaffirming its commitment to biodiversity conservation and sustainable development.

About NBSAP

- **Mandate:** Article 6 of the **UNCBD** requires all member countries to prepare and implement NBSAPs.
- **Purpose:** Acts as the primary framework for:
 - **Mainstreaming biodiversity conservation.**
 - Promoting the **sustainable use of biological resources.**
 - Ensuring **fair and equitable sharing of benefits** derived from genetic resources.

Key Features of the Updated NBSAP (2024–30)

- **Integrated Approach:**
 - Adopts a **'Whole of Government'** and **'Whole of Society'** strategy.
 - Aligns with the **Kunming-Montreal Global Biodiversity Framework (KMGBF)** to halt biodiversity loss by **2030**.
- **National Biodiversity Targets (NBTs):**
 - Includes **23 targets** under three themes:
 - **Reducing threats to biodiversity** (e.g., controlling invasive species).
 - **Sustainable use of resources** (e.g., promoting eco-friendly practices).
 - **Enhancing governance tools** (e.g., monitoring biodiversity data).
- **Addressing Environmental Challenges:**
 - Focus on ecosystem restoration, species recovery programs, and community-driven conservation efforts.
- **Implementation Framework:**
 - The **Ministry of Environment, Forest and Climate Change (MoEFCC)** is the central agency.
 - Advocates **collaborative governance** engaging local communities, private stakeholders, and governments.
- **Capacity Building:**
 - Includes gap assessments stakeholder training, and targeted skill-building for effective biodiversity management.
- **Resource Mobilization:**
 - Recognizes India's leadership in implementing the **Biodiversity Finance Initiative (BIOFIN)** for efficient financial management.
 - Promotes mobilizing domestic and international resources.
- **Other Features:**
 - Encourages ecosystem-based approaches for biodiversity mainstreaming.
 - Strengthens monitoring and evaluation mechanisms.

Institutional Structure Under the Biological Diversity Act, 2002

- The Act facilitates a **three-tier governance system**:



Level	Institution	Function
National	National Biodiversity Authority (NBA)	Regulates use of biological resources and ensures fair benefit-sharing.
State	State Biodiversity Boards (SBBs)	Advise state governments on biodiversity conservation policies.
Local	Biodiversity Management Committees (BMCs)	Document and preserve biodiversity within local jurisdictions.

Biological Diversity Act, 2002

- **Aim:** Enacted to implement UNCBD provisions in India.
- **Goals:**
 - Conservation of biological diversity.
 - Sustainable use of biodiversity resources.
 - Equitable sharing of benefits arising from their utilization.
- **Amendments in 2023**
 - **Exemptions:** AYUSH practitioners and traditional knowledge holders are exempt from paying Access and Benefit Sharing (ABS) obligations.
 - **Decriminalization:** Replaced criminal penalties with fines to fast-track research and commercialization.
 - **Simplified Approvals:** Streamlined the process for intellectual property rights (IPR) approvals.
- **Biological Diversity Rules, 2024**
 - Replace **Biological Diversity Rules, 2004**.
 - Key Provisions:
 - **National Biodiversity Authority (NBA):**
 - Appointed chairperson with a three-year term.
 - Maintains biodiversity databases and administers the **National Biodiversity Fund (NBF)**.
 - **IPR Management:** Mandatory NBA approval before granting biodiversity-related IPRs.
 - **Penalties:** Fines ranging from **₹1 lakh to ₹50 lakh** for violations, allocated to the NBF for biodiversity initiatives.

Forest Ecosystem Restoration

Environment

Why in News?

- The **10th anniversary** of the launch of the **Forest Ecosystem Restoration Initiative (FERI)** was marked by the Secretariat of the Convention on Biological Diversity (CBD) in 2024.

About Forest Ecosystem Restoration Initiative (FERI)

- **Launched:** 2014 by the Korea Forest Service in collaboration with the CBD Secretariat.
- **Mandate:** Supports developing countries in achieving the **Kunming-Montreal Global Biodiversity Framework (KMGBF)** targets.
- **Associated Projects:**
 - **Short-Term Action Plan on Ecosystem Restoration (STAPER).**
 - **WePlan – Forests:** A decision-making tool for tropical forest restoration.

Global Initiatives for Forest Restoration

- **IUCN's Forest Conservation Programme:** Sustainable management of forests.
- **WWF's Forests for Life Programme:** Conservation of forest biodiversity.
- **REDD+ Framework (UN):** Focuses on sustainable forest management and carbon conservation.
- **Forest and Landscape Restoration Mechanism (FAO):** Promotes integrated forest and landscape restoration.

Why in News?

- The Indian government has **reconstituted the Inter-State Council (ISC)** after two years, appointing the **Prime Minister as Chairman**.

About Inter-State Council

- Establishment:**
 - Constituted under **Article 263** of the Constitution for facilitating **Centre-State coordination**.
 - Recommended by the **Sarkaria Commission (1988)** as a permanent body; formally established in **1990** through a Presidential Order.
- Functions:**
 - Discusses issues of **common interest** between the Centre and States.
 - Investigates disputes affecting **Centre-State** or **inter-state relations** and recommends solutions.
- Composition:**
 - Chairman:** Prime Minister.
 - Members:**
 - Chief Ministers of all States and Union Territories with Legislative Assemblies.
 - Administrators of UTs without Assemblies.
 - Six Union Cabinet Ministers nominated by the Prime Minister.
 - Amendments (1990, 1996) enabled Governors under **President's Rule** to attend ISC meetings and allowed **permanent invitees** from Union Ministers.
- Standing Committee:**
 - Formed in **1996** under the Union Home Minister for **continuous consultation** and preliminary discussions.
- Secretariat:**
 - Inter-State Council Secretariat (ISCS)**, established in **1991**, coordinates ISC meetings.
 - Since **2011**, it also manages the **Zonal Councils**.

Issues with ISC

- Infrequent Meetings:**
 - ISC has only met **11 times since 1990**, despite a mandate of **three meetings annually**.
 - The last meeting occurred in **2016**, highlighting inconsistency in its functioning.
- Non-Binding Recommendations:**
 - ISC decisions are **advisory** and lack **enforcement authority**.
 - Absence of follow-up mechanisms reduces the impact of its recommendations.
- Political Dynamics:**
 - Political differences** between the Centre and States often hinder consensus-building on critical issues.

Reforms Needed for Effective ISC Functioning

- Amendment of Article 263:**
 - As suggested by the **Punchhi Commission (2010)**, ISC should address both **inter-state** and **Union-state** challenges with a stronger mandate.
- Regular Meetings:**
 - Mandate **timely meetings** to ensure ongoing dialogue and swift resolution of disputes.
- Clear Agenda and Priorities:**
 - Focus meetings on **pressing issues** like water disputes, economic cooperation, and infrastructure development.
- Technology Integration:**
 - Use **digital platforms** to streamline communication, data-sharing, and decision-making processes for greater efficiency.

- Justice **Sanjiv Khanna** was recently sworn in as the **51st Chief Justice of India (CJI)**, succeeding Justice **D.Y. Chandrachud**.

Constitutional Provisions

- Appointment:**
 - Under **Article 124(2)**, the CJI is appointed by the **President of India**.
 - Conventionally, the **senior-most Supreme Court judge** (based on length of service) is appointed as the CJI.
- Qualifications:**
 - Must be a **citizen of India**.
 - Should fulfill one of the following:
 - Served as a **High Court judge** for at least **5 years**.
 - Practiced as an **advocate in a High Court** for **10 years**.
 - Be a **distinguished jurist** in the opinion of the President.
- Role of the CJI:**
 - Master of the Roster:** Determines the allocation of cases to benches and schedules hearings.
 - Plays a key role in judicial appointments as part of the **Collegium System** (CJI + 4 senior-most SC judges).
 - Consulted under **Article 127** for appointing **ad-hoc judges** in the Supreme Court.
 - With **Presidential approval**, the CJI can **shift the seat of the Supreme Court** to any place other than Delhi.
- Removal:**
 - The CJI can be removed by the **President** through a process that involves:
 - A **special majority** in both Houses of Parliament (majority of total membership + two-thirds of members present and voting).

SC guidelines on Appointments

- The term consultation with the Chief Justice of India in Articles 124 (2), 217(1) and 222 (1) requires consultation with a plurality of judges in the formation of the opinion of the CJI. The sole, individual opinion of the CJI does not constitute consultation.
- The CJI can only make a recommendation to appoint a judge of the Supreme Court and to transfer a Chief Justice or puisne judge of a High Court in consultation with the four senior-most judges of the Supreme Court. As far as the High Courts are concerned, the recommendation must be made in consultation with the two senior-most judges of the Supreme Court.
- Strong cogent reasons do not have to be recorded as justification for a departure from the order of seniority in respect of each senior judge who has been passed over.
- The views of the judges consulted should be in writing and should be conveyed to the Government of India by the CJI along with his views to the extent set out in the body of this opinion.
- The CJI is obliged to comply with the norms and the requirement of the consultation process in making his recommendations.
- Recommendations by the CJI without [such compliance] are not binding upon the government.
- The transfer of High Court judges is judicially reviewable only if the CJI took the decision without consulting the other four judges in the Supreme Court collegium, or if the views of the Chief Justices of both High Courts [involved in the transfer] are not obtained.
- The CJI is not entitled to act solely in his individual capacity, without consultation with other judges of the Supreme Court, in respect of materials and information conveyed by the Government for non-appointment of a judge recommended for appointment.
- The CJI can consult any of his colleagues on the appointment of a HC judge to the Supreme Court or transfer of a puisne judge. The consultation need not be limited to colleagues who have occupied the office of a judge or Chief Justice of that particular High Court.

Why in News?

- A 7-judge bench of the Supreme Court, in a 4:3 majority verdict, overruled the 1967 S. Azeez Basha case judgment, which denied Aligarh Muslim University (AMU) minority status.

Key Highlights of the Supreme Court Judgment

- **Main Issues Considered:**
 - Can a university **established under a statute** (AMU Act, 1920) claim **minority status**?
 - Was the 1967 judgment (S. Azeez Basha vs Union of India) valid in rejecting AMU's minority status?
 - Legality of the **1981 amendment** to the AMU Act, which restored its minority status.
 - Validity of the **2006 Allahabad High Court decision**, which rejected AMU's 50% reservation for Muslim students.
- **Overruling of the Azeez Basha Judgment:**
 - The court overturned the 1967 ruling that **AMU is not a minority institution**, stating it was based on a narrow interpretation.
 - The argument that AMU must be both **established and administered** by the minority community was rejected.
- **New Test for Minority Status:**
 - **Establishment:** Assess the origin, purpose, and implementation of the institution's creation.
 - **Implementation:** Examine who contributed funds, donated land, or obtained permissions.
 - **Administration:** Ensure administration **affirms minority character** by protecting and promoting the interests of the minority.
- **Minority Character Principles:**
 - An institution's minority status cannot be dismissed solely because it was created by a statute.
 - Article 30(1) must not be interpreted narrowly but in alignment with its **purpose and guarantees**.
- **Core Essentials of Minority Institutions:**
 - Minority character is retained even if students from other communities are admitted.
 - **Secular education** does not affect minority character.
 - Institutions receiving **government aid** cannot force religious instruction.
 - Fully state-funded institutions cannot impart religious teachings but remain minority institutions.
- **Nature of Incorporation:**
 - Incorporation by law does not alter an institution's **minority character** if its establishment reflects minority contributions.
- **Dissenting Opinion:**
 - Three judges disagreed, holding that institutions established by statutes cannot claim **Article 30** protection.

Legal Provisions on Minority Educational Institutions (MEIs)

- **Article 30(1):** Grants minorities the right to **establish and administer** educational institutions.
- **National Commission for Minority Educational Institutions Act, 2004:** Defines MEIs as institutions established or maintained by minority communities.

Key Cases Related to Minority Educational Institutions

- **Mother Provincial Case (1970):** Defined "administration" under Article 30(1) as managing institutional affairs.
- **AP Christian Medical Association Case (1986):** MEIs must primarily benefit their minority community.
- **Yogendra Nath Singh Case (1999):** Minority institutions must be **both established and administered** by minorities.
- **TMA Pai Case (2002):** Minority status determination happens at the **state level**, but clear criteria were not established.

Significance of the Ruling

- **Broad Interpretation of Article 30:** Protects minority rights to preserve culture, education, and identity.
 - **Ensures Minority Protection:** Recognizes contributions of minority communities in establishing pre-Constitution institutions.
 - **Federal and Cultural Harmony:** Helps balance majority-minority rights while promoting secular education.

- **Challenges in Implementation**

- **Contention Over Minority Status:** Opponents may argue institutions created by statutes cannot claim minority status.
- **Policy Disputes:** Disagreements on minority reservations and educational autonomy may arise.
- **Judicial Complexity:** Requires clear guidelines to interpret the **establishment and administration** criteria under Article 30.

SC Mandates Prior Sanction for Public Servants Under PMLA

Polity & Governance

Why in News?

- The **Supreme Court (SC)** upheld the **Telangana High Court's** ruling that **prior government sanction** is required before prosecuting public servants under the **Prevention of Money Laundering Act (PMLA), 2002**.
- This decision highlights the interplay between **Section 197(1)** of the **CrPC** and **PMLA** provisions.

About Section 197(1) of the CrPC

- **Prior Sanction:** Public servants, judges, or magistrates cannot be prosecuted for actions done in their **official capacity** without prior government sanction.
 - Sanction authority:
 - **Central Government** for Union officials.
 - **State Government** for State officials.
- **Objective:** To prevent **malicious prosecution** and protect officials acting in **good faith**.
- **Exceptions:** Gender-based crimes and sexual offences under the **IPC/BNS, 2023** do not require prior sanction.
- **Section 65 of PMLA:** Allows CrPC provisions to apply to PMLA cases unless they **conflict** with the PMLA.
- **Section 71 of PMLA:** States that **PMLA provisions override other laws** in case of inconsistencies.

Supreme Court's Ruling:

- The **Enforcement Directorate (ED)** argued that **Section 71** overrides the requirement for prior sanction.
- The SC rejected this, clarifying that **Section 65** of the PMLA ensures CrPC provisions (like **Section 197**) are applicable unless a direct conflict exists.
- No conflict exists between **PMLA and Section 197(1)** of CrPC, so prior sanction remains mandatory.

Key Implications of the SC Ruling

- **Limits ED's Powers:** The ED cannot prosecute public servants under PMLA without government approval, ensuring adherence to **due process**.
- **Reinforces Balance:** The ruling balances the need to **combat money laundering** with safeguards for **public servants** to ensure fair legal treatment.
- **Clarity on PMLA's Scope:** Sets a precedent on the **applicability of CrPC** provisions to PMLA cases, preventing misuse of overriding powers under **Section 71**.

Judicial Precedents

- **CBI v. Dr. R.R. Kishore Case, 2023:** The SC struck down **Section 6A** of the **Delhi Special Police Establishment (DSPE) Act**, which required sanction for arresting senior officials, as unconstitutional under **Article 13(2)**.
 - **Article 13(2):** Any law that infringes upon **Fundamental Rights** under Part III of the Constitution is void.

Constitutional Protection for Civil Servants

- **Part XIV:** Regulates services under the Union and States.
- **Article 309:** Empowers Parliament and State legislatures to **regulate recruitment** and conditions of service.
- **Doctrine of Pleasure (Article 310):** Civil servants serve **at the pleasure of the President or Governor**, but this power is limited.
- **Article 311:** Provides two major safeguards for civil servants:
 - **Dismissal/removal** can only be carried out by the **appointing authority**.
 - An **inquiry** with a reasonable opportunity to defend must be held for dismissal or reduction in rank.



Supreme Court Limits State's Power to Acquire Private Property

Polity & Governance

Why in news?

- The Supreme Court ruled that **not every privately owned resource** can qualify as "**material resource of the community**" under **Article 39(b)** for state acquisition aimed at the "common good."
- The judgment came in response to a case filed by the **Property Owners Association (POA)** and others, challenging the **state's authority** over private property acquisition.

Key Observations of the Supreme Court

- **Shift from Socialism to Market Economy:**
 - India has transitioned from **socialism** to **liberalization** and a **market-based economy**.
 - The view advocating **greater state control** is outdated and inconsistent with India's economic reforms.
- **Limits on State Acquisition:** The state cannot take an **expansive view** of **Article 39(b)** to acquire all private property under the pretext of the "**common good**."
- **Economic Democracy:** The judgment reaffirmed the importance of **economic democracy** while ensuring that state intervention respects **individual freedoms** and democratic principles.
- **Context-Based Test for 'Material Resources':**
 - Whether a resource qualifies as "**material resource of the community**" depends on several factors:
 - **Nature of the resource.**
 - **Scarcity and necessity** for community welfare.
 - Its impact on **economic, social, and environmental needs.**
 - Example: Personal assets like **houses and vehicles** cannot be deemed as community resources.
- **On Article 31C:** Restored its **post-Kesavananda position**: Laws for **resource redistribution** under Article 39(b) must not infringe on the **basic structure** of the Constitution, including **property rights** under **Article 300A**.

CAG Report on ULBs

Polity & Governance

Why in news?

- The **CAG Report** on Urban Local Bodies (ULBs) reveals significant issues in financial management, resource utilization, and governance across **18 states**, covering **393 ULBs**.

Key Highlights of the CAG Report

- **Resource-Expenditure Gap:** ULBs face a **42% gap** between available resources and actual expenditure.
- **Funding Sources:** Only **32% of ULB revenue** comes from **internal sources**; the rest relies on **state and central transfers**.
- **Property Tax Collection:** ULBs realize only **56%** of total property tax demand.
- **Unrealistic Budgeting:** High variance in budgeting:
 - **Himachal Pradesh:** 403% variance in receipts; 274% in expenditure.
 - Other states: Odisha, Rajasthan, Punjab.
- **Staff Shortages:** **37% average vacancy rate**, impacting operational efficiency.
- **Recruitment Autonomy:** ULBs in **16 states** lack power over their recruitment processes.
- **Low Fund Utilization:** Only **61%** of funds were utilized on average, affecting project execution.
- **Development Spending:** Only **29%** of ULB spending goes towards development work; the majority is used for administrative expenses.

Challenges Faced by ULBs

- **Weak Financial Management:**
 - Municipal revenue contributes only **1% of GDP**, making ULBs heavily reliant on **state transfers**.
 - Example: ULBs in **Bihar** face delays in grants and outdated tax systems.
- **Resource-Expenditure Gap:**
 - Significant revenue shortfalls affect service delivery.



- **Low Fund Utilization:**
 - Poor planning and implementation lead to underutilization of funds.
 - Example: Inefficiencies in schemes like **AMRUT**.
- **Limited Autonomy:**
 - State-appointed commissioners reduce ULBs' decision-making power.
 - Example: Tamil Nadu.
- **Staff Shortages:**
 - Delays in recruitment and lack of skilled staff.
 - Example: Karnataka ULBs depend on **state-controlled recruitment**.
- **Unrealistic Budgeting:**
 - Budget variances lead to financial mismanagement.
 - Example: **Uttar Pradesh**.
- **Inadequate Devolution:**
 - Many states fail to implement functions mandated by the **74th Amendment**.
 - Example: Karnataka's **BBMP Act** limits taxation powers.

16th Finance Commission Recommendations for ULBs

- **Enhanced Autonomy:** Greater control over revenue and expenditure.
- **Tax Reforms:** Simplified structures for better compliance.
- **Modernization:** Upgraded property tax systems.
- **Capacity Building:** Training for financial management.
- **Adequate Funding:** Addressing urban development needs.

About Urban Local Bodies (ULBs)

- **Definition:** ULBs are the **lowest tier** of urban governance tasked with providing essential services, managing urban infrastructure, and improving the quality of life.
- **Types:** Municipal Corporations, Municipalities, Nagar Panchayats.

Significance of ULBs

- **Public Service Delivery:** Efficient management of services like **water supply, waste management, and sanitation**.
- Example: **Bengaluru's BBMP** handles traffic and waste management challenges.
- **Democratic Participation:** Encourages **local governance** and citizen engagement.
- Example: **Ward committees** and **Gram Sabhas** in Tamil Nadu.
- **Socio-Economic Development:** Implements urban welfare and smart city projects.
- Example: **Pune Smart City Initiative**.
- **Inclusivity and Representation:** Promotes equity through **reserved seats for women, SCs, and STs**.
- Example: Women-led councils in **Maharashtra**.
- **Catalyst for Federalism:** Strengthens decentralized governance under the **74th Amendment**.

ICA Global Cooperative Conference

Polity & Governance

Why in news?

- The **Indian Farmers Fertilizer Cooperative (IFFCO)** organized the **ICA Global Cooperative Conference** to promote cooperative innovation and strengthen global collaboration.

About International Cooperative Alliance (ICA)

- **Established:** 1895, London, UK.
- **Objective:** Promote and support the **development of cooperatives** globally.
- **Headquarters:** Brussels, Belgium.
- **Membership:** Includes national and international cooperative organizations (e.g., **IFFCO, KRIBHCO, Amul**).



Cooperative Societies in India

- **Definition:** Voluntary associations that function on the principle of **self-help** and **mutual benefit** to address common economic and social needs.
- **Status:**
 - Over **8 lakh registered cooperatives** in sectors like **agriculture, dairy, housing, and finance**.
 - Ministry of Cooperation established in **2021** to realize the vision of "Sahkar Se Samriddhi".
- **Constitutional Provisions:**
 - **State Subject:** Entry **32** of the **State List** under the **Seventh Schedule**.

Role of Cooperatives in India

- **Rural Development**
 - **Credit and Financial Services:** Provides **20% of agricultural credit**.
 - **Input Supply:** Distributes **35% fertilizers** and produces **25%** of fertilizers in India.
- **Poverty Reduction**
 - **Employment Generation:** Amul has empowered millions of dairy farmers.
 - **Skill Development:** Training programs enhance productivity and income.
- **Social and Economic Empowerment**
 - **Women Empowerment:** Women-led cooperatives empower women financially and socially.
 - **Marginalized Groups:** Cooperatives provide access to resources for tribals and small farmers.
- **Food Security**
 - **Increased Productivity:** Contributes to **31% sugar production** and **10% milk production**.
 - **Efficient Distribution:** Reduces food grain wastage and stabilizes prices.
- **Catalyst for Federalism**
 - Strengthens **grassroots governance** and promotes inclusive development.

SC on Illegal Demolitions

Polity & Governance

Why in news?

- The **Supreme Court** issued nationwide guidelines to prevent **illegal and retaliatory demolitions** of properties belonging to individuals accused of crimes. The ruling underscores the **unconstitutionality** of demolitions conducted without due process.

Key Guidelines Issued by the Supreme Court

- **Show Cause Notice:**
 - Authorities must issue a **show cause notice** to the property owner:
 - Sent via **registered post** and displayed outside the building.
 - A **15-day response period** (or longer, as per local laws) must be provided.
- **Digital Recordkeeping and Accountability:**
 - **Digital Notification:** Upon serving a notice, authorities must send a digital notification to the **district collector/magistrate** via email to prevent backdating.
 - **Nodal Officer Appointment:** Within one month, a nodal officer must be appointed to oversee demolition notices.
 - **Digital Portal:** A centralized digital platform must record details of notices and demolition orders.
- **Mandatory Videography:**
 - The entire demolition process must be **videographed**, with reports submitted to the **municipal commissioner**.
- **Justification in Final Order:**
 - The **final demolition order** must explain why demolition is the **only option**, ruling out alternatives like partial demolition or compounding the violation.
- **Accountability and Contempt of Court:**
 - Officials violating these guidelines will face **contempt of court** charges.
 - They must bear the cost of rebuilding demolished properties and pay **compensation** to affected individuals.



- **Exceptions to Guidelines:**
 - The rules **do not apply** to unauthorized structures on:
 - Public lands like **roads, footpaths**, or water bodies.
 - Cases where a **court order** mandates demolition.
- **Nationwide Implementation:**
 - The **Supreme Court Registrar** will circulate the judgment to all **Chief Secretaries** for compliance.
- **No Relief for Past Demolitions:**
 - The guidelines do not cover compensation for **past illegal demolitions** or fix accountability for earlier violations.

Reviewing Ordinary Laws

Polity & Governance

Why in news?

- The **Supreme Court of India** ruled that the **Basic Structure Doctrine** cannot be applied to strike down ordinary laws, highlighting its scope is limited to **constitutional amendments**. This ruling emerged while determining the validity of the **Uttar Pradesh Madrasa Education Board Act, 2004**.

Key Highlights of the Supreme Court Ruling

- **Basic Structure and Ordinary Laws:**
 - **Ordinary Laws** cannot be challenged solely for violating the **Basic Structure Doctrine**.
 - The doctrine applies **only to Constitutional Amendments** (Kesavananda Bharati Case, 1973).
- **Abstract Terms:**
 - Principles like **secularism, democracy, and federalism** under Basic Structure are abstract.
 - These concepts cannot alone be grounds to invalidate laws unless specific **constitutional provisions** are breached.
- **Legislative Autonomy:**
 - The SC affirmed that **legislatures** have autonomy to make ordinary laws within constitutional limits.
 - Using the **Basic Structure Doctrine** to invalidate such laws could disrupt the **constitutional balance**.
- **Judicial Precedent:**
 - Referred to **Kesavananda Bharati Case (1973)** and **Raj Narain Case (1975)**:
 - Ordinary laws operate under different frameworks than **constitutional amendments**.
 - Justice A.N. Ray's opinion: Applying the Basic Structure to ordinary laws would amount to "**rewriting the Constitution**".

Implications of the Ruling

- **Judicial Clarity:**
 - Reinforces that the **Basic Structure Doctrine** is limited to constitutional amendments.
 - Avoids judicial overreach and ambiguity in **ordinary law adjudication**.
- **Legislative Authority:** Ensures the autonomy of **Parliament** and **state legislatures** to enact laws within their **constitutional competence**.
- **Clear Separation of Powers:** Strengthens the distinction between **ordinary laws** and the **Constitution**, avoiding unnecessary judicial invalidation.
- **Regulatory Oversight:** Limits state powers in **higher education**, reaffirming Union List provisions under **Entry 66**.

Anglo-Indian Reservations: Demand for Reinstatement

Polity & Governance

Why in news?

- The **Anglo-Indian community** has urged the central government to reinstate their **reserved seats** in the **Lok Sabha** and **State Assemblies**. These reservations were abolished by the **104th Constitutional Amendment Act, 2019**.

About the Anglo-Indian Community

- The community emerged during the British East India Company's rule, as a result of marriages between British officers and **local Indian women**.



- **Definition:**
 - Introduced in the **Government of India Act, 1935**.
 - Article **366(2)** of the Constitution defines an Anglo-Indian as:
 - A person whose **father or male ancestors** are of European descent.
 - Born in India, with habitual residence in Indian territory (not temporary presence).

Constitutional Provisions for Anglo-Indian Reservations

- **Article 331:** Allowed the **President** to nominate **2 Anglo-Indians** to the **Lok Sabha** if the community lacked representation.
- **Article 333:** Enabled a **State Governor** to nominate **1 Anglo-Indian** to the **State Assembly** under similar conditions.
- **Article 334(b):**
 - Originally provided reservations for **10 years** from 1950.
 - Repeatedly extended through constitutional amendments.
- **National Commission for SCs (Article 338):** Empowered to examine the **safeguards** provided for Anglo-Indians and report their effectiveness to the **President**.

Historical Context of Anglo-Indian Reservations

- **Constituent Assembly Intent:** Reservations for Anglo-Indians, SCs, and STs were introduced for a limited **10-year period** (1950-1960) to ensure political representation.
- **Amendments to Article 334:** The provision for **Anglo-Indian reservations** was repeatedly extended alongside SC/ST reservations through various constitutional amendments:
 - **8th Amendment Act, 1969:** Extended reservations to 1980.
 - Subsequent extensions occurred every 10 years.
- **104th Constitutional Amendment Act, 2019:**
 - **Abolished** Anglo-Indian reservations in the Lok Sabha and State Assemblies.
 - Retained SC/ST reservations until **2030**, marking the end of an **80-year period** since 1950.

Arguments for Reinstating Anglo-Indian Reservations

- **Political Underrepresentation:** The community's small size and scattered presence hinder its representation in legislative bodies.
- **Preservation of Identity:** Reservations ensured the Anglo-Indian community retained their **unique cultural identity** and had a voice in policy decisions.
- **Historical Role:** Anglo-Indians have contributed significantly to India's **education, railways, and defense sectors**, which warrants continued recognition.
- **Equality for Minorities:** While protections exist for other minorities, the abolition of reservations has left the Anglo-Indian community politically vulnerable.

Arguments Against Reinstating Reservations

- **Declining Population:** Census data indicates a sharp decline in the Anglo-Indian population, questioning the necessity of reserved representation.
- **End of Exceptional Provisions:** Reservations were always meant to be temporary measures. Abolishing them aligns with the **original intent** of the Constitution.
- **Egalitarian Representation:** Nomination-based reservations conflict with **democratic principles** of electoral representation.
- **Focus on Socio-Economic Needs:** Support for the community can be provided through **targeted socio-economic schemes** rather than political reservations.



Why in news?

- The Supreme Court questioned the delay in **delimitation** for **Arunachal Pradesh, Assam, Manipur, and Nagaland** following the 2020 Presidential order rescinding the deferral.

About Delimitation:

- The process of redrawing boundaries of **Lok Sabha** and **State Assembly constituencies** to reflect population changes.
 - Objective:**
 - Equal representation for equal population segments.
 - Adjust for population **growth** and **distribution changes**.
 - Constitutional Provisions:**
 - Article 82:** After every Census, Parliament enacts a **Delimitation Act**.
 - Article 170:** Territorial constituencies in states are redrawn after every Census.

Process of Delimitation:

- A **Delimitation Commission** is appointed by the **President of India** under the Delimitation Act.
- The Commission determines:
 - Number and boundaries of constituencies to ensure population equality.
 - Reserved seats for **Scheduled Castes (SCs)** and **Scheduled Tribes (STs)**.

Previous Delimitation Exercises:

- Conducted in **1952, 1963, 1973, and 2002**.
- Delimitation was **deferred** after the **1981, 1991, and 2001** Censuses for security reasons in Assam, Manipur, Arunachal Pradesh, and Nagaland.
- 2020:** A Delimitation Commission was reconstituted for these states and **Jammu & Kashmir**.

About Delimitation Commission:

- Independent Body:** Functions autonomously in collaboration with the **Election Commission of India**.
- Composition:**
 - A **retired Supreme Court judge**.
 - Chief Election Commissioner of India.
 - Respective State Election Commissioners.
- Authority:** Its orders are **final and non-justiciable** in courts to prevent indefinite delays in elections.

Supreme Court's Directions on Remission Policy for Convicts

Polity & Governance

Why in news?

- The Supreme Court has issued **directions to states and UTs** to ensure transparency, standardization, and fairness in remission policies for convicts.

Key Guidelines by Supreme Court

- Timely Communication:** Convicts must be **promptly informed** about their remission eligibility and decisions.
- Policy Accessibility:** Remission policies should be made **easily accessible** in prisons and **published online** in English for transparency.
- Rejection Notification:** If a remission plea is rejected, convicts must be informed within **one week**, and a copy of the rejection must be shared with **District Legal Services Authorities (DLSA)** for legal aid.
- Pending Appeals:** Convicts' remission must not be delayed due to pending appeals, **except** in cases where the state has appealed for:
 - Sentence enhancement** or
 - Acquittal**.
- Individual Consideration:** Avoid **generalized conditions** for remission; decisions should be tailored to **specific cases and circumstances**.

About Remission Policy

- Definition: Remission refers to the reduction in the duration of a convict's sentence without changing its nature.
 - Example: A 5-year sentence reduced to 1 year while remaining rigorous imprisonment.
- Underlying Principle: Focus on rehabilitative justice rather than purely retributive punishment.
- Objective: Consideration of remission applications aims to address circumstances beyond court proceedings where executive mercy can be shown.

Constitutional Provisions for Remission

- Article 72: Empowers the President to grant pardon, reprieve, respite, commutation, or remission of sentences.
- Article 161: Provides similar powers to the Governor for cases under state jurisdiction.
- Executive Authority: These powers are exercised on the advice of the Council of Ministers.

Statutory Provisions for Remission

- Section 432 of CrPC: State governments can remit part or whole of a convict's punishment.
- Section 433A of CrPC: For life imprisonment, remission can only be considered after the convict serves 14 years in prison.
- State Subject: As 'Prisons' is a State List subject, individual states design specific rules for remission, often linking it to reformatory and rehabilitative activities.

Supreme Court Guidelines on Remission

- Laxman Naskar vs. Union of India (2000): The SC laid down 5 key grounds for remission eligibility:
 - Nature of Offence: Whether the crime is an individual act that does not impact society as a whole.
 - Recurrence Risk: Likelihood of the convict re-offending.
 - Potential for Crime: Whether the convict has lost the capacity to commit further crimes.
 - Purpose of Confinement: Assessing if any meaningful purpose remains in prolonging imprisonment.
 - Family Condition: Evaluating the socio-economic condition of the convict's family.

Rights of Persons with Disabilities

Polity & Governance

Why in news?

- In response to a writ petition filed in 2005 by Rajive Raturi, a visually challenged individual, the Supreme Court directed the **Union government to frame mandatory rules under the Rights of Persons with Disabilities Act, 2016**, to ensure the accessibility of public spaces.

Findings of NALSAR Reports

- **Limited Accessibility in Transportation:** Delhi has 3,775 low-floor buses; Tamil Nadu only has 1,917 out of 21,669.
- **Intersectional Disadvantages:** Accessibility issues intersect with caste, sex, religion, and regional disparities.
- **Inaccessible Job Portals:** Visually impaired individuals face challenges due to inaccessible employment application systems.
- **Lack of Sign Language Recognition:** Hearing and speech-impaired persons lack access to sign language-based services.

Key Highlights of the Supreme Court's Ruling

- **Existing guidelines are not mandatory:** The Supreme Court noted that while the Rights of Persons with Disabilities Act created a mechanism for mandatory compliance, the 2017 rules created a mechanism that only prescribed self-regulatory guidelines.
- **Rule 15 (1) Declared Ultra Vires:** The Supreme Court found the rule contravened the Rights of Persons with Disabilities Act's intent and provisions.
- **Directive to Frame Rules:** The union government ordered to draft of mandatory accessibility rules within three months.
- **Mandatory Consultation Required:** Stakeholders and NALSAR-CDS must be involved in the rule-framing process.
- **Enforcement of Standards:** Non-compliance penalties include withholding completion certificates and imposing fines.

Why in news?

- The **Supreme Court of India** in *Rajive Raturi vs. Union of India & Ors.* affirmed that accessibility for **Persons with Disabilities (PwDs)** is not only a **human right** but also a **fundamental right**.

Key Highlights of the Supreme Court Judgment

- **Disability as a Societal Responsibility:** Chief Justice D.Y. Chandrachud emphasized that **disability is a societal responsibility**, not an individual tragedy. Societal inaction makes it a tragedy.
- **Accessibility as a Prerequisite:** Accessibility is essential for **equality, freedom, and dignity**, enabling PwDs to exercise their rights effectively.
- **Mandatory Accessibility Standards:** Directed the Union Government to frame **mandatory rules** under **Section 40 of the RPwD Act, 2016** to ensure accessibility in public spaces and services.
- **Universal Design:** Advocated for adopting **universal design** principles to make all public and private spaces accessible from inception.
- **Addressing Emotional Needs:** Highlighted the overlooked **right to relationships** for PwDs, including their privacy and self-expression needs.

Barriers to Accessibility for PwDs

- **Physical Barriers:**
 - Inaccessible buildings and public spaces due to a lack of **ramps, elevators**, and other features.
 - **Less than 40%** of schools have ramps, and only **17%** have accessible restrooms (NCPEDP data).
- **Technological Barriers:**
 - Lack of **accessible digital platforms** and assistive technologies for visually, hearing, or cognitively impaired individuals.
 - The **WHO-UNICEF Report on Assistive Technology (2022)** highlighted that only **3% of PwDs in low-income countries** have access to assistive products.
- **Economic Barriers:**
 - **High costs** of assistive devices, medical care, and transportation.
 - Lower labour force participation (**73.6% of PwDs** are outside the workforce, ILO Report 2011).
- **Attitudinal Barriers:** Persistent **stigma, discrimination**, and misconceptions about the capabilities of PwDs.
- **Communication Barriers:** Limited availability of materials in **Braille, sign language**, or accessible audio formats.
- **Healthcare Barriers:**
 - Inadequate healthcare facilities and lack of trained professionals for PwDs.
 - PwDs are at **twice the risk** of developing health conditions such as depression, diabetes, and poor oral health.

Key Provisions of the RPwD Act, 2016

- **Definition of PwDs:**
 - Includes individuals with **long-term physical, mental, intellectual, or sensory impairments**.
 - Recognizes **21 types of disabilities**, including visual impairment, cerebral palsy, dwarfism, and multiple disabilities.
- **Accessibility Standards:** Mandates **barrier-free environments** in public buildings, transportation, and digital platforms.
- **Rights and Entitlements:** Right to **inclusive education, non-discrimination**, and participation in cultural and recreational activities.
- **Employment Provisions:** Reservation of **4% in government jobs** and incentives for private employers.

Steps to Ensure Accessibility for PwDs

- **Early Identification and Intervention:** Implement programs like the **Comprehensive Newborn Screening (CNS) Handbook** for early detection and rehabilitation.
- **Investment in Assistive Technologies:** Provide access to **screen readers, speech recognition software, and mobility aids** to enhance independence.

- **Digitally Accessible Pedagogy (DAP):** Adopt **inclusive education** models that integrate digital tools to empower students with disabilities.
- **Awareness and Sensitization:** Promote sensitization campaigns to shift societal attitudes toward viewing PwDs as **equal participants**.
- **Vocational Training and Employment:** Increase **opportunities and incentives** for skill development, self-employment, and formal employment for PwDs.
- **Universal Design:** Ensure that public and private spaces adhere to **universal design principles** from the planning stage.

One Nation One Subscription Scheme (ONOS)

Social Issues

Why in News?

- The Union Cabinet has approved the **One Nation, One Subscription (ONOS)** scheme to provide **equitable access** to scholarly journals and databases across all public institutions in India.

About ONOS

- **Objective:** To obtain **national licenses** for e-journals and databases across **STEM** and **social sciences** fields.
- **Key Features:**
 - **Digital Access:** Managed by **INFLIBNET** (Information and Library Network, a UGC center) for seamless, digital access to institutions.
 - **Monitoring:** Periodic reviews by the **Anusandhan National Research Foundation (ANRF)** to track usage and contributions by Indian researchers.
 - **Content:** Access to **13,000 journals** from **30 leading publishers** like Oxford University Press, Elsevier, and Cambridge University Press.
 - **Funding:** **₹6,000 crore** allocated for 2025–2027 under a new **Central Sector Scheme**.
 - **Implementation:** The **Department of Higher Education (DHE)** will manage awareness campaigns and a unified portal for access.

Need for ONOS

- **High Profit Margins in Academic Publishing:**
 - The **academic publishing industry** generates **\$19 billion** annually with profit margins of **up to 40%**.
 - Public funds largely fuel these profits, benefitting private corporations.
- **Countering Predatory Publishing:** Many researchers fall victim to **low-quality journals** that charge fees without proper peer reviews.
- **Removing Access Barriers:**
 - High subscription fees restrict access, especially for researchers from smaller institutions.
 - Example: **Nature Communications** charges \$6,790 per paper.
- **Reducing Financial Burden:** Indian authors spent **₹380 crore** on Article Processing Charges (APCs) in 2021 alone.
- **Favorable Licensing Agreements:** Existing agreements favor publishers, restricting **copyright control** for Indian researchers.

Challenges with ONOS

- **Shift Toward Open Access (OA):**
 - With over **50% of global research** freely available, ONOS risks becoming outdated.
 - Example: The US mandates **publicly funded research** to be freely accessible by 2026.
- **Neglecting Niche Fields:** ONOS may prioritize popular journals, limiting access to resources in **specialized disciplines**.
- **Support for Western Publishers:** ONOS risks reinforcing the dominance of **Western commercial publishers** with high-profit margins.
- **Copyright Issues:**
 - Researchers often lose control over their work due to restrictive copyright agreements.
 - Example: **Taylor & Francis** allowed its journals to be used for AI training without author consent.



- **Digital Content Preservation:** Reliance on publishers for content access poses risks, as seen when **Heterocycles Journal** became inaccessible after discontinuation in 2023.
- **Connectivity Issues:** Limited internet access in **Tier-2 and Tier-3 cities** may hinder equitable implementation.

Protection of Children from Sexual Offences (POCSO) Act, 2012

Social Issues

Why in News?

- The **Supreme Court (SC)** has ruled that **sexual assault cases under POCSO cannot be quashed** based on a compromise between the parties. This judgment was delivered in the **Ramji Lal Bairwa & Anr vs State of Rajasthan & Ors** case.

Key Highlights of the Judgment

- **Judicial Review of Compromise:**
 - The SC overturned the Rajasthan High Court's decision to quash a **POCSO sexual assault case** on the basis of compromise.
 - It emphasized that **compromise is not a valid ground** for quashing such offenses.
- **Special Leave Petition:** The judgment was delivered under **Article 136** of the Constitution, which allows the SC to grant **special leave to appeal** against judgments/orders passed by any court or tribunal.
- **Observations on the Nature of the Offense:**
 - **Public Interest over Private Settlement:**
 - Sexual offenses under POCSO are not private disputes but crimes against **society as a whole**.
 - The SC relied on its precedent in **State of M.P. v. Laxmi Narayan (2019)**, which held that **offenses with societal implications** cannot be compromised.
 - **Serious Societal Implications:**
 - Crimes under POCSO affect the **safety and dignity of children**, and their impact extends beyond individual victims.
- **Endorsement of Earlier Judgments:** Referenced the **Delhi High Court judgment (Sunil Raikwar v. State)**, which declared that **POCSO offenses cannot be resolved through settlements**.

Significance of the Judgment

- **Protects the Integrity of POCSO Act:** Prevents misuse of **compromise mechanisms** to escape accountability in cases of sexual crimes against children.
- **Deterrence for Offenders:** Reinforces that such offenses are **non-compoundable**, ensuring perpetrators face the legal consequences.
- **Societal Message:** Emphasizes the **non-negotiable nature** of child protection and sets a strong precedent for future cases.
- **Strengthens Justice for Victims:** Ensures that **settlements** do not undermine the pursuit of justice for vulnerable victims.

Way Forward

- **Awareness and Training:** Conduct training for judiciary and law enforcement to understand the **societal impact of POCSO cases**.
- **Strengthen Prosecution:** Ensure robust prosecution strategies to prevent dismissal of cases on technical grounds.
- **Public Sensitization:** Increase awareness about the **non-compoundable nature** of POCSO offenses and the importance of pursuing justice.
- **Child-Centric Judicial Processes:** Focus on implementing **victim-sensitive trials** to protect children from secondary trauma.

About the POCSO Act, 2012

- The POCSO Act originated from India's commitment to the UN Convention on the Rights of the Child in 1992. This special law aims to address sexual exploitation and abuse of children by defining and penalizing these offenses.
- The Act encompasses individuals below 18 years, providing punishments based on the gravity of the offense. In 2019, amendments were introduced, incorporating more stringent penalties, including the death penalty.



- The POCSO Rules, 2020, and Rule-9 allowing interim compensation, were also notified.
- The Act ensures gender-neutral protection and facilitates ease in reporting cases.
- Features:
 - Gender-Neutral Nature:
 - Acknowledges that both genders can be victims of sexual abuse.
 - Upholds the principle of equal protection for all children.
- Ease in Reporting Cases:
 - Promotes reporting of sexual exploitation cases by individuals or institutions.
 - Non-reporting is specifically penalized, making it challenging to conceal offenses.
 - Introduces a new offense for storing child pornography material.
 - Defines 'sexual assault' explicitly, providing a clear legal framework.
- Immediate Payment of Special Relief:
 - Empowers the Child Welfare Committee (CWC) to recommend immediate payment for essential needs.
 - Utilizes funds from District Legal Services Authority, District Child Protection Unit, or funds under the Juvenile Justice Act.

Gender Equality and Empowerment

Social Issues

Why in news?

- The recent release of the report titled "**Charting New Paths for Gender Equality and Empowerment: Asia-Pacific Regional Report on Beijing+30 Review**" highlights both progress and challenges in achieving gender equality in the region, including India.

About the Beijing Declaration and Platform for Action (BPfA)

- **Adoption:** Established during the **Fourth World Conference on Women** in 1995 in Beijing, China, and unanimously adopted by 189 countries.
- **Objective:** Focuses on achieving **gender equality** and empowering women globally.
- **Review Mechanism:** Reviewed regionally and globally every five years to track progress.
 - **Upcoming Review:** 30-year review at the **69th session of the Commission on the Status of Women** in March 2025.

Key Highlights of the Asia-Pacific Regional Report on Beijing+30 Review

- **Gender-Responsive Budgeting (GRB):**
 - Countries like **India and the Philippines** have adopted GRB to allocate resources based on the needs of women and girls.
 - **India's Progress:**
 - **218% increase** in gender budgeting over the last decade.
 - Allocation of **\$37 million** for GRB in the current financial year.
- **India's Gender Equality Achievements:**
 - **Women's Leadership:** Notable advancements in governance through **33% reservation in Panchayati Raj Institutions (PRIs)** and Urban Local Bodies.
 - **Self-Help Groups (SHGs):** A pivotal role in enhancing women's financial empowerment.
 - **Time Poverty Solutions:**
 - Initiatives like **clean cooking fuels, tap water connections, and toilets construction** have significantly reduced women's time spent on household chores.
- **Challenges Identified:**
 - **Lack of sex-disaggregated data** for monitoring GRB effectiveness.
 - Exclusion of certain key programs benefiting women.

Factors Affecting Gender Equality in India

- **Entrenched Social Norms:** Patriarchal structures and practices like **child marriage** and **son preference** restrict women's mobility and education.



- **Unpaid Care Work:** Women perform **five times more unpaid work** than men, limiting their professional opportunities.
- **Gender Pay Gap:** India achieves only **36.7% parity** in economic participation (Global Gender Gap Index 2023).
- **Property Ownership:** Disparities exist in property and land ownership, with **42.3% of women owning a house**, compared to **62.5% of men** (NFHS-5).
- **Violence Against Women:** **29.3% of married Indian women** aged 18-49 face domestic or sexual violence (NFHS).
- **Education Gap:** The **female literacy rate** stands at 63%, significantly lower than the **male literacy rate of 80%** (2011 Census).
- **Political Underrepresentation:** Women comprise only **13.63% of the Lok Sabha**, far below the 33% reservation target.

Government Measures to Improve Gender Equality

- **Legal Reforms:**
 - **Nari Shakti Vandana Adhiniyam, 2023:** Ensures 33% reservation for women in Parliament and State Assemblies.
 - **Hindu Succession Act, 2005:** Provides equal property inheritance rights.
- **Women-Centric Schemes:**
 - **Beti Bachao Beti Padhao:** Promotes girls' education and combats declining child sex ratios.
 - **Pradhan Mantri Matru Vandana Yojana:** Offers maternity care incentives.
 - **Sukanya Samriddhi Yojana:** Encourages savings for girls' education and marriage.
- **Economic Empowerment:** Self-Help Groups under NRLM and skilling initiatives like **Skill India** and **Mahila E-Haat**.
- **Addressing Violence:** Enactment of laws such as **The Protection of Women from Domestic Violence Act, 2005**, and **The Sexual Harassment of Women at Workplace Act, 2013**.
- **Education:** Initiatives like **Kasturba Gandhi Balika Vidyalaya** for free/subsidized education.
- **Health and Nutrition:** **Janani Suraksha Yojana** and **POSHAN Abhiyaan** ensure maternal and child health.
- **Awareness and Advocacy:** Programs like **Mahila Shakti Kendras** for grassroots gender equality advocacy.

Gotti Koya Tribals

Social Issues

Why in news?

- The **National Commission for Scheduled Tribes** has sought detailed reports from the Union Home Ministry and the states of Chhattisgarh, Maharashtra, Andhra Pradesh, and Odisha regarding the **Gotti Koya tribals**. These tribals, displaced due to **Maoist violence**, are reportedly living in challenging conditions in neighboring states and face exclusion from social security benefits.

About Gotti Koya Tribals

- **Origins**
 - **Indigenous Identity:** The Gotti Koya, also known as **Gutte Koya** or **Gotte Koya**, are an **Adivasi tribe** primarily from **Chhattisgarh**.
 - They are part of the **larger Koya tribe**, one of the prominent tribal communities in central and southern India.
- **Displacement**
 - **Cause:** Displaced due to violent conflicts involving **Maoist insurgents** and **Salwa Judum** (a government-backed militia formed to counter Maoists, later banned).
 - **Migration:**
 - Many fled to **Andhra Pradesh** (now **Telangana**) during the mid-2000s.
 - Approx. **30,000 Gotti Koya members** settled in forested areas of Telangana, especially in:
 - **Bhadradi Kothagudem**
 - **Mulugu**
 - **Jayashankar Bhupalpally** districts.
- **Culture and Livelihood**
 - **Language:** Speak **Koya**, a **Dravidian language**.



- **Primary Occupation:**
 - Practice **Podu cultivation** (shifting cultivation on forest lands).
 - Engage in **animal husbandry**.
 - Depend on **minor forest produce** for sustenance.
- **Rituals:** Celebrate the **Sammakka Saralamma Jatra**, one of the most significant fairs for the Koya community.
- **Current Challenges**
 - **Exclusion from Social Security:** Lack access to basic rights and benefits such as ration cards, health services, and education.
 - **Living Conditions:** Reside in forest areas under difficult circumstances without formal land ownership or recognition.
 - **Legal Status:** Face issues with recognition as Scheduled Tribes in Telangana, as their origins are tied to Chhattisgarh.
 - **Conflict with Forest Authorities:** Often face eviction threats due to **Podu cultivation** practices deemed encroachments by forest officials.

State of the World's Children 2024 Report

Social Issues

Why in news?

- The **UNICEF** released its annual '**State of the World's Children 2024**' report on **November 20**, focusing on the disproportionate effects of climate crises on children's health, education, and essential resources access, especially in rural and low-income communities.

Key Highlights

- **Impact on Health and Education**
 - **Climate Crisis and Vulnerabilities:** Children are particularly vulnerable to the impacts of climate change, such as extreme weather events, floods, and droughts.
 - Increased exposure to malnutrition, waterborne diseases, and respiratory illnesses.
 - Disruption of education systems, particularly in rural areas and low-income communities.
 - **Inequalities in Access:** Rural and low-income children face severe inequalities in accessing clean water, healthcare, and sanitation facilities.
- **Urbanization and Climate Resilience**
 - **Projection:** Nearly **half of India's population** is expected to live in urban areas by **2050**, leading to increased pressure on urban infrastructure.
 - **Need for Action:** Urgent investments in **child-friendly and climate-resilient urban planning** are required to ensure:
 - Equitable access to healthcare, education, and clean water.
 - Infrastructure designed to withstand climate shocks.
 - **Recommendations from the Report**
 - **Child-Centric Climate Policies:** Governments must prioritize children in climate adaptation and resilience strategies.
 - **Education on Climate Awareness:** Integrating climate education into school curricula to prepare children for future challenges.
 - **Focus on Rural Development:** Enhance access to essential services in rural areas to bridge disparities.
 - **Urban Resilience:** Develop smart urban planning that considers the needs of children & vulnerable groups.

About UNICEF (United Nations Children's Fund)

- **Overview**
 - **Foundation:** Established in **1946** as the **United Nations International Children's Emergency Fund**.
 - **Focus:** Provides **humanitarian and developmental aid** to children globally.
 - **Presence:** Operates in **192 countries and territories**.
- **Key Features**
 - **Funding:** Supported by **government contributions** and **individual voluntary donations**.
 - **Guiding Framework:** The **Convention on the Rights of the Child (1989)**.
 - **Awards:** Received the **Nobel Peace Prize (1965)** for promoting international brotherhood.
- **Flagship Reports**
 - **The State of the World's Children** (Annual).
 - **UNICEF Annual Report**.



Why in news?

- The Reang tribe, recognized as one of the **75 Particularly Vulnerable Tribal Groups (PVTGs)**, has requested official recognition for their language, **Kaubru**.

Key Features of the Reang Tribe

- Demographics and Distribution**
 - The **Reang tribe**, also known as **Bru**, is the **second-largest tribal community** in **Tripura**, following the old Tripuri clan.
 - Found in **Tripura**, with communities also residing in **Mizoram** and **Assam**.
- Ethnicity and Language**
 - Ethnic Origin:** They belong to the **Indo-Mongoloid racial stock**.
 - Language:** Speak **Kaubru**, part of the **Kok-Borok dialect** under the **Tibeto-Burmese linguistic family**.
- Social Structure**
 - Clans:** The community is divided into two major clans:
 - Meska**
 - Molsoi**
- Economic Practices:** Traditionally an **agricultural tribe**, practicing **Huk/Jhum cultivation**—a form of **shifting agriculture**.
- Religious Beliefs**
 - Predominantly follow **Hinduism**.
 - Worship a diverse set of deities, including:
 - Buraha**
 - Bonirao**
 - Songragma**
 - Jampira**
 - Lampra**
- Cultural Contributions:** Known for the **Hojagiri Folk Dance**, a vibrant cultural expression performed during festivals and celebrations.

PM-Vidyalaxmi Scheme

Social Issues

Why in News?

- The Union Cabinet has approved the **PM-Vidyalaxmi Scheme**, a **Central Sector scheme**, to provide financial support to meritorious students for pursuing **higher education**, aligned with the **National Education Policy, 2020**.

About PM-Vidyalaxmi Scheme

- To offer **collateral-free, guarantor-free loans** for covering tuition fees and related expenses for higher education.
- Any student who secures admission in **Quality Higher Education Institutions (QHEIs)**. **860 QHEIs** based on **NIRF ranking**, covering more than **22 lakh students**.
- Loan Features:**
 - Loan Amount:** Up to ₹7.5 lakhs with **75% credit guarantee** by the Government of India.
 - Interest Subvention:** **3% subvention** for loans up to ₹10 lakhs during the **moratorium period**.
- Digital Implementation:**
 - Unified portal "**PM-Vidyalaxmi**" for:
 - Education loan applications.**
 - Disbursement requests** for interest subvention.
 - Payments of interest subvention will be facilitated via:
 - E-vouchers.**
 - Central Bank Digital Currency (CBDC) wallets.**
- Supplementary Scheme:** PM-Vidyalaxmi will supplement the **Pradhan Mantri Uchchatar Shiksha Protsahan (PM-USP) Scheme**.

About Pradhan Mantri Uchchatar Shiksha Protsahan (PM-USP) Scheme

- **Objective:** To provide financial assistance to **meritorious students from economically weaker sections** for meeting **day-to-day expenses** during higher studies.
- **Eligibility:** Based on **Class 12th Board Examination results**.
- **Coverage:** A maximum of **82,000 scholarships** awarded annually.
- **Components:**
 - **Central Sector Interest Subsidy (CSIS).**
 - **Credit Guarantee Fund Scheme for Education Loans (CGFSEL).**
- **Key Highlights of PM-Vidyalaxmi and PM-USP Integration**
 - **Accessibility:** Reduces financial barriers for economically weaker but meritorious students.
 - **Comprehensive Coverage:** Ensures inclusion of both **public and private higher education institutions**, as recommended by **NEP 2020**.
 - **Digital Transformation:** Simplified and transparent processes through a **unified digital system**.
 - **Promotes Quality Education:** Encourages enrollment in top-ranking institutions, fostering **academic excellence**.

Atal Innovation Mission 2.0 (AIM 2.0)

Social Issues

Why in News?

- The **Union Cabinet** has approved the continuation of **Atal Innovation Mission (AIM 2.0)** with an **allocated budget of ₹2,750 crore** and an enhanced scope of work.

Objectives

- **Fostering a Culture of Innovation and Entrepreneurship:** Promote innovation across sectors of the economy.
- **Strengthening India's Innovation Ecosystem:** Develop new programs and policies to bridge gaps in the innovation framework.
- **Enhancing Global Competitiveness:** Position India as a leading global innovator.

Salient Features

- **Implementing Agency:** NITI Aayog.
- **Implementation Period:** Till **March 31, 2028**.
- **Enhanced Scope:**
 - AIM 2.0 builds on AIM 1.0 (launched in **2016**) which focused on creating foundational infrastructure like **Atal Tinkering Labs (ATLs)**, **Atal Incubation Centres (AICs)**, and **New India Challenges**.
 - Introduces new initiatives targeting **regional and sectoral gaps** in the innovation ecosystem.
- **Key Components:**
 - **Atal Tinkering Labs (ATLs):** Promote innovation and critical thinking among school students.
 - **Atal Incubation Centres (AICs):** Support startups and entrepreneurs in various sectors.
 - **Atal New India Challenges & Grand Challenges:** Encourage solutions to pressing social and industry problems.
 - **Mentor India Program:** Connect mentors with budding entrepreneurs.

Initiatives under AIM 2.0

- **Increasing Inputs (Inclusion of Innovators and Entrepreneurs)**
 - **Language Inclusive Program of Innovation (LIPI):**
 - Ecosystem development in **22 scheduled languages**.
 - **30 Vernacular Innovation Centers** in existing incubators.
 - **The Frontier Program:**
 - Customized innovation templates for **Jammu & Kashmir, Ladakh, Northeastern states**, and aspirational districts.
 - Establishment of **2500 new ATLs**.



Why in news?

- The Global Alliance Against Hunger & Poverty was launched at the **G20 Leaders' Summit in Rio de Janeiro, Brazil**.

About the Alliance

- The emergence of the global alliance against hunger and poverty is **one of the major initiatives championed by Brazil during its G20 presidency in 2024**.
- Objectives:**
 - The alliance aims **to eradicate hunger and poverty by 2030**, aligning with the Sustainable Development Goals (SDGs).
 - The alliance will serve as a **platform for connecting countries in need of assistance with public policies targeted towards eradicating hunger and poverty**, with partners willing to offer expertise or financial support.
- Membership:** 81 countries (**including India**), 26 international organisations, 9 financial institutions, and 31 philanthropic foundations and non-governmental organisations have joined the Alliance.
- Funding Mechanism:** The alliance **does not have its own fund**. Rather it **envisions playing a matchmaking role**, connecting countries in need with motivated donors and technical support.

Pradhan Mantri Vanbandhu Kalyan Yojana (PMVKY)

Social Issues

Why in News?

- The Pradhan Mantri Vanbandhu Kalyan Yojana (PMVKY) recently completed **10 years** of its launch.

About Pradhan Mantri Vanbandhu Kalyan Yojana:

- It was launched on October 28, 2014.
- It aims to empower tribal communities in India, recognizing their historical neglect. The initiative not only provides financial assistance but also establishes a framework for sustainable development.

Six Key Steps Under PMVKY:

- Pradhan Mantri Adi Adarsh Gram Yojana**
 - It revamps the existing Special Central Assistance to Tribal Sub-Plan, which focuses on integrated village development in 36,428 villages with significant tribal populations.
 - It targets critical sectors such as road and telecom connectivity, education, health services, and sanitation, all of which aim to raise the living standards of tribal communities.
- Development of Particularly Vulnerable Tribal Groups (PVTGs)**
 - It is designed to ensure the socio-economic upliftment of the most marginalized tribal communities (PVTG families) while preserving their cultural heritage.
 - The initiative provides financial support to state governments for tailored developmental activities in housing, health, and education sectors.
 - The Pradhan Mantri PVTG Development Mission has been launched to enhance further living conditions and provide PVTG families with access to basic facilities.
 - Under this mission 15,000 crore will be allocated over three years for essential amenities like secure housing, clean drinking water, sanitation, education, health, nutrition, and enhanced connectivity.
- Support to Tribal Research Institutes (TRI):**
 - It facilitates research and documentation efforts related to tribal communities. Financial assistance is allocated to state governments and UTs based on their proposals to strengthen the knowledge base concerning tribal cultures and challenges.
- Pre-Matric Scholarships:**
 - It caters to students in grades IX and X, the scholarship is available for students with a parental income of up to ₹2.50 lakhs, ensuring that financial constraints do not hinder educational advancement.
- Post-Matric Scholarships:**
 - It follows similar terms and conditions as the Pre-Matric scheme but caters to Scheduled Tribe students studying beyond class 10.
- Administrative Assistance for Project Management Units:**
 - The PMVKY also allocates funds to establish project management units within state governments, ensuring that schemes related to the welfare of Scheduled Tribes are effectively monitored and implemented.

Why in news?

- The Indian government has proposed merging **Regional Rural Banks (RRBs)** to reduce their number from **43 to 28**. The plan aligns with the '**One State-One RRB**' objective.

About Regional Rural Banks (RRBs)

- The RRBs were established under the provisions of the ordinance promulgated on September 26, 1975 and Regional Rural Banks Act, 1976.
- RRBs were established in 1975 on the recommendation of the Narasimham Working Group with the particular objective of catering to the financial inclusion needs of the small and marginal farmers, agricultural labourers, artisans and weaker sections of the society.
- The first five Regional Rural Banks were established on October 2, 1975 with the objective to create an alternative channel to cooperative credit structure with a view to ensure sufficient institutional credit for rural and agriculture sector.
- The first RRB was Prathama Bank, with head office in Moradabad, Uttar Pradesh. It was sponsored by Syndicate Bank and had an authorised capital of Rs 5 crore.
- The RRBs, with focus on serving the rural areas, are an integral segment of the Indian banking system.
- Post amalgamation, the number of RRBs has come down from 196 in FY 2004-05 to 43 now.
- Sponsored by the Commercial Banks, the equity of RRBs are held by the central government, concerned state government and the sponsor bank in the proportion of 50:15:35.
- These banks are envisaged to be state-sponsored, regionally based and rural-oriented.
- The purpose of establishment of the RRBs is to develop the rural economy by providing credit and other facilities to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs.
- Currently, 43 RRBs are operating through a network of over 21,000 branches covering 702 districts of the country.

Role of RRBs

- Nearly 70 per cent of the total Indian population reside in rural areas, laying a larger impact on the economic situation of the country. Consequently, there is a need for a robust and efficient banking system in rural areas, offering customised products and timely credit at affordable rates, unlike traditional moneylenders providing loans at very high interest rates.
- RRBs play a vital role in the growth and development of rural and backward areas in a developing country like India.
- RRBs have a mandate to ensure rural development and foster financial inclusion.
- RRBs cater to a more scattered population that demand smaller ticket loans, and these banks operate under strict operational and lending norms.

The contributions being made by RRBs:

- Of the total loans extended by the RRBs, about 46 per cent goes to agriculture. About 90 per cent of loans are extended to the priority sector. Of the total loans, about 79 per cent is extended to weaker sections.
- RRBs play a significant role in extending micro credit. They account for 30 per cent of the Self-Help Group accounts and 26 per cent of the loan amount. About 19 per cent of total Kisan Credit Cards have been issued by the RRBs.
- Share of RRBs in total accounts/enrolments under government sponsored schemes like Pradhan Mantri Jan-Dhan Yojana (PMJDY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Atal Pension Yojana, etc varies from 12 per cent to 19 per cent.
- About 92 per cent of the branches of RRBs are in rural and semi-urban areas. Though RRBs have 14 per cent of total bank branches in the country, their share in total number of rural branches is about 29 per cent. In the rural areas of aspirational districts, RRBs have about 40 per cent of the rural branches. Moreover, many RRBs have branches in remote areas and they are providing financial services to vulnerable sections.
- In rural areas, the share of deposit accounts of RRBs is about 26 per cent and RRBs have the highest average balance in PMJDY accounts amongst all categories of banks. In the northeast region, RRBs cater to the banking needs of about 38 per cent of the rural people. As against the overall rural credit-deposit ratio of 64 per cent for all the banks, RRBs have a rural credit-deposit ratio of 75 per cent.

Need for Consolidation

- **Economies of Scale:** Reducing operational costs by consolidating resources and infrastructure.
- **Improved Capital Base:** Larger capital allows for improved credit delivery to rural customers.
- **Technology Adoption:** Encourages digitization and integration with core banking solutions.
- **Enhanced Operational Efficiency:** Reduces duplication of efforts, streamlines operations, and improves governance.
- **Alignment with 'One State-One RRB' Goal:** Simplifies administration and regulation, reducing fragmentation in the banking system.

Challenges in RRB Consolidation

- **Regional Diversity:** Different states have unique agricultural and credit needs, which might not be fully addressed under consolidated RRBs.
- **Resistance from Stakeholders:** Employees, state governments, and sponsor banks may resist mergers due to job security concerns and administrative complexities.
- **Technological and Financial Integration:** Merging entities face challenges in integrating their IT systems and resolving capital disparities.
- **Loss of Local Touch:** Consolidation could weaken the **localized focus** of RRBs, affecting their ability to meet region-specific needs.
- **Asset Quality Concerns:** Merged RRBs may inherit NPAs (Non-Performing Assets) from weaker banks, impacting their financial health.

Direct Benefit Transfer (DBT)

Economy

Why in News?

- A recent **State Bank of India (SBI)** report revealed that **Direct Benefit Transfer (DBT)** to women under various state schemes has crossed ₹2 trillion, showcasing its transformative potential in socio-economic development.

Key Highlights from the Report

- **Total Transfers:** ₹2.11 lakh crore across eight states, amounting to 3–11% of respective states' revenue receipts.
- **Boost to Economy:** These schemes increase consumption and economic spending, particularly among low-income families.
- **Prominent Schemes:**
 - Gruha Lakshmi (Karnataka): ₹2,000/month to female heads of families.
 - Mukhyamantri Ladli Behna Yojana (Madhya Pradesh): ₹1,250/month to eligible women.
 - Subhadra Yojana (Odisha): ₹50,000 over five years to eligible women.

Transformative Impact of DBT in India

- **Effective Welfare Delivery**
 - **Scale:** Since 2016, over **450 schemes** have benefited **900 million people**, transferring \$450 billion directly.
 - **COVID-19 Relief:**
 - ₹27,442 crore transferred to 11.42 crore beneficiaries under schemes like PM-KISAN and MGNREGS.
 - ₹9,217 crore distributed by states under 180 welfare schemes.
- **Financial Inclusion**
 - **Banking Penetration:** Over **53 crore PM Jan Dhan Yojana accounts**, with 67% in rural areas and 56% owned by women.

Transparency and Efficiency

- **Aadhaar Integration:** Eliminated **90 million fake beneficiaries**, saving \$40 billion by reducing leakages.
- **Socio-Economic Empowerment**
 - **Women Empowerment:** Promotes financial independence through cash transfers to Jan Dhan accounts.
 - **Agriculture Support:** Direct assistance for fertilizers and crop insurance enhances farmer productivity.
 - **Social Mobility:** Programs like Self-Employment for Manual Scavengers rehabilitate marginalized communities.



- **International Recognition**
 - **IMF:** Called DBT a "logistical marvel."
 - **World Bank:** Highlighted its success in targeting cash transfers to 85% of rural and 69% of urban households.

Challenges

- **Accessibility and Awareness**
 - **Geographical Barriers:** Limited banking and digital infrastructure in remote areas.
 - **Financial Literacy:** Lack of awareness about DBT benefits and enrollment processes.
- **Inclusion and Exclusion Errors**
 - **Beneficiary Identification Issues:** E.g., 6.65 lakh farmers lost PM-KISAN benefits in 2022 due to e-KYC lapses.
- **Over-Reliance on Technology**
 - **State Capacity:** Neglects systemic issues in public services like education and healthcare.
 - **Transaction Failures:** Inconsistent payment systems and lack of standardization.
- **Short-Term Solutions**
 - **Structural Challenges:** Cash transfers do not address long-term poverty and inequality.
- **Grievance Redressal**
 - Lack of robust mechanisms to address complaints effectively.

New RBI Framework for Reclassifying FPI to FDI

Economy

Why in news?

- The **Reserve Bank of India (RBI)** has introduced an **operational framework** to regulate the reclassification of **foreign portfolio investment (FPI)** to **foreign direct investment (FDI)** when certain **ownership limits** are breached.

Key Highlights of the Framework

- **FPI Investment Limit:**
 - Under the **Foreign Exchange Management Act (FEMA)**, **foreign portfolio investors (FPIs)** can hold up to **10%** of a company's total **paid-up equity capital**.
 - If an **FPI or its investor group** breaches this 10% threshold, the investment must be reclassified as **FDI**.
- **Compliance Options for FPIs:**
 - FPIs that breach the 10% limit must **choose between two options**:
 - **Divest** their excess holdings.
 - **Reclassify** their investment as **FDI**.
 - **Timeline:** FPIs have a **5-day window** from the trade settlement date to comply with these requirements.
- **Conditions for Reclassification:**
 - Once an investment is reclassified as **FDI**, the **entire investment** will remain categorized as **FDI permanently**, even if the holdings drop below the 10% threshold later.
 - For reclassification, the **FPI and its investor group** will be treated as a **single entity**.

Significance of the New Framework

- **Ensuring Compliance:** Maintains **ownership transparency** and prevents misuse of the FPI route for acquiring significant stakes.
- **Improved Monitoring:** Creates a streamlined approach to identify and regulate breaches of investment limits.
- **Financial Stability:** Protects domestic markets from the volatility of short-term foreign investments.
- **Promoting Long-Term Investments:** Encourages FPIs to adopt **long-term investment strategies** if they breach limits.
- **Alignment with FEMA:** Ensures consistency with India's **Foreign Exchange Management Act** and broader foreign investment policies.

Challenges and Concerns

- **Market Impact:** Forced divestment or reclassification may lead to short-term **market volatility**.
- **Operational Burden:** FPIs may face difficulties in adhering to the **5-day compliance window**.
- **Investment Sentiment:** Stricter regulations could discourage FPIs, reducing foreign capital inflows.



Why in News?

- The "State of Rural Youth Employment 2024" report highlights that **70% of rural youth** find agriculture unattractive due to **low productivity and poor profits**, showing a growing preference for **non-farm jobs** and small businesses.

About Rural Non-Farm Economy (RNFE)

- Definition:** RNFE comprises all non-agricultural activities in rural areas, such as:
 - Agro-based value chain:** Agro-processing, transport, marketing, and retail.
 - Self-employment:** Handicrafts, bakeries, kiosks, mechanics.
 - Other sectors:** Tourism, manufacturing, construction, and mining.
- Significance:**
 - Two-thirds of rural income now comes from **non-agricultural activities**.
 - Over **50% of manufacturing sector value addition** is contributed by rural areas.

Key Determinants of RNFE in India

- Government Policies:**
 - Ashok Dalwai Committee emphasized shifting surplus farm labor to RNFE to double farmers' income.
 - Initiatives: Promoting agri-tech startups, schemes like **Namo Drone Didi**.
- Education and Skills:** Non-farm income rises with **higher educational attainment**.
- Family Size:** Larger families earn less from farms but more from non-farm jobs.
- Climate Change:** Increased vulnerability of agricultural jobs makes RNFE critical.
- Public Spending and Diversification:** Investments in infrastructure and factory growth boost RNFE employment.
- Infrastructure Development:** Expenditure on rural infrastructure (e.g., roads, electricity) drives employment in construction and manufacturing.

Challenges in RNFE

- Limited Access to Credit:** Reliance on personal savings or moneylenders; institutional credit is less accessible than for farming activities.
- Low Worker Productivity:**
 - Worker productivity in RNFE is **lower than in urban areas**.
 - Only **13% of enterprises** are modern; most are traditional with minimal value addition.
- Informal and Volatile Employment:**
 - Jobs often lack stability, social security, and fair wages.
 - Construction, the largest RNFE employer, is cyclically volatile.
- Declining Income Levels:** Non-agricultural households earn **less (₹11,438/month)** compared to agricultural households (₹13,661/month).

Government Initiatives Supporting RNFE

- Institutional Support:**
 - Khadi and Village Industries Commission (KVIC).**
 - National Small Industries Corporation (NSIC).**
- Traditional Industries Promotion:**
 - SFURTI** (Scheme of Fund for Regeneration of Traditional Industries).
 - USTAD** (Upgrading Skills in Traditional Arts).
- Credit Access:**
 - SHG-Bank Linkage Program under **NABARD**.
 - Establishment of **SIDBI** (Small Industries Development Bank of India).
- Skill Development:**
 - DDU-GKY** (Deen Dayal Upadhyaya Grameen Kaushalya Yojana).
 - DAY-NRLM** (Deendayal Antyodaya Yojana – National Rural Livelihoods Mission).
- Infrastructure Development:** **BharatNet**, **PMGSY** (Pradhan Mantri Gram Sadak Yojana).
- Employment Generation:** **MGNREGA**: Demand-driven wage employment scheme.

Why in news?

- The **Reserve Bank of India (RBI)** has repatriated **130 metric tonnes** of gold from the **Bank of England** and the **Bank for International Settlements (BIS)** over the last **2.5 years**, enhancing domestic gold reserves.

Reasons for Repatriation

- **Cost Efficiency:** Eliminates **custodial fees** paid to foreign banks for storing gold.
- **Enhanced Domestic Infrastructure:** India now has **state-of-the-art storage facilities** for safely storing large gold reserves.
- **Strategic Control:** Reduces dependence on **foreign custodians** and improves **diversification** of storage locations.
- **Sovereign Security:** Increases confidence in domestic handling of critical assets.

Current Gold Reserve Distribution

- **Total Reserves (as of September 2024): 854.73 tonnes.**
 - **Stored in India: 510.46 tonnes (60%).**
 - **Stored Abroad: 324.01 tonnes (Bank of England and BIS).**
 - **Held as Deposits: 20.26 tonnes.**

Impact on Forex Reserves

- **Gold's Share in Forex Reserves:** Increased from **8.15%** (March 2024) to **9.32%** (September 2024).
- **Forex Reserves Growth:** Rose from **USD 646.42 billion** (March 2024) to **USD 705.78 billion** (September 2024).
- **Strengthening Economic Stability:** Enhancing gold reserves aligns with RBI's strategy to diversify and strengthen India's foreign exchange holdings.

Significance of Gold in Forex Reserves

- **Hedge Against Inflation:** Gold retains value during **inflationary pressures** and economic uncertainties.
- **Stability During Global Crises:** Acts as a **safe-haven asset** during global financial crises.
- **Diversification of Reserves:** Reduces reliance on **foreign currencies** like the USD, enhancing economic resilience.
- **Strategic Asset:** Repatriation reflects India's confidence in its **economic stability** and **security infrastructure**.

Why in News?

- The **Reserve Bank of India (RBI)** released its 2024 list of **Domestic Systemically Important Banks (D-SIBs)**.

About D-SIBs

- **Definition:** D-SIBs are banks that are:
 - **Too Big to Fail:** Their size, interconnections, and importance to the financial system mean their failure would disrupt the overall economy.
 - **Systemic Risk:** If these banks face stress, it can lead to significant disruptions in essential financial services.

Criteria for Declaring D-SIBs

- **RBI Framework (2014):**
 - Based on the **Basel Committee on Banking Supervision (BCBS)** framework.
 - **Eligibility:** Banks with assets greater than or equal to **2% of GDP** are evaluated for inclusion in the D-SIB list.
- **Capital Surcharge:**
 - Banks are categorized into **five buckets** based on the **Additional Common Equity Tier 1 (CET1)** requirement as a percentage of **Risk-Weighted Assets (RWAs)**:
 - **Bucket 1:** Lowest CET1 requirement.
 - **Bucket 5:** Highest CET1 requirement.

- **Foreign Banks:**
 - If a foreign bank with a branch presence in India is classified as a **Global Systemically Important Bank (G-SIB)**, it must maintain an additional CET1 capital surcharge.

Global Systemically Important Banks (G-SIBs):

- **Definition:** Banks identified as globally significant under the **Financial Stability Board (FSB)** framework.
- **Relevance for India:** Foreign banks with G-SIB status and operations in India must adhere to additional capital requirements.

Significance of D-SIBs

- **Economic Stability:** Ensures that large banks have additional safeguards to withstand financial stress and avoid systemic risks.
- **Enhanced Regulation:** Higher capital requirements for D-SIBs to ensure they can absorb shocks and continue operations during financial crises.
- **Public Confidence:** Designation assures stakeholders of the bank's critical role and its enhanced capacity to handle financial stress.
- **Interconnection Management:** Identifies and mitigates risks posed by interconnectedness with other banks and financial institutions.

WIPO Indicators 2024 Report

Economy

Why in news?

- The **World Intellectual Property Organization (WIPO) Indicators 2024 Report** highlights India's **significant progress in patent, trademark, and industrial design filings**, reflecting its growing role in global innovation and intellectual property (IP) protection.

Key Highlights of India's Performance

- **Patents**
 - **Global Rank:** 6th in patent filings globally.
 - **Total Filings:** 64,480 in 2023.
 - **Growth:** 15.7% increase compared to the previous year.
 - **Patent-to-GDP Ratio:** Improved significantly to 381 (from 144 in the past decade).
- **Trademarks**
 - **Global Position:**
 - India's IP office ranks 2nd globally for total trademark registrations.
 - Ranks 4th globally in trademark filings.
 - **Registrations:** 3.2 million in 2023.
 - **Growth:** 6.1% rise, with nearly 90% of filings by Indian residents.
 - **Key Sectors:** Health, agriculture, and clothing lead the trademark filings.
- **Industrial Designs**
 - **Global Rank:** 10th in industrial design filings.
 - **Growth:** 36.4% increase in 2023.
 - **Top Sectors:** Textiles, accessories, tools, machines, and health & pharma account for nearly 50% of all designs filed.

About the World Intellectual Property Report

- **Publisher:** World Intellectual Property Organization (WIPO).
- **Frequency:** Published annually.
- **Purpose:**
 - Provides **comprehensive insights** into global trends in intellectual property.
 - Supports **evidence-based policymaking** to encourage innovation.
 - Focuses on specific areas of IP in each edition.



Why in News?

- The **Union Minister of Fisheries, Animal Husbandry, and Dairying** launched the **21st Livestock Census** to update data on livestock population. This initiative aims to address issues like **disease control**, **breed improvement**, and enhancing **rural livelihoods**.

Key Highlights of the 21st Livestock Census

- Schedule:** Conducted between **October 2024 and February 2025**.
- Key Features:**
 - Digitized Process:** Fully digitized, continuing the trend set by the **20th Livestock Census (2019)**.
 - Species Coverage:** Includes **16 species** of livestock and their **219 indigenous breeds**.
 - New Data Collection on Pastoralists:** For the first time, data on **pastoralists** (communities dependent on livestock herding) will be collected.
 - Focus on Gender Roles:** Captures gender-specific data on livestock rearing to understand the contribution of women.

Significance of the 21st Livestock Census

- Policy and Planning:** Provides **comprehensive data** to design effective policies for:
 - Disease control** and management.
 - Breed improvement** programs.
 - Enhancing **milk, meat, and egg production**.
- Focus on Rural Livelihoods:** Livestock is critical to **rural economies**, especially for small and marginal farmers.
- Support to Women and Pastoralists:** Recognizes the **role of women** and **pastoralist communities**, ensuring better-targeted interventions.
- Improved Livestock Services:** Data aids in strengthening veterinary services and healthcare systems.
- Promoting Indigenous Breeds:** Focus on **219 indigenous breeds** aligns with government initiatives for breed conservation and enhancement.

Why in news?

- The Cabinet Committee on Economic Affairs has approved the PAN 2.0 Project with a budget of ₹1,435 crore. Citizens will receive a **free PAN card upgrade featuring a QR code**, making PAN a unified identifier across government agencies.

About PAN 2.0 Project

- Simplify and speed up PAN card applications and tax filing. Promote eco-friendly practices by reducing paper use. Enhance cybersecurity to tackle cybercrimes.

Key Features

- Seamless Transition:** Current PAN cards remain valid, ensuring hassle-free upgrades.
- Digital Enhancements:** QR codes on PAN cards improve security and user experience.
- Faster Services:** Quicker processing times with minimal paperwork.

Duties for Service Providers

- Set up required hardware, software, and networks for the new system.
- Migrate historical tax data accurately.
- Align the upgraded system with government rules and processes.

Impact on Taxpayers

- No need for new applications; existing PAN cards remain valid.
- Faster processing, stronger security, and integration with government platforms.
- Establishes PAN as a digital business identifier, improving user convenience.

Why in news?

- India ranks **23rd globally** in the **Sustainable Trade Index 2024**, reflecting its progress and challenges in **trade sustainability** across economic, societal, and environmental dimensions.

About the Sustainable Trade Index 2024

- Developed By:** Hinrich Foundation and IMD
- Purpose:** To assess how economies balance **economic growth**, **societal advancement**, and **environmental resilience** while ensuring sustainable trade practices.
- Three Key Pillars:**
 - Economic Growth**
 - Societal Advancement**
 - Environmental Resilience**

Key Observations

- Strength in Economic Growth**
 - India's high **economic score (62.3)** highlights strong trade-driven economic development.
 - Factors:
 - Expanding trade partnerships (e.g., FTAs with UAE, Australia).
 - Growth of exports in **services** and **manufacturing sectors**.
- Low Societal Score**
 - Societal advancement score (13.3)** remains a challenge.
 - Issues:
 - Income inequality**, labor rights concerns, and gender disparities.
 - Limited benefits of trade reaching marginalized populations.
- Moderate Environmental Resilience**
 - Environmental score (43.1)** indicates efforts but scope for improvement.
 - Efforts Taken:
 - National Green Hydrogen Mission.**
 - Participation in the **International Solar Alliance (ISA)**.
 - Policies on renewable energy and emission reductions.
 - Challenges:
 - High carbon emissions due to rapid industrialization.
 - Balancing trade expansion with environmental sustainability.

World Organisation for Animal Health (WOAH)

Economy

Why in News?

- The **Indian Council of Agricultural Research-National Research Centre on Equines (ICAR-NRC Equine)** in Haryana has been granted **WOAH Reference Laboratory** status for its expertise in managing **Equine Piroplasmiasis**, a disease affecting horses, donkeys, mules, and zebras.

About WOA

- Full Name:** World Organisation for Animal Health (previously Office International des Epizooties, OIE).
- Founded:** 1924.
- Headquarters:** Paris, France.
- Membership:** 183 countries, including India.

Key Objectives:

- Global Animal Health:**
 - Collects, analyzes, and disseminates information on **animal diseases**.
 - Promotes global standards for improving animal health and welfare.

- **Disease Prevention and Control:**
 - Focuses on controlling animal diseases, especially those with transboundary impacts.
 - Develops guidelines for safe international trade of animals and animal products.
- **Capacity Building:** Provides technical support to member nations for disease surveillance and veterinary capacity building.
- **Animal Welfare:** Encourages the development of humane treatment practices and standards globally.

About Equine Piroplasmiasis

- **Cause:** Tick-borne disease caused by **protozoan parasites** (*Babesia caballi* and *Theileria equi*).
- **Hosts:** Affects **horses, donkeys, mules, and zebras**.
- **Symptoms:** Fever, anemia, jaundice, reduced appetite, and lethargy.
- **Impact:** Leads to significant economic losses in equine populations due to reduced work efficiency and increased mortality.

Significance of WOA Reference Laboratory Status

- **Global Recognition:** Validates **ICAR-NRC Equine's** capabilities in diagnosis, surveillance, and research on **Equine Piroplasmiasis**.
- **Capacity Building:** Facilitates training of veterinarians and researchers across India and globally.
- **International Collaboration:**
 - Strengthens India's position in global animal health networks.
 - Provides expertise and resources for other countries to combat equine diseases.
- **Enhanced Research Opportunities:** Promotes advancements in diagnostics, vaccine development, and disease management practices.

State of Food and Agriculture 2024 Report

Economy

Why in news?

- The **State of Food and Agriculture 2024 Report** highlights that **India's hidden costs of agrifood systems** amount to approximately **\$1.3 trillion annually**, driven largely by **unhealthy dietary patterns** and associated **non-communicable diseases (NCDs)**.

About State of Food Security and Nutrition in the World 2024

- The State of Food Security and Nutrition in the World 2024 has been jointly prepared by the by five specialized agencies of the United Nations — Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the UN World Food Programme (WFP), and the World Health Organization (WHO).
- The report was launched in the context of the G20 Global Alliance against Hunger and Poverty Task Force Ministerial Meeting in Brazil.

Key Findings of the Report

- **Shortfall in Achieving SDG 2:** Between 713 and 757 million people may have faced hunger in 2023, according to the latest SOFI report.
 - This alarming figure serves as a stark warning that the world is falling significantly short of achieving Sustainable Development Goal (SDG) 2, Zero Hunger, which is just six years away from the 2030 deadline.
- **Global Hunger Reverts to 2008-2009 Levels:** The world has been set back 15 years, with levels of undernourishment comparable to those in 2008-2009.
- **Billions Struggle with Food Insecurity in 2023:** In 2023, around 2.33 billion people globally faced moderate or severe food insecurity, a number that has remained largely unchanged since the sharp increase in 2020 during the COVID-19 pandemic.
 - Among those facing food insecurity, over 864 million people experienced severe food insecurity, often going without food for an entire day or more.
- **Regional trends vary significantly: 2023 Insights:**
 - **Rising Hunger in Africa:**



- Percentage: 20.4% of the population faces hunger, the highest globally.
- Numbers: Approximately 298.4 million people affected.
- Stable but High Hunger Rates in Asia:
 - Percentage: 8.1% of the population faces hunger.
 - Numbers: 384.5 million people, more than half of the world's hungry population, are in Asia.
- Progress in Latin America:
 - Percentage: 6.2% of the population faces hunger.
 - Numbers: 41.0 million people affected.
- From 2022 to 2023, hunger increased in Western Asia, the Caribbean, and most African subregions.
- Future Trends: If current trends continue, 582 million people will be chronically undernourished by 2030, with half of them in Africa.
- **Global Challenge: Unaffordable Healthy Diets:** More than one-third of the global population, about 2.8 billion people, could not afford a healthy diet in 2022. A lack of economic access to healthy diets affects over a third of the global population, highlighting significant disparities and challenges in ensuring food security.
- Income-Based Inequalities in Diet Affordability
 - Low-Income Countries: 71.5% of the population could not afford a healthy diet.
 - Lower-Middle-Income Countries: 52.6% of the population faced this issue.
 - Upper-Middle-Income Countries: 21.5% of the population was affected.
 - High-Income Countries: 6.3% of the population could not afford a healthy diet.
 - The number dropped below pre-pandemic levels in Asia and in North America and Europe, while it increased substantially in Africa.
- Key Drivers of Food Insecurity:
 - Contributing Factors: Conflict, climate variability and extremes, economic slowdowns, and downturns are major factors driving food insecurity, undernourishment, and hunger.
 - Underlying Factors: These issues are compounded by underlying factors such as lack of access to and unaffordability of healthy diets, unhealthy food environments, and high and persistent inequality.
 - Challenges with Food Insecurity: The report highlights that these drivers of food insecurity are not only increasing in frequency and intensity but are also occurring more often simultaneously. When combined with the underlying issues, these factors are leading to a growing number of hungry and food-insecure people worldwide.

About the International Fund for Agricultural Development (IFAD):

- It was established as an international financial institution in 1977 through United Nations General Assembly Resolution 32/107 (30 December 1977) as one of the major outcomes of the 1974 World Food Conference.
- Its headquarters are in Rome, Italy, and it is a member of the United Nations Development Group. The current President of the IFAD is Alvaro Lario from Spain, who took over from Gilbert Houngbo in late 2022.
- It has 177 member states and works in partnership with the Organization of the Petroleum Exporting Countries (OPEC) and members of the Organisation for Economic Co-operation and Development (OECD).
- It is an international financial institution and a specialised agency of the United Nations that works to address poverty and hunger in rural areas of developing countries.
- It is the only multilateral development organization that focuses solely on rural economies and food security.

Nano Fertilizers

Economy

Why in News?

- Indian scientists have developed a **nanomaterial coating** made of **nanoclay** for **Muriate of Potash (MoP)** to improve nutrient use efficiency and promote sustainable agriculture. MoP accounts for **80% of the potassium fertilizer needs** in India.

About Nano Fertilizers

- Nano fertilizers are **nutrients** encapsulated or coated within **nanomaterials** (particles measuring 100 nanometres or less).
- These fertilizers are designed for **controlled release**, ensuring optimal nutrient availability to crops.



Key Features and Composition

- **Nanomaterial Coating:** The nanoclay coating for MoP enables **slow nutrient release**, minimizing leaching and wastage.
- **Composition:**
 - Made of biodegradable materials like **nanoclay, chitosan, and lignin**.
 - Provides a **hydrophobic layer**, ensuring a gradual dissolution of nutrients.
- **Benefits of Nano Fertilizers**
 - **Enhanced Nutrient Efficiency:**
 - Ensures **synchronization of nutrient release** with crop requirements.
 - Improves **nutrient use efficiency**, reducing the total amount of fertilizer needed.
 - **Sustainable Farming Practices:**
 - Reduces **soil and water contamination** caused by excessive fertilizer runoff.
 - Decreases the environmental footprint of conventional fertilizers.
 - **Economic Advantages:**
 - Cost-effective due to reduced application frequency and minimized wastage.
 - Potential to increase **agricultural productivity** while lowering input costs.
 - **Climate Resilience:** Mitigates environmental degradation and supports **climate-smart agriculture**.

Applications of Nano Fertilizers

- **Agriculture:**
 - Used in key crops like rice, wheat, and maize for improved yields.
 - Specific products include **Nano Urea** and **Nano DAP** for nitrogen and phosphorus supply.
- **Horticulture:** Enhances nutrient availability in fruit and vegetable cultivation.

Farming (NMNF)

Economy

Why in the News?

- The Union Cabinet approved the **National Mission on Natural Farming (NMNF)** as a standalone scheme to promote chemical-free, low-input farming practices.

About National Mission on Natural Farming

- **Implementation:** **15,000 clusters** targeting 7.5 lakh hectares and 1 crore farmers over the next 2 years.
- **Key Components:**
 - **Bio-input Resource Centres (BRCs)** for easy access to inputs.
 - **Model Demonstration Farms** for farmer training.
 - **Krishi Sakhis** for mobilization and handholding of farmers.
- **Budget:** Financial assistance of **₹12,200/ha for 3 years** for cluster formation and capacity building.

Significance of Natural Farming

- **Improved Yield:** Maximizes production factors while avoiding synthetic inputs.
- **Higher Income:** Lowers dependency on expensive fertilizers and boosts farmer profitability.
- **Health Benefits:** Produces chemical-free, nutrient-dense food.
- **Environmental Conservation:**
 - Enhances soil health and agro-biodiversity.
 - Reduces carbon and nitrogen footprints.
- **Employment Generation:** Creates job opportunities in agriculture-related value chains.

Challenges in Adoption

- **Yield Variability:** Initial lower yields and investment risks.
- **Input Constraints:** Limited access to cow dung and bio-fertilizers.
- **Knowledge Gaps:** Lack of farmer awareness and extension services.
- **Market Issues:**
 - Absence of supply chains for natural produce.
 - Low consumer awareness and certification bottlenecks.
- **Policy and Support Deficiency:**
 - Limited guidelines for input quality.
 - Insufficient government funding.

Why in news?

- The **19th G20 Summit** was held in **Rio de Janeiro, Brazil**, where leaders adopted a **Declaration** focusing on poverty eradication, climate change, multilateralism, and equitable global growth.

Key Highlights of the G20 Rio Leaders' Declaration

- Global Alliance Against Hunger and Poverty**
 - Objective:** Eradicate hunger and poverty globally by **2030**.
 - Three Pillars:**
 - National Coordination:** Strengthen policies at the national level.
 - Financial Mobilisation:** Raise funds to combat hunger and poverty.
 - Knowledge Integration:** Share global best practices.
 - Headquarters:** Food and Agriculture Organisation (FAO), **Rome**.
 - India's Role:**
 - Expanding cash transfer programs for **500 million people**.
 - Providing school meals to **150 million children**.
 - Assisting **200 million children** and pregnant women through health programs.
- Focus on Palestine and Gaza Ceasefire**
 - Affirmation of Palestinian Rights:** Supports the **right to self-determination**.
 - Two-State Solution:** Envisions peaceful coexistence of **Israel and Palestine**.
 - Gaza Ceasefire:** Aligns with **UNSC Resolution 2735**.
 - Lebanon Ceasefire:** Safe return of citizens along the **Blue Line**.
- Status of Sustainable Development Goals (SDGs)**
 - Call for Action:** Speed up the implementation of the **G20 2023 SDG Action Plan**.
 - Progress Report:**
 - On-Track Targets:** Only **17%** of SDG targets are on schedule.
 - Limited Progress:** **50%** show minimal or moderate progress.
 - Stalled/Regressed:** Over **one-third** have stalled or regressed.
- Food Security and Nutrition**
 - Reaffirmed commitment to food security under the **Deccan High-Level Principles (2023)**.
 - Introduced **SDG 18:** Focuses on **ethnic-racial equality** as a priority.
- Ukraine War**
 - Highlighted **disruptions** in global food, energy, and financial stability.
 - Called for **peace efforts** aligned with the **UN Charter**.
- Climate Change Initiatives**
 - Global Task Force for Climate Change Mobilization:** Strengthens climate financing for developing nations.
 - Key Commitments:**
 - Reduce **land degradation** by **50%** by 2040.
 - Establish the **Tropical Forest Forever Facility (TFFF)** for forest conservation.
 - Address impacts of extreme droughts and wildfires.
- Efforts Against Corruption:** Promotes use of the **Globe Network** and other anti-corruption platforms to combat illicit financial flows.
- Taxation Reforms:** Advocates for **progressive taxation** of ultra-high-net-worth individuals.
- Strengthening Multilateral Development Banks (MDBs):** Endorsed a roadmap to improve MDBs' **financial capacity** and alignment with SDGs.

Why in news?

- The CEO of NITI Aayog has suggested that India should reconsider its decision to remain outside the **Regional Comprehensive Economic Partnership (RCEP)** to leverage its economic potential and integration into global markets.

About RCEP

- Definition:** RCEP is the world's largest **free trade agreement (FTA)**, covering **15 countries**—10 ASEAN nations and 5 partners (China, Japan, South Korea, Australia, New Zealand).
- Objective:** Eliminate tariffs, harmonize trade rules, and strengthen supply chain cooperation across the Asia-Pacific region.
- Fast-Track Option:** India can rejoin without an **18-month waiting period** as it was a founding member.

Reasons behind India Withdrawal from RCEP in 2019

- Economic Challenges**
 - High Tariff Reductions:** RCEP required India to reduce tariffs on **70%** of goods from China, Australia, and New Zealand, risking harm to domestic industries.
 - Worsening Trade Deficit:** India faced trade deficits with **11 out of 16 RCEP countries**, exacerbated by earlier FTAs.
 - Trade deficit with ASEAN grew by **303%**, South Korea by **164%**, and Japan by **138%** between 2007-09 and 2020-22.
- Non-Tariff Barriers (NTBs):** Indian companies faced **non-tariff barriers** in RCEP countries, restricting market access, particularly in China.
- China Factor**
 - Trade Distortion:** China's subsidies and state-controlled production created an **uneven playing field**.
 - Rules of Origin (RoOs):** India feared **dumping of goods** routed through other RCEP countries.
- Impact on Domestic Sectors**
 - Dairy Industry:** Producers from **New Zealand and Australia** could dominate, harming India's small-scale dairy farmers.
 - Plantation and Rubber:** Cheap imports from Vietnam and Indonesia posed a threat to domestic production.
- Lack of Protective Mechanisms**
 - Auto-Trigger Mechanism:** India's demand for a **safeguard mechanism** against sudden import surges was rejected.
 - Ratchet Obligations:** RCEP's terms restricted raising tariffs later, limiting India's policy flexibility.
- Data Localisation:** India insisted on a **data localisation policy** to protect **national interests**, which RCEP did not accommodate.
- Limited Gains in Services:** RCEP lacked robust provisions on **services, IT, and skilled labour mobility**, crucial for India's export economy.

Potential Costs of India's Exclusion from RCEP

- China's Economic Dominance:** India's absence gives **China greater leverage** in the Asia-Pacific trade landscape.
- Missed Market Access:** RCEP covers over **2 billion people**. India's exports may decline as members focus on intra-bloc trade.
- Act East Policy Setback:** India's economic engagement with ASEAN and East Asia could weaken.
- Impact on Indo-Pacific Strategy:** Exclusion hampers India's partnerships like the **Supply Chain Resilience Initiative (SCRI)** with Australia and Japan.
- Manufacturing Ambitions:** India's vision to become a **global manufacturing hub** is limited without RCEP access.

Why in news?

- Donald Trump's victory in the **2024 US Presidential Elections** brings significant geopolitical, economic, and strategic implications for India and the world.

Implications of Trump's Second Term for India

- Strategic and Defence Relations**
 - Countering China:** Trump's **China as a strategic threat** policy aligns with India's interests in countering Beijing's assertiveness.
 - Reviving initiatives like **QUAD** strengthens India's role in the Indo-Pacific.
 - Defence Cooperation:** Likely to **expand military hardware sales** to India, boosting bilateral defence trade.
 - Khalistani Separatism:** Trump may crack down on anti-India activities by Khalistani groups.
- Trade and Economic Ties**
 - US-China Trade War:** India may benefit as Trump's proposed **60% tariffs on Chinese imports** could redirect trade flows towards India.
 - Energy Security:** Trump's **pro-fossil fuel stance** encourages India to invest in **US oil and LNG** sectors.
 - Pharmaceutical Exports:** Deregulation could improve market access for Indian **generic drug manufacturers**.
- Human Rights and Diplomacy**
 - Reduced Human Rights Pressure:** Trump's non-interference stance means fewer critiques of India's domestic policies.
 - Example: Support for India during the **abrogation of Article 370** in J&K.
 - No Pressure Over Canada Tensions:** Strained Trump-Trudeau ties reduce US intervention in India's disputes with Canada.
- People-to-People Ties**
 - Immigration Reforms:** Trump's proposal to **grant green cards** to foreign graduates could benefit **Indian students** in the US.

Challenges for India Under Trump 2.0

- America-First Trade Policy**
 - Trump's focus on **reducing trade deficits** may pressure India to lower tariffs on US goods.
 - Example: Earlier demands to reduce **Harley Davidson bike tariffs**.
- Generalised System of Preferences (GSP)**
 - India lost **GSP benefits** in 2019, impacting handloom and agricultural sectors. Trump's protectionist stance may delay reinstatement.
- World Trade Organization (WTO) Disputes**
 - Trump's administration may challenge India's trade policies, leading to bilateral tensions.
- Immigration Challenges**
 - While reforms benefit legal immigration, Trump's tough stance on **illegal immigration** could lead to **mass deportations**, affecting Indian nationals.
- Geopolitical Balancing**
 - India may seek US intervention in **West Asia**, particularly in **Israel-Gaza conflicts** and **India-Middle East-Europe Economic Corridor (IMEC)**.

Global Implications of Trump's Presidency

- Rise in Protectionism:** Increased tariffs and trade disputes could disrupt **global trade flows**, impacting developing nations.
- Climate Policy Reversal:** Trump's withdrawal from international climate commitments could undermine **global climate action**.
- Geopolitical Tensions:** Continued confrontation with **China** and Iran may escalate regional instability.
- Global Alliances Shift:** Trump's **bilateral focus** may weaken multilateral forums like the UN and WTO.

Why in news?

- The India-Middle East-Europe Economic Corridor (IMEC), announced during the **G20 Summit in New Delhi (2023)**,..

Key Features of IMEC

- Establishment:** MoU signed by **India, UAE, Saudi Arabia, USA, European Union**, and other member states.
- Structure:**
 - Eastern Corridor:** Connects **India to the Gulf region**.
 - Northern Corridor:** Connects **the Gulf to Europe**.
- Key Goals:**
 - Develop **multi-modal connectivity**: ports, railways, sea routes, and pipelines.
 - Enhance trade, energy cooperation, and digital connectivity.
 - Counter **China's Belt and Road Initiative (BRI)** through the **Partnership for Global Infrastructure and Investment (PGII)**.
- Scope:** Open to **regional expansion** to include Qatar, Oman, Egypt, Türkiye, and Iraq.

Significance of IMEC

- Global Impacts**
 - Diversified Trade Routes:** Offers an alternative to traditional maritime chokepoints like the **Suez Canal**.
 - Economic Growth:** IMEC nations collectively represent **40% of global GDP** (\$47 trillion).
 - Geopolitical Counterweight:** Serves as a strategic counter to China's growing influence via BRI.
 - Regional Stability:** Economic interdependence may promote peace in the conflict-prone Middle East.
- India's Interests**
 - Faster Connectivity:** Shipments to Europe are expected to be **40% faster**, with a **30% cost reduction** compared to current routes.
 - Strengthened Gulf Ties:** Enhances trade relations with the Gulf Cooperation Council (GCC).
 - Geopolitical Aspirations:** Positions India as a pivotal player in international trade and infrastructure.

Progress and Challenges

- Progress**
 - Infrastructure:** Development in the **UAE-Israel rail network** and expansion of Israel's **Haifa port**.
 - Digital Trade:** Launch of the **Virtual Trade Corridor (VTC)** between India and UAE to streamline trade processes.
- Challenges**
 - High Costs:** Multi-modal complexities could lead to higher freight costs.
 - Limited Inclusion:** Key players like **Türkiye, Egypt, and Iran** are excluded.
 - Regional Instability:** Conflicts like the **Israel-Hamas war** threaten progress.
 - Lack of Financial Commitments:** Insufficient clarity on funding mechanisms for large-scale infrastructure.
- Comparison with Other Corridors**
 - International North-South Transport Corridor (INSTC):** Connects **India to Russia via Iran**; focuses on Eurasian trade.
 - Belt and Road Initiative (BRI):** China's transcontinental project linking **Asia, Europe, and Africa**.
 - Trans-Caspian International Transport Route (TITR):** Links **China to Europe via Central Asia and Türkiye**.

India-CARICOM Summit 2024: Strengthening Ties for Mutual Growth

International Relations

Why in news?

- Prime Minister Narendra Modi attended the **Second India-CARICOM Summit** in **Guyana**, where he proposed **seven pillars** to enhance India-CARICOM cooperation.

Key Proposals: Seven Pillars of India-CARICOM Relations

- Capacity Building**
 - Establishment of a **Forensic Centre** for the CARICOM region.
 - Proposal to create a training portal like **iGOT Karmayogi** for continuous capacity building of civil servants.
- Agriculture and Food Security**
 - Collaboration to enhance **agricultural practices** and ensure **food security** in CARICOM nations.
- Renewable Energy and Climate Change**
 - Focus on renewable energy projects and climate mitigation.
 - Announcement of a **\$150 million credit line** for renewable energy initiatives.
- Innovation, Technology, and Trade**
 - Strengthen technological collaboration and trade partnerships.
 - Proposal for an **online portal** to connect private sectors and stakeholders.
 - Implementation of a **\$1 million grant** for SMEs announced earlier.
- Cricket and Culture**
 - Promotion of **cricket** as a cultural link.
 - Preservation and sharing of **cultural heritage** to strengthen people-to-people ties.
- Ocean Economy**
 - Focus on sustainable development through **blue economy** sectors.
- Medicine and Healthcare**
 - Strengthening healthcare systems and addressing public health challenges.



Key Awards Conferred on PM Modi

- Guyana**
 - Order of Excellence:** Guyana's highest national award, recognizing leadership in strengthening India-Guyana ties.
 - Key to Georgetown:** Symbolizing goodwill and historic bonds.
- Dominica**
 - Dominica Award of Honour:** Recognizing India's **COVID-19 vaccine support** and leadership in **health, education, and climate resilience**.
- Key Proposals by India**
 - Online Portal:** Connecting stakeholders and businesses between India and CARICOM nations.
 - Support for SMEs:** Implementation of a **\$1 million grant** for SME development.
 - Economic Cooperation:** Renewed focus on renewable energy, climate resilience, and sustainable economic growth.
 - Vision for Collaboration:** Emphasis on the **Five Ts**:
 - Trade, Technology, Tourism, Talent, and Tradition.**



About CARICOM (Caribbean Community)

- **Founded:** 1973 (Treaty of Chaguaramas).
- **Headquarters:** Georgetown, Guyana.
- **Current Chair:** Antigua and Barbuda.
- **Members:** 15 nations, including Jamaica, Haiti, Trinidad and Tobago, and Suriname.
- **Objectives:**
 - **Economic Integration** and cooperation.
 - Ensuring **equitable benefits** of regional growth.
 - Coordinating **foreign policies** of member states.
- **Global Status:** Recognized as a **UN Observer**.

Significance of India-CARICOM Partnership

- **Strategic Significance**
 - Strengthens India's role in the **Global South**.
 - Enhances India's **diplomatic leverage** in multilateral forums.
- **Climate Action and Sustainability**
 - **Shared Challenges:** Both regions face climate change risks, especially **small island nations**.
 - India's leadership in the **International Solar Alliance (ISA)** and **Coalition for Disaster Resilient Infrastructure (CDRI)** provides solutions.
 - **\$150 million credit line:** Financial support for renewable energy projects.
- **Economic Cooperation**
 - Opportunities for Indian investment in **IT, renewable energy, healthcare, and medical tourism**.
 - Capacity-building initiatives, leveraging India's expertise in **digital healthcare** and **agriculture**.
- **Cultural and Diaspora Ties**
 - **Indian Diaspora:** Significant population in the Caribbean strengthens cultural and historical bonds.
 - **Cultural Exchange:** Initiatives to preserve and celebrate shared heritage.

India-Nigeria Relations

International Relations

Why in news?

- Recently, the **Indian Prime Minister** visited **Nigeria**, marking the first high-level visit since 2007. The visit underlines the growing strategic, economic, and cultural cooperation between the two nations.

Key Highlights of the Visit

- **High-Level Discussion**
 - PM Modi met Nigerian President **Bola Ahmed Tinubu** and held delegation-level talks on bilateral ties.
- **National Honor**
 - PM Modi was conferred **Nigeria's national honor, Grand Commander of the Order of Niger**.
 - Previously, this honor was awarded only to **Late Queen Elizabeth II**.
- **Strategic Agreements**
 - **Six agreements** were reached to strengthen the strategic partnership.
- **MoUs Signed**
 - **Cultural Exchange Programme:** Promotes cultural ties and people-to-people exchanges.
 - **Customs Cooperation:** Enhances trade facilitation and reduces customs-related barriers.
 - **Survey Cooperation:** Strengthens technical collaboration for surveys and research.

India-Nigeria Bilateral Relations

- **Historical Ties**
 - India established its diplomatic mission in Lagos in **1958**, two years before Nigeria's independence in **1960**.
 - The two nations share a common colonial past and membership in **Commonwealth Nations**.



- **Economic and Trade Relations**
 - **India** is Nigeria's **largest trading partner**, while **Nigeria** is India's largest trade partner in Africa.
 - **Key Sectors:** Energy, pharmaceuticals, automobiles, and technology.
 - **Trade Statistics:**
 - **Crude Oil:** Nigeria supplies **11-12% of India's crude oil needs**, making it a critical energy partner.
 - **Investments:** Indian investments in Nigeria stand at **\$27 billion**, with opportunities for expansion in sectors like infrastructure and manufacturing.
- **Cultural and Educational Exchange**
 - **Indian Diaspora:** Around **50,000 Indians** reside in Nigeria, forming the largest Indian community in West Africa.
 - **Indian Influence:** Bollywood movies and cultural products have enjoyed popularity in Nigeria since the **1970s**.
 - **Contribution:** Indian teachers, doctors, and professionals have significantly contributed to Nigerian society.
- **Defence and Security Cooperation**
 - **Historical Defence Ties:**
 - India helped establish Nigeria's **National Defence Academy** in **Kaduna** (1964).
 - India provided military instructors for nearly **two decades**.
 - **Training:** Around **27,500 Nigerian personnel** have been trained in India, including at institutions like the **Defence Services Staff College (DSSC), Wellington**.
 - **Maritime Security:** India and Nigeria collaborate on securing the **Gulf of Guinea**, addressing piracy and maritime trade disruptions.
- **Healthcare and Education**
 - **Healthcare:** India is the **top destination** for Nigerians seeking high-quality, affordable medical care.
 - **Education:** Indian institutions are popular among Nigerian students for affordable and quality higher education.

Significance of the Visit

- **Strengthening Strategic Partnership:** Focus on trade, energy security, and maritime cooperation solidifies strategic ties between the two nations.
- **Energy Security:** Nigeria plays a vital role in India's energy diversification strategy, reducing dependency on the Middle East.
- **Economic Growth:** Indian investments in Nigeria's infrastructure and SMEs are crucial for mutual economic development.
- **Cultural Diplomacy:** Shared cultural affinities, such as cricket and cinema, promote **soft power diplomacy**.
- **Regional Influence:** Nigeria's leadership in **ECOWAS (Economic Community of West African States)** aligns with India's **Africa-focused outreach**.

India-Spain Relations

International Relations

Why in news?

- At the invitation of India's Prime Minister, Spain's President **Pedro Sanchez** visited India, highlighting renewed focus on defence, trade, culture, and multilateral cooperation.
- **Key Highlights of the India-Spain Joint Statement**
- **Defence Partnership**
 - Joint inauguration of the **C-295 aircraft assembly line** in **Vadodara, Gujarat**.
 - Significance: Boosts **'Make in India'** and strengthens India's domestic defence manufacturing sector.
- **Economic and Commercial Cooperation**
 - Agreement to establish a **Fast Track Mechanism** to promote ease of business.
 - **India-Spain CEOs Forum:** Both sides emphasized enhancing business-to-business (B2B) collaboration.
- **India-Spain Year of Culture, Tourism, and AI (2026)**
 - 2026 designated as a **special year** to promote cultural exchanges, tourism, and collaboration in **artificial intelligence (AI)**.
- **Global and Regional Cooperation**
 - Emphasis on **multilateralism** and mutual support for **UN Security Council** candidatures.
 - Collaboration on **climate action** and **renewable energy**.



- **Commitment to EU-India Relations**
 - Support for the **India-EU Free Trade Agreement** to strengthen trade ties.
 - Endorsement of the **India-Middle East-Europe Economic Corridor (IMEEC)** to enhance connectivity and logistics.

India-Spain Bilateral Relations

- **Diplomatic Relations**
 - India and Spain established formal diplomatic ties in **1956**, marking over **six decades** of cooperation.
- **Economic and Trade Relations**
 - **Spain** is India's **6th largest trading partner** within the European Union.
 - **Trade Figures:** Total bilateral trade in **2023** amounted to **\$8.25 billion**, registering a **4.2% increase** from 2022.
 - **Foreign Direct Investment (FDI):** India is among Spain's **top 30 global investors** and **top 5 investors from Asia**.
 - **Joint Commission on Economic Cooperation (JCEC):** Established in **1972**; the latest 12th meeting was held in **April 2023** in New Delhi.
 - **India-Spain CEOs Forum:** Founded in **2015** to promote business dialogue.
- **Defence and Strategic Cooperation**
 - Inauguration of the **C-295 aircraft assembly line** marks a significant milestone in India's defence self-reliance and Spain's role as a trusted partner.
 - Potential for future collaboration in **aerospace technology** and defence equipment.
- **Sustainable Development and Climate Action**
 - **Paris Agreement:** Both countries reaffirmed their commitment to achieving **climate goals** under the Paris Agreement.
 - **International Solar Alliance (ISA):** Spain is a member of the **ISA**, aligning with India's global leadership in promoting **solar energy**.
 - Focus on **renewable energy projects** and green technologies.
- **Cultural and People-to-People Ties**
 - **Indian Diaspora:**
 - Approx. **55,000 Indians** reside in Spain as of 2023.
 - Significant contributions in **hospitality, IT, retail, and healthcare** sectors.
 - **Cultural Exchange:** 2026 declared as the **India-Spain Year of Culture, Tourism, and AI**, aiming to foster greater people-to-people interaction.

India-Australia Relations

International Relations

Why in news?

- The 2nd India-Australia Annual Summit, held on the sidelines of the G20 Summit in Rio de Janeiro, marked another milestone in the growing partnership between India and Australia, focusing on renewable energy, trade, and defence cooperation.

Key Highlights of the Summit

- **Renewable Energy Partnership (REP)**
 - Focus on **solar energy, green hydrogen**, energy storage, and allied investments.
 - Objective: Accelerate the clean energy transition, leveraging India's manufacturing expertise and Australia's energy resources.
 - Supports both India's '**Make in India**' and Australia's '**Future Made in Australia**' initiatives.
- **Comprehensive Economic Cooperation Agreement (CECA)**
 - Both nations committed to advancing the **CECA** to unlock the full potential of their bilateral economic partnership.
 - Builds on the success of the **India-Australia Economic Cooperation and Trade Agreement (ECTA)**.
- **Defence and Security Cooperation**
 - Shared vision for long-term collaboration in **defence and security**.
 - **Indo-Pacific Vision:**



- Commitment to **freedom of navigation**, **respect for sovereignty**, and **adherence to international law** under UNCLOS.
- Address regional challenges like **China's assertiveness** in the **South China Sea**.
- **Quad Partnership**: Recognized as a "**force for global good**" to deliver outcomes in the Indo-Pacific.
- **Commitment to Global Peace and Reforms**
 - Advocated for resolving conflicts through **dialogue and diplomacy**, particularly in the Indo-Pacific.
 - Called for reforms in **global institutions** to address emerging geopolitical and economic challenges.
- **Education, Mobility, and Cultural Exchange**
 - **Protection of the Indian Diaspora**: Australian PM assured safety and support for the large Indian student and diaspora communities in Australia.
 - Strengthening **people-to-people ties** through education, skilled workforce mobility, and cultural exchange programs.

Significance of India-Australia Relations

- **Strategic Partnership**
 - **Comprehensive Strategic Partnership (2020)**:
 - Counters China's assertiveness in the Indo-Pacific.
 - **AIPOIP**: Maritime cooperation initiative in the Indo-Pacific.
 - **Quad Grouping**: Collaboration with the US and Japan on strategic and regional security.
- **Economic and Trade Relations**
 - **Bilateral Trade**:
 - Crossed **\$30 billion in 2023**, driven by the **Economic Cooperation and Trade Agreement (ECTA)**.
 - Focus areas: Australian **coal and LNG** imports; Indian **textiles, pharmaceuticals**, and IT exports.
 - **Supply Chain Resilience Initiative (SCRI)**: Collaboration with Japan to diversify supply chains and promote sustainable trade.
- **Critical Minerals Cooperation**
 - **Critical Minerals Investment Partnership**:
 - Supports Indian investments in Australian critical mineral projects.
 - Australia is a key producer of **lithium, cobalt, and rare earths**.
- **Green Energy Cooperation**
 - **Green Hydrogen Taskforce**: Enhances green hydrogen production.
 - **Solar Taskforce**: Accelerates solar PV deployment.
- **Defence Cooperation**
 - Agreements like the **Mutual Logistics Support Agreement** and exercises such as **AUSTRAHIND**, **AUSINDEX**, and **Pitch Black** improve defence interoperability.
- **Regional and Multilateral Engagement**
 - Australia supports India's **UN Security Council candidature**.
 - Collaboration on platforms like **G20** and the **Indian Ocean Rim Association (IORA)**.
- **People-to-People Ties**
 - **Largest source of skilled migrants** to Australia.
 - **Migration and Mobility Partnership Agreement**: Facilitates movement of students, professionals, and researchers.
- **Science and Technology Cooperation**
 - **Telemetry Terminals Agreement**: Collaboration on India's **Human Space Flight Mission** from Cocos Island.

Why in news?

- Prime Ministers of India and Italy held a bilateral meeting on the sidelines of the G20 Summit in Rio de Janeiro, announcing the **Joint Strategic Action Plan 2025-2029** to deepen cooperation in various areas.

Key Highlights of the Joint Strategic Action Plan 2025-2029

- **Economic Cooperation and Investments**
 - Focus on **automotive, semiconductors, infrastructure**, and advanced manufacturing.
 - Strengthening trade and investment via the **Joint Commission for Economic Cooperation** and the **Joint Working Group on Food Processing**.
- **Connectivity**: Collaboration on maritime and land infrastructure under the **India-Middle East-Europe Economic Corridor (IMEC)**.
- **Science and Technology**
 - Expansion of cooperation in critical areas like **AI and digitalization**.
 - Implementation of the **2025-27 Executive Programme for Scientific and Technological Cooperation**.
 - Launch of the **Indo-Italian Innovation and Incubation Exchange Program** for academic and industrial collaboration.
- **Space Sector**: Collaboration between the **Italian Space Agency (ASI)** and **ISRO** on Earth observation, heliophysics, and lunar exploration.
- **Energy Transition**: Organizing "Tech Summits" to strengthen alliances like the **Global Biofuels Alliance (GBA)** and **International Solar Alliance (ISA)**.
- **Defence Cooperation**
 - Annual **Joint Defense Consultative (JDC)** meetings and **Joint Staff Talks (JST)** to enhance coordination.
 - Development of a **Defense Industrial Roadmap** for cooperation in defence manufacturing.

Why in news?

- India and the United States are set to hold the **inaugural U.S.-India Indian Ocean Dialogue** to deepen collaboration in the **Indian Ocean Region (IOR)** and address regional challenges.

Key Highlights of the First India-U.S. Indian Ocean Dialogue

- **Historical Context**
 - Collaboration began in **2015** with the **Joint Strategic Vision for the Asia-Pacific and Indian Ocean Region** during **President Barack Obama** and **Prime Minister Narendra Modi's** leadership.
 - The focus has since been on enhancing **regional security, economic growth, and technological cooperation** in the Indo-Pacific.
- **Objective of the Dialogue**
 - Enhance **maritime security** and **economic prosperity** in the Indian Ocean Region (IOR) and broader Indo-Pacific.
 - Strengthen bilateral cooperation to ensure a **free, open, inclusive, and rules-based Indo-Pacific**.
- **Key Participants**
 - **U.S. Deputy Secretary of State** and **Principal Deputy National Security Adviser** will join virtually.
 - Indian officials and experts on security, technology, and economic growth.
- **Technological Cooperation**
 - Parallel discussions under the **iCET (Initiative on Critical and Emerging Technologies)** Intersessional Meeting.
 - Focus on critical areas like **semiconductors, AI, cybersecurity, and defence technology innovation**.

About the Indian Ocean Dialogue (IOD)

- **Origin**:
 - Established at the **13th Council of Ministers Meeting in 2013** (Perth, Australia).
 - Aimed to enhance regional collaboration for shared growth and sustainable development.

- **First Session:**
 - Held in **2014 in Kerala, India.**
 - Discussed **maritime safety, disaster relief, and economic partnerships.**
- **Key Focus Areas:**
 - **Maritime Safety and Security:** Tackling piracy, illegal fishing, and ensuring freedom of navigation.
 - **Blue Economy:** Sustainable use of ocean resources for economic growth and environmental protection.
 - **Disaster Relief and Response:** Collaborative response to climate-related disasters in the region.
 - **Economic Cooperation:** Promoting trade, connectivity, and regional growth.
- **About the Indian Ocean Rim Association (IORA)**
 - **Establishment:** Founded in **1997** as an **intergovernmental organisation** to promote cooperation in the IOR.
 - **Membership:**
 - **23 Member States** and **11 Dialogue Partners.**
 - India, Australia, South Africa, Indonesia, and the UAE are key members.
 - **Objectives:**
 - **Maritime Security:** Addressing common threats like piracy and illicit trafficking.
 - **Blue Economy:** Promoting sustainable economic practices.
 - **Disaster Risk Management:** Enhancing regional preparedness for natural disasters.
 - **Trade and Investment:** Boosting regional economic integration.

Significance of the U.S.-India Indian Ocean Dialogue

- **Strategic Cooperation**
 - Reinforces India-U.S. **strategic partnership** in the Indo-Pacific.
 - Enhances cooperation to counter China's growing influence in the Indian Ocean.
- **Maritime Security**
 - Addresses challenges like **piracy, illegal fishing, and freedom of navigation.**
 - Strengthens joint naval exercises and information-sharing mechanisms.
- **Economic and Trade Opportunities**
 - Promotes blue economy initiatives, port connectivity, and infrastructure development.
 - Encourages private-sector investments in IOR nations.
- **Technological Collaboration**
 - Builds on the **iCET initiative** to develop critical technologies like **AI, semiconductors, and cybersecurity.**
- **Climate Change and Disaster Response**
 - Enhances cooperation in climate action, disaster relief, and resource management.
- **Challenges in the Indian Ocean Region (IOR)**
 - **China's Assertive Maritime Activities:** Increasing presence of Chinese naval forces and influence through the **Belt and Road Initiative (BRI).**
 - **Piracy and Illegal Activities:** Persistent issues of piracy, drug smuggling, and illegal fishing.
 - **Climate Change:** Rising sea levels and natural disasters threaten small island nations in the Indian Ocean.
 - **Lack of Regional Coordination:** Differing national priorities hinder unified efforts for maritime governance and security.

India Joins ARIN-AP Steering Committee

International Relations

Why in news?

- India, represented by the **Directorate of Enforcement (ED)**, has been inducted into the **ARIN-AP Steering Committee**, signifying a major role in global **asset recovery efforts.**

India's Role in ARIN-AP

- **Leadership Opportunity:**
 - India will assume the **ARIN-AP Presidency** in **2026.**
 - India will host the **Annual General Meeting** in the same year, highlighting its growing leadership in asset recovery and financial crime prevention.



- **Promoting Collaboration:** India will facilitate **knowledge sharing, training, and capacity building** across jurisdictions to strengthen asset tracing and confiscation efforts.
- **Enhancing Global Partnerships:** The ED will coordinate with international bodies like **UNODC** and regional ARIN networks to foster seamless cross-border cooperation.

About Asset Recovery Interagency Network-Asia Pacific (ARIN-AP)

- **Purpose:** ARIN-AP is dedicated to **tracing, freezing, and confiscating assets** linked to criminal activities across the **Asia-Pacific region**.
- **Key Objectives:**
 - **Asset Recovery Focus:** Prioritises confiscation of proceeds of all types of crimes.
 - **Knowledge Hub:** Serves as a centre of expertise for **best practices** and training in asset recovery.
 - **Collaboration:** Enhances **partnerships** with agencies like **UNODC** and private sector players.
- **Membership:**
 - **28 member jurisdictions.**
 - **9 observer organisations,** fostering informal information-sharing channels to track illicit financial flows.
- **Global Significance:** Part of the **CARIN** network, enabling international cooperation and expertise.

About Camden Asset Recovery Inter-Agency Network (CARIN)

- **Overview:** CARIN is a **global informal network** of law enforcement and judicial authorities focusing on **asset tracing, freezing, and confiscation**.
- **Objectives:**
 - Prevent criminals from **profiting** from illicit activities.
 - Facilitate **cross-border collaboration** and **information exchange**.
- **Membership:**
 - **61 jurisdictions** (including 27 EU members).
 - **13 international organisations.**
 - CARIN connects with **7 regional ARIN networks** globally (e.g., ARIN-AP, ARIN-WA for West Africa).

Significance of India Joining ARIN-AP Steering Committee

- **Enhanced Global Standing:** India's inclusion reinforces its position as a key player in global financial crime prevention and asset recovery.
- **Strengthened Enforcement:** The **Directorate of Enforcement** can collaborate more effectively with regional and global agencies to recover illicit funds.
- **Combating Money Laundering:** India can leverage ARIN-AP's platform to tackle **money laundering** and transnational organized crime networks.
- **Leadership in Asia-Pacific:** Hosting the **2026 AGM** will strengthen India's influence in regional decision-making on asset recovery policies.
- **Boost to G20 Priorities:** Aligns with India's focus on **anti-corruption, financial transparency, and asset recovery**, reiterated during its G20 Presidency.

DiGi Framework

International Relations

Why in news?

- The **Digital Infrastructure Growth Initiative for India (DiGi Framework)** was recently signed by the **United States, Japan, and South Korea** to foster cooperation in building India's digital infrastructure.

Key Features of the DiGi Framework

- **Objective:** To advance **collaboration with the Indian private sector** in supporting and expanding **digital infrastructure** in India.
- **Partner Agencies**
 - **U.S. International Development Finance Corporation (DFC)**
 - **Japan Bank for International Cooperation (JBIC)**
 - **Export-Import Bank of Korea (Korea Eximbank)**



- **Implementation Focus**
 - Projects include:
 - **5G and Open RAN Technologies**
 - **Submarine Cables**
 - **Optical Fiber Networks**
 - **Data Centers**
 - **Smart City Initiatives**
 - **E-Commerce Platforms**
 - **Artificial Intelligence (AI) and Quantum Technology**

Digital Public Infrastructure (DPI) in India

- **India's Leadership in DPI**
 - India is the **first country to build all three foundational DPIs** under **India Stack**:
 - **Digital Identification (Aadhaar)**
 - **Real-Time Payments (UPI)**
 - **Data Sharing Architecture (Data Empowerment and Protection Architecture - DEPA)**
- **Significance of DPI in India**
 - **Inclusive Development:**
 - Achieved **80% financial inclusion** during 2018–2023.
 - Enabled **direct benefit transfers (DBTs)**, benefiting **87% of poor households** during COVID-19.
 - **Economic Growth:**
 - DPI implementation in the financial sector could accelerate economic growth by **33%**.
 - **Emission Reduction:**
 - DPI in the climate sector could **accelerate emissions control** by 5–10 years through enhanced carbon offset tracking, land mapping, and weather monitoring.

India's Global DPI Efforts

- **US-India Global Digital Development Partnership:** Focus on **deploying digital technologies responsibly** across Asia and Africa.
- **G20 Framework for Systems of DPI:** Adopted under **India's G20 leadership** to outline principles for designing and deploying DPIs globally.
- **Virtual Global DPI Repository:** Being set up by India to host **DPI-focused tools, resources, and experiences** for the global community.

Implications of DiGi Framework

- **Strengthening Digital Infrastructure in India:** Boosts investments in cutting-edge technologies like **5G** and **quantum computing**, aligning with India's **Digital India** mission.
- **Fostering Strategic Partnerships:** Reinforces India's ties with the **U.S., Japan, and South Korea**, deepening trilateral and multilateral collaborations.
- **Enhancing Global Competitiveness:** Supports India in becoming a **global digital hub** by expanding its infrastructure and digital capabilities.
- **Promoting Sustainability and Innovation:** Encourages **sustainable development** through smart city initiatives and **climate-focused DPIs**.

India-Nepal-Bangladesh Trilateral Power Transaction

International Relations

Why in news?

- India, Nepal, and Bangladesh successfully launched their **first trilateral power flow transaction**, marking a milestone in regional **energy cooperation**.

Key Highlights

- **Transaction Details:**
 - **Power Export:** Nepal will export **40 MW** of electricity to Bangladesh.
 - **Transmission Route:** The power will flow through **India's transmission lines**, enabling cross-border connectivity.



- **Facilitating Agreement:**
 - The deal was formalized via the **Tripartite Power Sales Agreement** on **October 3, 2024**, in **Kathmandu**.
 - Parties Involved:
 - **Nepal Electricity Authority (NEA)**
 - **Bangladesh Power Development Board (BPDB)**
 - **NTPC Vidyut Vyapar Nigam (India)**
- **Transmission Infrastructure:**
 - India's robust power infrastructure will act as the **transmission corridor**, facilitating energy trade between Nepal and Bangladesh.
- **Regional Impact:**
 - **Strengthened Cooperation:** Enhances **sub-regional energy cooperation** under the South Asian framework.
 - **Economic Linkages:** Supports mutual economic benefits through energy connectivity.
 - **Energy Security:** Diversifies the energy portfolio for all three nations.

Significance for India

- **Regional Power Hub:** Strengthens India's role as an **energy facilitator** and **power hub** in South Asia.
- **Geopolitical Influence:** Reinforces India's position as a trusted partner for both **Nepal** and **Bangladesh**, countering China's increasing presence in the region.
- **Economic Gains:** India benefits from **transmission fees** and boosts its energy diplomacy.
- **Energy Market Integration:** Promotes regional **power grid connectivity** in line with SAARC and BIMSTEC energy goals.

Significance for Nepal

- **Revenue Generation:** Power exports provide a new revenue stream for Nepal's energy surplus.
- **Regional Integration:** Expands Nepal's access to regional energy markets.
- **Utilization of Hydropower:** Nepal leverages its rich **hydropower potential** for economic development.

Significance for Bangladesh

- **Meeting Energy Demand:** Addresses Bangladesh's rising energy demand, supporting its **industrial growth**.
- **Clean Energy Access:** Hydropower from Nepal aligns with Bangladesh's **renewable energy goals**.
- **Reduced Energy Dependence:** Diversifies Bangladesh's energy imports, reducing reliance on fossil fuels.



Why in News?

- The **Centenary Celebrations of Bose-Einstein (B-E) Statistics** were recently inaugurated by the **Ministry of Science and Technology** to commemorate S. N. Bose's contributions to theoretical physics.

About Satyendra Nath Bose (1894-1974)

- Early Life and Education:**
 - Born in **Nadia district**, West Bengal.
 - Studied at **Presidency College, Kolkata**, under renowned teachers like **Prafulla Chandra Ray** and **Jagadish Chandra Bose**.
- Academic Career:** Worked in the Physics Departments of **University of Calcutta** and **Dacca University**.
- Key Achievements:**
 - Padma Vibhushan** recipient in 1954.
 - Elected as **Fellow of the Royal Society (FRS)**.

Scientific Contributions

- Bose-Einstein Statistics:**
 - Significance:**
 - Describes the statistical behavior of indistinguishable particles (e.g., photons, bosons) at **thermodynamic equilibrium**.
 - Explains how particles distribute among quantum states, especially at **low temperatures**.
 - Collaboration with Einstein:**
 - Extended to gas molecules, leading to the classification of particles into **Fermions** and **Bosons**.
 - Bosons:** Fundamental particles with **integer spin values** (e.g., photons, gluons).
 - Applications:**
 - Predicted **Bose-Einstein Condensates (BEC)**, a unique quantum state of matter.
 - Enabled technologies like **lasers, transistors, MRI, and semiconductors** during the **first quantum revolution**.
- Bose-Einstein Condensates (BEC):**
 - What is BEC?**
 - A **fifth state of matter** observed when particles are cooled to near **absolute zero**.
 - All particles occupy the same **quantum state**, acting as a single entity.
 - Properties:**
 - Superfluidity:** Flows without viscosity or resistance.
 - Superconductivity:** Zero electrical resistance, enabling optimal conductivity.
 - Coherence:** All particles behave in a synchronized quantum state.
 - Macroscopic Occupation:** Large numbers of particles occupy the same quantum state.
 - Applications:** Basis for **quantum computing** and **quantum sensing** in the **second quantum revolution**.
- Contributions to Other Fields:**
 - Organic Chemistry:** Used **X-ray diffraction** to study atomic structures in clay minerals.
 - Thermoluminescence:** Developed high-sensitivity spectrophotometers for experimental analysis.
 - Higgs Boson (God Particle):** Discovery rooted in principles of **Bose-Einstein statistics** and BEC.
- Impact and Legacy**
 - Scientific Advancements:** Bose's work laid the foundation for quantum mechanics and inspired the discovery of **Higgs Boson**.
 - Recognition:** **Bosons** were named after S.N. Bose, immortalizing his contributions to particle physics.
 - Institutions Honoring Bose:** **S.N. Bose National Centre for Basic Sciences** established to promote research in basic sciences.

Why in News?

- **ISRO** and the **Department of Biotechnology (DBT)** have collaborated to advance **Space Biotechnology research**, addressing key challenges for long-duration space missions and enhancing human survival in space.

Key Challenges in Space Missions

- **Nutritional Scarcity:** Limited availability of fresh nutrients in long-term missions.
- **Waste Management:** Efficient recycling of waste for sustainability.
- **Health Hazards:**
 - Exposure to microgravity leading to **muscle and bone loss**.
 - **Radiation hazards**, increasing risks of cancers and cataracts.
- **Food Preservation:** Long-term storage of food while retaining nutritional value.
- **Microbial Control:** Risk of microbial contamination in closed environments.

Space Biotechnology Applications and Significance

- **Microgravity Research**
 - **Significance:**
 - Microgravity enables the growth of high-quality **protein crystals**, aiding in **drug discovery**.
 - Offers insights into cellular and molecular mechanisms.
 - **Examples:** Space-based protein crystal growth experiments enhance the precision of medicines for diseases like **Alzheimer's** and **cancer**.
- **Radiation Research**
 - **Significance:**
 - Predicts cellular repair mechanisms in response to **ionizing radiation**.
 - Improves astronaut safety and long-term survival.
 - **Example: BioSentinel Program (NASA):** Focuses on double-strand DNA break repair under radiation conditions in space. Launched with **Artemis I** in 2022.
- **Environmental Monitoring**
 - **Significance:**
 - Study of **microbial bioremediation** techniques for transforming **Martian and Lunar regolith** into soil for plant growth.
 - Promotes **self-sufficiency** in extraterrestrial colonies.
- **Disease Modeling**
 - **Significance:**
 - Simulates space-induced diseases like **osteoporosis** and **muscle atrophy** to develop treatments.
 - Advances knowledge for both space missions and Earth-based healthcare.
- **Bioregenerative Life Support Systems (BLSS)**
 - **Significance:**
 - Develops **self-sustaining systems** for oxygen regeneration, food production, and waste recycling.
 - Benefits **Earth's resource management** through sustainability solutions.

Space Biotechnology Initiatives

- **India**
 - **Axiom-4 Mission:** Aims to carry Indian experiments to the International Space Station.
 - **Gaganyaan Mission:** Includes research on the impact of microgravity on human physiology.
- **Global Initiatives**
 - **NASA Space Biology Program:** Focuses on understanding the fundamental biological effects of space environments.
 - **Biolab (European Space Agency):** Facilitates biological experiments on the International Space Station.
 - **Space Breeding Programs (CNSA):** Develops new plant varieties by leveraging radiation and microgravity to induce mutations.

Why in News?

- ISRO has launched India's first **Analog Space Mission** in **Leh, Ladakh**, aimed at planning experiments for future **lunar missions**.

About Analog Space Missions

- **Definition:** Analog space missions are **field tests** conducted in environments on Earth that mimic the extreme conditions of space.
- **Purpose:**
 - Testing new **technologies, robotic equipment, and vehicles**.
 - Studying **human behavioral effects**, such as **isolation** and **confinement**.
 - Evaluating mission logistics and **scientific experiments**.
- **Leh, Ladakh – The Chosen Site:**
 - **Geographic Features:**
 - Dry, cold climate, barren landscapes, and **high-altitude terrain**.
 - These conditions resemble **Martian** and **lunar landscapes**.
 - **Isolation:** Provides a perfect setting to simulate space missions.

Why in the News?

- SpaceX's **Falcon-9 rocket** successfully launched India's **GSAT-N2** satellite.

About GSAT-N2

- **Developer:** Built by **NewSpace India Limited (NSIL)**, the commercial arm of ISRO.
- **Features:**
 - Geosynchronous Transfer Orbit (GTO).
 - Life span: **14 years**.
 - Mass: **~4,700 kg**.
- **Launch Details:** Falcon-9 was used due to its **payload capacity**, exceeding ISRO's LVM-3 limit of 4,000 kg.
- **Significance:**
 - Enhances **broadband services** and **in-flight connectivity**.
 - Provides pan-India coverage, including **Andaman & Nicobar** and **Lakshadweep islands**.

Why in News?

- **Japan** has launched the world's first **wooden satellite, LignoSat**, to study the behavior of wood in space.

About LignoSat

- **Material:**
 - Made from **Honoki wood** (Magnolia tree native to Japan).
 - Combines **wooden structures** with traditional aluminum and electronic components.
- **Significance:**
 - Explores **renewable materials** for space applications.
 - Wood in space:
 - Resists decay due to the absence of **water** and **oxygen**.
 - Burns up completely during re-entry, avoiding harmful pollutants.
 - Supports **sustainability** in space technologies.

Why in News?

- The Ministry of Science and Technology has launched **Operation Dronagiri** and the **Integrated Geospatial Data Sharing Interface (GDI)** as part of efforts to **liberalize geospatial data** and foster innovation in geospatial technologies.

Geospatial Data Overview

- Definition:** Information describing objects, events, or other features with a location on or near the Earth's surface.
- Examples:**
 - Satellite imagery
 - Census data
 - Social media data with location tags
- Significance:**
 - Critical for **national infrastructure** and as an information resource.
 - Applications include agriculture, urban planning, disaster management, logistics, and public services.

Operation Dronagiri

- Objective:** To demonstrate the **applications of geospatial technologies** in improving the quality of life and enabling ease of doing business.
- Alignment:** A pilot project under the **National Geospatial Policy 2022**.
- Implementation:**
 - Led by the **Geospatial Innovation Cell**, Department of Science and Technology.
 - First phase involves **pilot projects** in **Uttar Pradesh, Haryana, Assam, Andhra Pradesh, and Maharashtra**.
- Focus Areas:**
 - Agriculture:** Enhancing crop monitoring, precision farming, and land-use optimization.
 - Livelihoods:** Supporting employment generation, skill development, and local entrepreneurship.
 - Logistics and Transport:** Improving transportation efficiency, route optimization, and supply chain management.

Direct-to-Device (D2D) Satellite Connectivity

Science & Technology

Why in News?

- BSNL launched India's first **Direct-to-Device (D2D) Satellite Connectivity**, a significant milestone in bringing satellite-based communication to everyday users, particularly in underserved and remote areas.

Working of D2D Satellite Technology

- Principle:**
 - Satellites function as **cell towers in space**, eliminating the need for traditional ground-based cellular towers.
 - Signals are transmitted directly to devices on the ground using orbiting satellites.
- Technology:**
 - Non-Terrestrial Network (NTN):** Facilitates two-way seamless communication between satellites and devices.
 - BSNL's Implementation:**
 - Utilizes **Viasat's Geostationary L-band satellites**, positioned 36,000 kilometers above Earth.
 - Bypasses ground-based towers, ensuring reliable coverage for remote regions.

Significance of D2D Connectivity

- Reliable Connectivity:** Provides **uninterrupted internet services**, irrespective of adverse weather or lack of terrestrial infrastructure.
- Wider Coverage:** Extends high-speed connectivity to **remote and rural areas** where cellular and Wi-Fi networks are unavailable.

- **Digital Empowerment:** Enables **UPI payments** and digital transactions in underserved regions, fostering financial inclusion.
- **Emergency Services:** Facilitates **emergency calls and SOS messaging** in areas without network coverage, benefiting adventurers, travelers, and disaster-prone regions.
- **Support for Remote Communities:** Boosts education, healthcare, and communication services in **isolated areas**.

Global Initiatives in D2D Technology

- **SpaceX Starlink:** Focuses on high-speed internet through low-Earth orbit (LEO) satellites.
- **AST SpaceMobile and Lynk Global:** Specialize in enabling satellite-to-smartphone connectivity.
- **Constellation Global:** Aims to bridge the connectivity gap worldwide through satellite technology.

Gravity Energy Storage (GES)

Science & Technology

Why in news?

- Gravity Energy Storage (GES) is an innovative **mechanical energy storage system** leveraging gravitational potential energy for electricity generation. It is considered an alternative to battery storage for managing intermittent solar and wind energy.

About GES

- **Energy Storage:** Excess energy from renewable sources (solar/wind) is used to **lift heavy masses**, such as:
 - **Water reservoirs** (traditional pumped storage).
 - **Concrete blocks.**
 - **Compressed earth blocks.**
- **Energy Generation:** When energy demand rises or renewable supply declines, the mass is **lowered**, converting potential energy into electricity through a generator.

Advantages

- **High Efficiency:** GES systems can achieve **80–90% energy efficiency**.
- **Large Storage Capacity:** Suitable for grid-scale energy needs.
- **Environmental Benefits:** No harmful emissions or chemical waste as seen in traditional batteries.
- **Longevity:** GES systems have a lifespan of **decades**, unlike batteries that degrade over time.
- **Integration with Renewables:** Smoothens power supply variability from solar and wind energy.

BRIC-National Agri-Food Bio-Manufacturing Institute

Science & Technology

Why in news?

- Recently inaugurated in Mohali, Punjab, **BRIC-NABI** is **India's first biomanufacturing institute** designed to bridge the gap in the country's **biomanufacturing capabilities**.

Key Details

- **Formation:** Created by merging the **National Agri-Food Biotechnology Institute (NABI)** and the **Centre of Innovative and Applied Bioprocessing (CIAB)**.
- **Funding:** Sponsored by the **Department of Biotechnology**.

Objectives

- **Cutting-Edge Research:**
 - Promote research in:
 - **Genetic manipulation.**
 - **Metabolic pathways** for better crop yield and food processing.
- **Biomanufacturing:**
 - Develop **large-scale production facilities** for bio-based products like:
 - Biofuels.
 - Biodegradable plastics.
 - Nutritional supplements.
- **Startup Support:** Nurture **startups** in the biomanufacturing sector by providing **technical and financial aid**.



Significance

- **Food Security:** Advances in agri-biotechnology can ensure **sustainable food production**.
- **Economic Growth:** Boosts India's bioeconomy by reducing dependence on imports.
- **Environmental Sustainability:** Encourages the use of **green bioprocessing methods**.

One Day One Genome Initiative

Science & Technology

Why in the News?

- The **Department of Biotechnology (DBT)** and **Biotechnology Research and Innovation Council (BRIC)** launched the '**One Day One Genome**' initiative on the 1st foundation day of BRIC.

About 'One Day One Genome' Initiative

- **Objective:** Publicly release **one annotated microbial genome daily**, making microbial genomic data accessible to researchers.
- **Focus:**
 - Highlight **unique bacterial species** found in India.
 - Showcase their roles in the **environment, agriculture, and human health**.
- **Significance:**
 - Drives employment and boosts the **startup economy** in the biotech sector.
 - Aids in implementing **India's Biotechnology for Economy, Environment, and Employment (BioE3) policy**.
 - Unlocks microbial potential by identifying unknown microbes.
 - Spurs **innovation in microbial genomics**.

About Microbial Genomics

- **Definition:** Study of the **complete genetic material of microorganisms** to understand their **structure, function, evolution, and interactions**.
- **Examples of Microbes:** **Bacteria, archaea, protozoa, and microscopic animals**.
- **Applications:**
 - Understanding disease-causing bacteria and genetic makeup for **pathogen surveillance**.
 - Advancing **biotech applications** such as biofuels and bio-manufacturing.
 - Supporting **environmental sustainability** via bioremediation and nutrient cycling.

Key Benefits of the Initiative

- **For Human Health:**
 - Enables identification of **drug-resistant pathogens**.
 - Supports **personalized medicine** through detailed microbial analysis.
- **For Environment:**
 - Facilitates **bioremediation** by leveraging microbes for pollution mitigation.
 - Helps in conserving biodiversity.
- **For Agriculture:**
 - Promotes sustainable farming by identifying **nitrogen-fixing bacteria** like **Rhizobium**.
 - Enhances soil fertility and pest control.
- **Economic Growth:**
 - Creates **employment opportunities**.
 - Fuels biotech startups and strengthens India's position in **global genomics research**.

Oral Rehydration Therapy (ORT)

Science & Technology

Why in News?

- Renowned global health scholar **Richard Cash**, instrumental in the development of **Oral Rehydration Therapy (ORT)**, recently passed away.

About ORT

- **Definition:** ORT is the administration of oral solutions containing **glucose, sodium chloride, potassium chloride, and sodium bicarbonate** to **prevent or treat dehydration**.

- **Key Components:**
 - **Rehydration:** Replacement of lost fluids and electrolytes.
 - **Maintenance Fluid Therapy:** Sustains fluid balance during recovery, paired with proper nutrition.

Pioneers of ORT

- **Richard Cash:**
 - Conducted the first clinical trials on **cholera patients** in Bangladesh.
 - Demonstrated that ORT could **reduce intravenous fluid needs** significantly.
- **Dilip Mahalanabis (India):**
 - Introduced ORT during a cholera epidemic in a refugee camp, saving thousands of lives.
 - Popularized **oral rehydration solutions (ORS)** for treating diarrhea globally.

Effectiveness of ORT

- **Diarrhea:**
 - **Reduction in Child Mortality:** ORT has contributed to a **two-thirds decline in child deaths from diarrhea since 1990**.
 - **Nutritional Preservation:** Prevents nutritional deficiencies caused by diarrhea, supporting children's growth.
- **Cholera:**
 - ORT reduced mortality rates from **50% to less than 0.2%** in cholera patients.
 - Decreased dependence on intravenous fluids by **80%** in patients treated with ORT.
- **Mechanism:**
 - **Molecular Action:**
 - ORT exploits the gut's **sugar-sodium absorption mechanism**.
 - Sugar facilitates sodium absorption, which draws water and chloride ions into cells, rehydrating the body efficiently.

Indian Initiatives

- **National Oral Rehydration Therapy Programme (1985):**
 - Promoted ORT to combat child mortality from diarrhea.
 - Focused on awareness campaigns and healthcare training.
- **National Health Mission (NHM):** Incorporates ORT to address childhood illnesses like diarrhea and dehydration.
- **STOP Diarrhoea Campaign:** Targets prevention and effective treatment of diarrheal diseases.
- **Global Initiatives**
 - **WHO and UNICEF Recommendations:** Advocate the combined use of **ORS and zinc** for treating diarrhea.
 - **Global Task Force on Cholera Control (GTFCC): Roadmap 2030:** Aims to reduce cholera deaths by 90% and eliminate outbreaks in 20 countries.
 - **GAVI, the Vaccine Alliance:** Supports initiatives to prevent and treat diarrheal diseases, including ORT promotion.

RNA Editing

Science & Technology

Why in News?

- **Wave Life Sciences**, a U.S.-based biotechnology company, has demonstrated the first successful clinical application of **RNA editing** in humans to treat **alpha-1 antitrypsin deficiency (AATD)**, a genetic disorder affecting the liver and lungs.

About RNA Editing

- **Definition:** RNA editing is a post-transcriptional process where RNA sequences are modified through **insertion, deletion, or substitution** of nucleotides without altering the underlying DNA.
- **Technique Used:**
 - Scientists used **Adenosine Deaminase Acting on RNA (ADAR)** enzymes in combination with **guide RNA (gRNA)**.



- **Guide RNA (gRNA):** Small RNA molecules that direct the RNA editing machinery to specific sites on **mRNA** for targeted modification.
- **Process:**
 - RNA is composed of four nucleotides: **Adenine (A), Guanine (G), Uracil (U), and Cytosine (C).**
 - **ADAR enzymes** convert **Adenosine (A)** to **Inosine (I)**, which mimics the function of **Guanosine (G).**
 - The cell recognizes **Inosine** in place of **Adenosine**, initiating a cellular response to correct the mismatch.
 - This process restores the original function of the **mRNA**, enabling the production of **normal proteins.**

Significance of RNA Editing

- **Treatment of Genetic Disorders:** Provides a method to **correct mRNA errors** that cause diseases such as **AATD, cystic fibrosis, and neurological disorders.**
- **Reversible and Flexible:** **Temporary modifications** allow safer intervention without permanent alteration to the genome, reducing the risk of irreversible errors.
- **Immune Compatibility:** RNA editing uses **ADAR enzymes**, naturally present in the human body, minimizing the risk of **immune reactions.**
- **Precision Medicine:** Enables highly **targeted treatments**, addressing specific mutations in mRNA sequences.

Nafithromycin

Science & Technology

Why in News?

- The Union Minister of Science and Technology recently launched **Nafithromycin, India's first indigenous antibiotic**, developed to combat **antibiotic-resistant infections.**

About Antibiotics

- **Definition:** Antibiotics are **chemical substances** produced either synthetically or naturally by microbes to **kill or inhibit** the growth of disease-causing microorganisms.
- **Characteristics:**
 - **Low Toxicity:** Safe for humans and animals.
 - **Limited to Bacterial Infections:** Antibiotics target bacteria, not viruses (e.g., common cold or flu), as viruses lack the **cell wall** or structures targeted by antibiotics.
- **Common Examples:**
 - **Streptomycin:** Used against tuberculosis.
 - **Tetracycline:** Effective against a broad range of bacterial infections.
 - **Erythromycin:** Targets respiratory infections.
- **Nafithromycin: Key Details**
 - **Development:** It is the **first antibiotic developed indigenously** in India, addressing the growing concern of **antibiotic resistance.**
 - **Target:** Specifically designed to combat **multi-drug resistant (MDR) bacteria**, which are becoming a significant threat to public health globally.
 - **Working Mechanism:** Nafithromycin belongs to a class of **macrolide antibiotics** and functions by inhibiting bacterial protein synthesis, ultimately stopping bacterial growth.
- **Applications:** Treatment of **respiratory tract infections, skin infections**, and infections caused by **MDR bacteria.**

Significance of Nafithromycin

- **Combating Antibiotic Resistance:** Antibiotic resistance is recognized as a **global health crisis.** Nafithromycin represents a crucial tool in addressing this challenge.
- **Boost to Indigenous R&D:** Promotes **self-reliance** in healthcare and biotechnology, reducing dependency on imports for critical medications.
- **Global Implications:** India's contribution to the fight against **antimicrobial resistance (AMR)** strengthens its position as a global leader in **pharmaceutical innovation.**
- **Affordable Healthcare:** As an indigenous product, it ensures **cost-effective** treatment options for patients, especially in resource-constrained settings.

Why in News?

- The **Parliamentary Standing Committee on Defence** recently reviewed the **Indian Coast Guard's (ICG)** role in ensuring **coastal security** and its contributions to maritime safety and enforcement.

About the Indian Coast Guard (ICG)

- Constituted:** Established in **August 1978** under the **Coast Guard Act 1978**.
- Role:** Serves as the **National Coordinating Agency** for:
 - Maritime Law Enforcement**
 - Search and Rescue Operations**
 - Marine Pollution Response**
- Ministry:** Operates under the **Ministry of Defence**.
- Maritime Security Framework:** Integral to India's **multi-tier arrangement** for **protection of maritime borders**.

Roles and Responsibilities

- Enforcement of Maritime Laws:** Implements maritime regulations and international treaties signed by India.
- Protection of Offshore Infrastructure:** Conducts patrols to safeguard **artificial islands, offshore terminals, and development areas** on both coasts.
- Safety of Life and Property:**
 - Provides aid to distressed mariners.
 - Safeguards fishermen and protects against natural and man-made disasters.
- Inter-Agency Coordination:**
 - Collaborates with customs and enforcement agencies.
 - Conducts **anti-smuggling operations** to prevent contraband movement.
- Environmental Protection:** Engages in **marine environment preservation** and monitors pollution.
- Scientific Contributions:** Collects **meteorological and oceanographic data** for research and planning.

Key Initiatives to Strengthen the ICG

- Inter-Agency Maritime Exercises:** Participates in and conducts operations like **SAREX-2024** and **Sagar Kavach** to enhance preparedness.
- Increased Responsibility (2009):** Designated as the authority for **coastal security** in **territorial waters**.
- Coastal Command:** The **Director General of ICG** acts as the **Commander Coastal Command** to ensure coordination between **central and state agencies** for coastal security.
- Modernization:** Equipped with advanced vessels, aircraft, and technology for effective surveillance and response.

Why in the News?

- The **Computer Emergency Response Team of India (CERT-In)** has issued an advisory alerting citizens about **online scams**, including the rising threat of **digital arrests**.

About Digital Arrest

- Definition:**
 - Digital arrest is an **online scam** where fraudsters impersonate **law enforcement officials** such as the **CBI, Police, or Enforcement Directorate (ED)** through:
 - Phone Calls**
 - Video Calls**
 - Fake Notices**
 - Victims are **falsely accused** of criminal activities and extorted for money.

Key Facts

- **Prevalence:** As per the **Indian Cyber Crime Coordination Centre (I4C)**, ₹120.30 crore was lost by Indians to digital arrests between **January and April 2024**.
- **International Fraud Centers:** Many fraudsters are based in **Myanmar, Laos, and Cambodia**.
- **Techniques Used:**
 - **AI voices and videos** to simulate law enforcement.
 - Use of **professional logos** and **official-sounding scripts**.

Reasons for the Rise in Digital Arrests

- **Increase in Digital Transactions:** Widespread adoption of digital payments has created more opportunities for cyber fraud.
- **Lack of Awareness:** Many users lack the necessary **cybersecurity literacy** to identify scams.
- **Advancement in Fraud Techniques:**
 - Fraudsters use sophisticated methods like:
 - **AI-powered impersonation.**
 - **Simulated video calls.**

Government Initiatives to Tackle Digital Arrest

- **Indian Cyber Crime Coordination Centre (I4C):**
 - Established by the **Ministry of Home Affairs** to address all forms of cybercrime.
 - Includes the **Cyber Fraud Mitigation Centre (CFMC)** for collaborative work with:
 - Banks
 - Payment aggregators
 - Telecom service providers
- **Blocking International Spoof Calls:** Collaboration between the **Central Government** and **Telecom Service Providers (TSPs)** to identify and block calls appearing to originate from India but originating internationally.
- **Samanvaya Platform:**
 - A **Joint Management Information System** for analyzing:
 - Interstate cybercrime linkages.
 - Patterns in criminal activities.
- **National Cyber Crime Reporting Portal:** A platform under I4C for citizens to **report cybercrimes** easily.
- **CERT-In Best Practices:**
 - Verify the identity of callers claiming to be officials.
 - Avoid sharing personal or financial details over the phone.
 - Never install **remote access software** upon someone else's request.
 - Avoid clicking on **suspicious links** or downloading apps from unknown sources.





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