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IAS STUDY CIRCLE

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CURRENT AFFAIRS

MAINS **UPSC CSE** **IAS Exam** **2026**

Monthly Magazine



**Most Important
Current Affairs
Topics for CSE
Mains 2026**



**Topics Based on
Syllabus and
Previous Year
Questions**



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PREFACE

Dear Students,

Understanding and organizing Civil Services Exam relevant Current affairs in a crisp and concise manner is essential for success in the Civil Services exam. Our exclusive CSE Mains current affairs magazine will fulfil that need in your preparation.

Features

- Crisp, Clear and insightful analysis on key Current Affairs issues.
- Important issues segregated according to CSE Main Exam syllabus.
- Content written in question and answer format for clarity, easy recollection and coherence while writing the main examination.
- Exam relevant topics curated from The Hindu and Indian Express.

All the best

R.C.Reddy IAS Study Circle

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GS I - INDIAN HERITAGE AND CULTURE, HISTORY AND GEOGRAPHY OF THE WORLD AND SOCIETY

A. INDIAN CULTURE

I. Art Forms, Literature and Architecture

1. GI Tag and Cultural Misappropriation

Why in the news?

- On June 25, 2025, at the Milan Fashion Week, luxury fashion brand Prada showcased footwear inspired by **Kolhapuri chappals**, a **Geographical Indication (GI)**-tagged product of India. The move sparked concerns of **cultural misappropriation** and brought global attention to the vulnerability of India's **traditional knowledge systems** and artisanal heritage in the face of inadequate international intellectual property protections.

Significance of GI Protection

- Economic Empowerment:** GIs boost **rural livelihoods**, particularly for **artisans, farmers, and tribal communities**.
- Cultural Preservation:** GI protection **safeguards intangible heritage** and indigenous knowledge systems.
- Consumer Assurance:** GI tags act as a **quality guarantee**, fostering **consumer trust** in authenticity.
- Sustainable Development:** They encourage **localised production**, eco-friendly methods, and **non-industrial craft preservation**.

Challenges of Enforcement and Infringement

- Territorial Limitations:** GI rights are **not global by default**—they are **territory-specific**, limited to jurisdictions where registered.
- Infringement Types:**
 - Misrepresentation of origin.
 - Unfair competition and passing-off.
 - Falsely branding goods with GI-linked names.

Way Forward

- Expansion of Traditional Knowledge Digital Library (TKDL):** Widen the scope to include **traditional crafts, designs, and community practices**.
- Creation of Searchable Global Databases:** Allow companies to **check for protected traditional expressions** before commercial use.
- International Advocacy for GI Recognition:** Push for **mutual recognition treaties** or **multi-lateral agreements** under WTO or WIPO.
- Promote Benefit-Sharing Models:** Encourage **licensing agreements** or **royalty-based collaborations** between global brands and Indian artisan clusters.
- Public Awareness & Cultural Sensitivity:** Foster awareness among Indian stakeholders and global corporations about the **ethical implications** of cultural appropriation.

2. The Dalai Lama, His Successor, and China

Why in the news?

On July 6, 2025, Tenzin Gyatso, the 14th Dalai Lama, turned 90. This milestone birthday carries exceptional importance as it coincides with his earlier declaration (2011) to consult Tibetan spiritual leaders and followers on the continuation of the Dalai Lama institution and the process of identifying his reincarnation.

The Dalai Lama: A Spiritual and Political Legacy

- **Birth & Recognition:** Born in **Taktser (Qinghai, China)** in 1935, the Dalai Lama was identified at age 2 as the reincarnation of the **13th Dalai Lama, Thubten Gyatso**, and enthroned in 1940.
- **Exile & Tibetan Uprising:** After the **1959 Tibetan uprising** was crushed by Chinese forces, the Dalai Lama escaped to India, where **Jawaharlal Nehru's government settled him in McLeodganj, Dharamshala**, and facilitated the formation of the **Tibetan government-in-exile**.
- **Separation of Powers:** In **2011**, he voluntarily relinquished his **temporal authority**, transferring political leadership to the **democratically elected Central Tibetan Administration (CTA)**, marking the end of a **368-year-old tradition** where the Dalai Lama held both spiritual and political roles.

The Reincarnation Question

- **Tulku Tradition:** The Dalai Lama is believed to be the **reincarnation of Avalokiteshvara (Chenrezig)**, the Bodhisattva of compassion, embodying Tibetan Buddhism's **tulku system**, where spiritual leaders reincarnate to continue their work.
- **Dalai Lama's 2011 Statement:** He announced that around **age 90**, he would **consult high lamas, Tibetan Buddhists, and the public** to decide whether the institution should continue and how his reincarnation should be identified.
- **Framework for Continuation:** He emphasized that the **Gaden Phodrang Trust** (his personal office) should lead the recognition process, consulting Tibetan Buddhist heads and adhering to **traditional procedures**, and insisted that the reincarnation must be found in a **"free country, not under Chinese control."**

China's Stance and Interference

- **Beijing's Position:** China brands the Dalai Lama a **"splittist"** and has **outlawed public devotion** to him in Tibet. It asserts its right to control the reincarnation process through the **2007 decree** mandating state authorization for recognizing "Living Buddhas" and applying the **Golden Urn method**.
- **Strategic Intent:** There are fears that **China will announce its own Dalai Lama**, using the position to **legitimize its authority over Tibet** and erode Tibetan cultural autonomy.
- **Dalai Lama's Response:** In his book **Voice for the Voiceless (2025)**, he reiterated that his successor would be **born outside Chinese control**, directly challenging Beijing's plans.

Why Is This Birthday Significant?

- **Consultative Decision:** In line with his 2011 declaration, the Dalai Lama may **announce his position on the continuation of the institution** and outline the process for identifying his successor.
- **Cultural Safeguard:** This decision is crucial to **protecting Tibetan Buddhism** from Chinese political appropriation.
- **Geopolitical Impact:** It will shape **India-China relations**, influence **Tibetan diaspora politics**, and impact **India's role as a host to the Tibetan government-in-exile**.

Geopolitical Implications for India

- **India as a Host:** Since 1959, India has hosted the Dalai Lama and the Tibetan government-in-exile, making it a **stakeholder in the reincarnation debate**.
- **India-China Tensions:** Any move by the Dalai Lama to select his reincarnation outside Chinese control (potentially in India) could **further strain India-China ties**, already fraught with **border disputes**.
- **Soft Power Dimensions:** The Dalai Lama's moral authority enhances **India's cultural diplomacy**, strengthening its position in **Buddhist-majority regions** and the **Global South**.

Conclusion

The Dalai Lama's 90th birthday is not merely a personal milestone but a **turning point for Tibetan Buddhism and global geopolitics**. His decision on reincarnation will directly challenge China's narrative, influence Tibet's cultural survival, and shape India's strategic engagement in the region.

B. INDIAN SOCIETY

I. Salient features of Indian Society, Diversity of India

1. Child Adoption in India

Why in the news?

- Central Adoption Resource Authority (CARA) has confirmed that digitally certified adoption orders sent by e-mail are now legally valid under current rules.

Legal Framework and Process

Adoption in India is governed by **multiple laws**, depending on the religion and category of the child:

- **Hindu Adoption and Maintenance Act (HAMA), 1956:** Applies to Hindus, Jains, Sikhs, and Buddhists.
- **Juvenile Justice (Care and Protection of Children) Act, 2015:** Applies to all religions and governs adoption of orphans, abandoned, and surrendered children.
- **Guardians and Wards Act, 1890:** Applies to **Muslims, Christians, Jews, Parsis** (allows guardianship, not full adoption).

Who can be adopted:

- **Children declared legally free** by a Child Welfare Committee (CWC).
- **Children of relatives** (uncle, aunt, or grandparent).
- **Stepchildren** surrendered by biological parents.

Who can adopt:

- **Indian citizens, NRIs, OCIs**, and certain foreign nationals (under strict guidelines).
- Must be **mentally, physically, and financially stable** with no life-threatening conditions.
- **Married couples:** Stable relationship of at least two years; combined age ≤ 110 years.
- **Single women** can adopt any child; **single men** cannot adopt girls.
- **Minimum age gap** of 25 years between the adoptive parent and the child.
- Couples with **three or more children** are generally not eligible unless adopting children with **special needs**.

Adoption Process:

- **Online registration** on CARA's **CARINGS portal**; Submission of documents and **Home Study Report**.

- **Counseling sessions** by licensed agencies.
- **Matching** of child and parents; Acceptance and foster care phase.
- Legal **adoption order** issued by the **District Magistrate** (post-2021 amendment).
- **Two-year follow-up** by the adoption agency.

Role of Central Adoption Resource Authority (CARA):

- CARA is India's **statutory body** under the **Ministry of Women and Child Development**, and functions as the **central regulatory authority** for all adoptions:
- Established in **1990**, CARA became a statutory body in **2015** under **Section 68 of the JJ Act**.
- It is the **only legally empowered authority** for **in-country and inter-country adoption** of Indian children.
- India's **Hague Convention central authority**, responsible for overseeing foreign adoptions (India ratified the convention in 2003).

Key Functions of CARA:

- **Regulation and Oversight**
 - Monitors all adoptions—**domestic and inter-country**—through licensed agencies.
 - Ensures adoptions are in **compliance with laws and child rights standards**.
- **Platform and Technology:** It operates the **CARINGS portal** (Child Adoption Resource Information and Guidance System) for:
 - Registration of prospective adoptive parents.
 - Tracking adoption progress.
 - Referrals and matching children with parents.
- **Inter-Agency Coordination:** It coordinates with:
 - **State Adoption Resource Agencies (SARAs)**
 - **District Child Protection Units (DCPUs)**
 - **Specialised Adoption Agencies (SAAs)**
 - **Authorized Foreign Adoption Agencies (AFAAs)**

2. Hazardous Sewer Cleaning in India

Why in the news?

- A **social audit commissioned by the Ministry of Social Justice and Empowerment** in 2023 revealed alarming gaps in safety measures, equipment availability, and institutional accountability, highlighting the systemic neglect of workers' rights and safety.

Key Findings of the Social Audit

- **Lack of Safety Gear**
 - **Over 90% of workers** who died while cleaning sewers **had no protective equipment**.
 - In **49 of 54 deaths**, no safety gear was used; in the remaining cases, workers had only gloves or gumboots.
 - **Example:** Only one instance of both safety gear and training being provided was documented.
- **Absence of Mechanised Cleaning**
 - **47 out of 54 cases** lacked mechanised equipment for cleaning, reflecting an over-reliance on manual entry.
 - In **45 cases**, agencies responsible for the work had **no equipment readiness**.
- **Lack of Informed Consent & Counselling**
 - **No consent** was taken in **27 cases**; in **18 cases**, written consent was taken **without counselling on risks**.
 - This reflects **serious violations of workers' rights and ethical obligations**.

- **Hiring Mechanisms**
 - **38 workers** were **contracted personally** (informally) by private employers.
 - Only **5** were **employed by government agencies** and **3** by **public sector entities**.
- **Limited Awareness & Outreach**
 - Awareness drives were conducted in only **7 cases** (Tamil Nadu & Maharashtra districts).
 - Indicates a **reactive rather than preventive approach** to workplace hazards.
- **Government Data & Policy Response**
 - **Deaths recorded: 150 deaths** due to hazardous cleaning (2022–23).
 - **NAMASTE Scheme (2023):**
 - Launched by the **Ministry of Social Justice and Empowerment** to address hazardous cleaning for **sewer/septic tank workers** and **waste-pickers**.
 - **84,902 workers identified** across **36 States/UTs**.
 - **Over 50%** have received **PPE kits and safety gear**.
 - *Example:* The scheme is in line with the government's position that **manual scavenging has ended**, shifting focus to **hazardous cleaning safety**.

Challenges

- **Implementation gaps:** Delayed provision of PPE kits and incomplete training.
- **Informal hiring practices:** Reduce accountability of agencies and employers.
- **Institutional apathy:** Low awareness drives and limited rapid response readiness.
- **Socio-economic vulnerabilities:** Workers often take high-risk jobs due to lack of alternative livelihoods.

Way Forward

- **Strict enforcement** of mechanised cleaning under the 2013 Act.
- **Universal provision of PPE kits** and **compulsory training** for all workers.
- **Stronger accountability** of contractors and agencies via penalties.
- **Community awareness programmes** to address stigma and increase reporting.
- **Effective implementation of NAMASTE** with time-bound targets for full safety gear coverage and rehabilitation.

II. Role of Women and Women's Organization, Population and Associated Issues, Poverty and Developmental issues, Urbanization, their problems and their remedies.

1. Ministerial conference on Civil Registration and Vital Statistics for Asia and the Pacific

Why in the news?

Governments across Asia and the Pacific, signed off on a landmark decision to ensure that all births are registered and all deaths are recorded by 2030, at the third Ministerial conference on Civil Registration and Vital Statistics for Asia and the Pacific, in Bangkok, Thailand.

About Civil Registration and Vital Statistics

- The **United Nations defines CRVS** as the “continuous, permanent, compulsory, and universal recording of vital events of the population in accordance with the law.”
- **Vital events include:**
 - Births and deaths
 - Marriages and divorces
 - Causes of death

Importance of CRVS

- **Legal identity & citizenship rights:** Birth registration ensures individuals are legally recognized and entitled to access public services.
 - A birth certificate is a prerequisite for school admission and issuance of a passport.
- **Access to entitlements:** Death certificates assist in **settling inheritance, insurance, and pensions**.
 - Lack of a death certificate delays financial claims for the deceased's dependents.
- **Protection against exploitation:** Marriage and birth registration serve as tools against **child marriage, trafficking, and modern slavery**.
 - Verified age documents help prevent underage marriages.
- **Policy formulation:** CRVS data feeds into **public health, social welfare, and national planning**.
 - Cause-of-death data helps allocate healthcare resources more efficiently.

Renewed Commitment till 2030: Strategic Roadmap

- **Digital transformation** to enhance coverage and speed
- **Gender equity and inclusion** in registration
- **Legal reforms and interoperable data systems**
- **Privacy and data protection**

The Indian Experience: Progress and Digital Push

- The **Registrar-General of India (RGI)** under the Ministry of Home Affairs manages CRVS.
- The **National Health Mission** supports manpower and logistical resources.
- **Policy Measures and Digitalisation:** Enactment and amendment of the **Registration of Births and Deaths Act, 1969** to mandate digital registration.
- Development of **online and offline software** for complete lifecycle CRVS functions.
- **Data digitisation projects** in collaboration with UNICEF to convert physical records into digital format.
- Launch of a **central CRVS portal** for unified data collection and access.
- Inclusion of **special categories**: adopted, orphaned, surrogate children, and single-parent births.

Challenges in India and the Region

- **Lack of awareness** among citizens regarding legal and social importance of registration.
- **Poor coordination** among local-level departments and stakeholders.
- **Digital divide** limits access in remote areas.
- **Low registration** in migrant, tribal, and conflict-affected communities.

Way Forward

- **Awareness campaigns** to ensure community-level participation.
 - **Example:** Grassroots ASHA workers and Anganwadi centres can facilitate registration.
- **Capacity building** of registration officials and better inter-departmental convergence.
- **Strengthen last-mile digital infrastructure** in rural and backward areas.
- **Ensure child rights and equity:** Registration regardless of marital status, caste, or migrant status.

Conclusion

The renewed **Asia-Pacific Declaration** on CRVS represents a vital political and social commitment to ensure that **no individual remains invisible** in governance frameworks. India's progressive digital and legal frameworks position it as a model in the region. However, continued efforts and **citizen-centric service delivery** are key to realizing the vision of **universal, inclusive, and resilient CRVS systems by 2030**.

2. World Bank Report of Equality

Why in the news?

- Inequality in India has come down significantly between 2011-12 and 2022-23, making it the fourth-most equal country globally, according to a World Bank report.



Key Findings

- Sharp Poverty Reduction:** Extreme poverty dropped from 16.2% in 2011–12 to 2.3% in 2022–23.
- Improved Gini Index:** India's Gini Index now stands at 25.5, making it the fourth most equal country globally, after the Slovak Republic, Slovenia, and Belarus. This places India in the “moderately low” inequality group (Gini 25–30), very close to the “low inequality” category.
- Global Comparison:**
 - China: 35.7
 - United States: 41.8
 - India's score is far lower, indicating better income distribution than these major economies.

About Gini Index

- A statistical measure of income/wealth distribution among a nation's population.
- Range: 0 (perfect equality) to 100 (absolute inequality).
- A lower score means more equal distribution.

Key Government Initiatives Driving Change

- PM Jan Dhan Yojana:**
 - Accounts opened: 55.69 crore (as of June 2025).
 - Impact: Direct access to banking and welfare transfers.
- Aadhaar & Digital Identity:**
 - Aadhaar cards issued: 142 crore (as of July 2025).
 - Backbone for efficient welfare delivery and authentication.
- Direct Benefit Transfer (DBT):**
 - Savings: ₹3.48 lakh crore (as of March 2023).
 - Ensures leakage-free, timely welfare payments.
- Ayushman Bharat:**
 - Health coverage: ₹5 lakh/family annually.

- **Ayushman cards issued: 41.34 crore.**
- **Empanelled hospitals:** 32,000+.
- **Digital Health Accounts:** 79 crore under Ayushman Bharat Digital Mission.
- **Stand-Up India:**
 - **Entrepreneurship loans:** 2.75 lakh sanctions worth ₹62,807.46 crore.
 - **Targets SC/ST and women entrepreneurs.**
 - **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):**
 - **Beneficiaries:** 80.67 crore (as of Dec 2024).
 - **Impact:** Free food grains ensuring **food security for the poor.**
- **PM Vishwakarma Yojana:**
 - **Registrations:** 29.95 lakh artisans.
 - **Support:** Collateral-free loans, digital training, toolkits, and marketing assistance.

Conclusion

India's **Gini Index of 25.5** and **sharp fall in extreme poverty** underscore its progress toward **greater economic equality and inclusive growth**. With focused policies, India is on the verge of joining the **“low inequality” group**, reflecting **improved income distribution and poverty alleviation outcomes**.

3. Commitment to Stop Maternal Deaths

Why in the news?

- The **Maternal Mortality Ratio (MMR)** in India has seen a steady decline — from **103 in 2017–19** to **93 in 2019–21** (per 1,00,000 live births), as per the **Sample Registration System (SRS)**. While this is a positive trend, the loss of **93 mothers for every one lakh deliveries** remains a grave public health concern, underscoring systemic deficiencies and socio-economic disparities across States.

Regional Variations

- **Southern States:**
 - **Kerala:** 20 (lowest)
 - **Karnataka:** 63
 - **Andhra Pradesh:** 46, **Telangana:** 45, **Tamil Nadu:** 49
- **EAG States & Assam:**
 - **Assam:** 167, **Madhya Pradesh:** 175
 - Bihar, Chhattisgarh, Odisha, Rajasthan, UP, Uttarakhand: **100–151 range**
 - **Jharkhand:** 51
- **Other States:**
 - **Maharashtra:** 38, **Gujarat:** 53
 - **Punjab:** 98, **Haryana:** 106, **West Bengal:** 109

Key Reasons for Maternal Deaths

- **The “Three Delays” (Deborah Maine Framework):**
 - **Delay in seeking care:** Lack of awareness, family-level inertia, financial constraints.
 - **Delay in reaching care:** Inadequate transportation, especially from remote areas.
 - **Delay in receiving care:** Poor readiness at facilities — lack of specialists, blood banks, or emergency infrastructure.
- **Medical Causes:**
 - **Postpartum haemorrhage (biggest killer):** Requires timely blood transfusion and uterine interventions.

- **Obstructed labour:** Linked to malnourishment, stunted growth; requires Caesarean section.
- **Hypertensive disorders of pregnancy:** Often undetected, leading to convulsions and coma.
- **Sepsis:** Unsafe home deliveries, crude abortion methods, delayed antibiotic administration.
- **Associated risks:** Anaemia, malaria, TB, and chronic infections in high-burden States.

Systemic Gaps

- **Specialist Shortage:** 66% vacancies in CHCs (5,491 centres, 2,856 FRUs).
- **Blood Bank Deficit:** Lack of storage units in designated FRUs delays transfusion.
- **Inadequate First Referral Units (FRUs):** Operationalisation of **minimum four FRUs per district** has been ineffective.

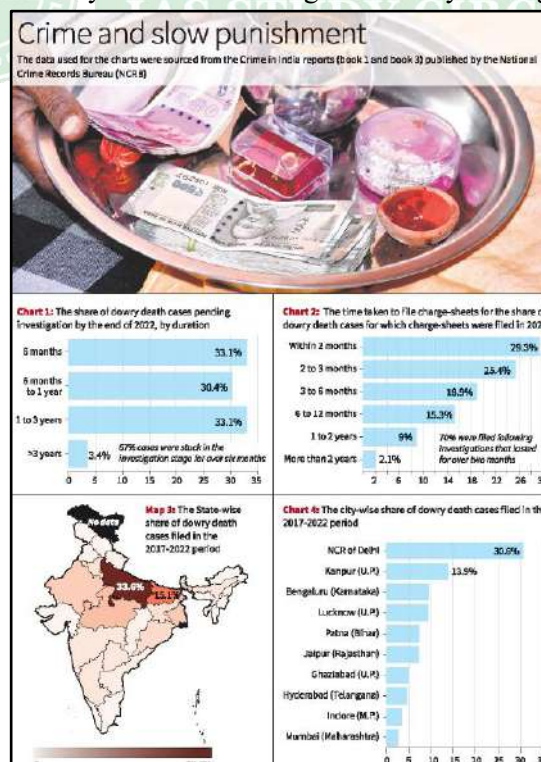
Way Forward

- **EAG States:** Focus on **universal antenatal registration, institutional deliveries, emergency obstetric care.**
- **Southern States & Maharashtra/Gujarat:** Fine-tune emergency and high-risk obstetric management.
- **Strengthen FRUs:** Ensure specialists, blood banks, and surgical readiness.
- **Maternal death audits:** Scale up **Kerala's CRMD model** for analytical, preventive interventions.
- **Combat anaemia & malnutrition:** Robust iron-folic acid supplementation and adolescent nutrition programs.
- **Integrate mental health:** Routine screening for depression and postpartum disorders.

4. Dowry Deaths in India

Why in the news?

- According to the **National Crime Records Bureau (NCRB)**, between **2017 and 2022**, an average of **7,000 dowry deaths** were reported annually—likely a conservative figure as many cases go unreported.



The Magnitude of the Problem

- **Scale of Dowry Deaths:** On average, **7,000 women lose their lives every year** due to dowry harassment.
Example: In 2023, cases from Aligarh (UP) and Ponneri (TN) reflect the brutality of dowry-related violence.

- **Geographical Concentration:**

- **West Bengal, Odisha, Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh, Rajasthan, and Haryana** account for **80%** of reported cases.
- **Delhi** alone accounted for **30% of all dowry death cases** among 19 Indian cities.
- **Dowry-related Murders:** Over **6,100 murders** in this period had dowry as the motive, with **West Bengal, Odisha, and Bihar** contributing to over **60%** of such murders.

Gaps in Investigation and Prosecution

- **Slow Investigations:** Of the **7,000 cases reported annually**, only **4,500 were charge-sheeted**, while the rest were stuck in investigation or closed due to insufficient evidence or withdrawal.
- **Delays in Charge-Sheeting:** In **2022, 70% of charge-sheets** for dowry death cases were filed after **over two months of investigation**, slowing the judicial process.
- **Poor Conviction Rates:** Of the **6,500 cases sent for trial annually**, only **100 resulted in convictions**.

Underlying Causes

- **Deep-rooted Social Norms:** Persistent patriarchal attitudes reinforce the practice of dowry.
- **Economic Factors:** Dowry acts as a form of wealth transfer, especially in rural communities.
- **Weak Enforcement:** Ineffective policing, delayed investigations, and inadequate witness protection discourage victims' families from pursuing justice.

Government Initiatives

- **Dowry Prohibition Act (1961):** Declared dowry giving/taking a punishable offence.
- **Section 304B & 498A IPC:** Specifically address dowry deaths and cruelty by husbands/in-laws.
- **Awareness Campaigns:** Initiatives like **"Beti Bachao, Beti Padhao"** aim to address gender discrimination indirectly linked to dowry practices.

Challenges in Eradicating Dowry Deaths

- **Underreporting:** Social stigma prevents families from reporting dowry harassment.
- **Judicial Delays:** Long trial processes reduce the deterrence effect of law.
- **Evidence Gaps:** Many cases rely on circumstantial evidence, leading to acquittals.

Way Forward

- **Fast-Track Courts:** Dedicated courts for dowry-related cases can ensure speedy trials.
- **Stronger Community Interventions:** Grassroots awareness campaigns targeting rural communities.
- **Enhanced Policing:** Mandatory timelines for investigation and charge-sheet filing.
- **Witness Protection:** Ensuring safety and anonymity for complainants and witnesses.
- **Socio-Economic Reforms:** Promoting women's economic independence through skill training and education.

III. Effects of Globalization on Indian society.

1. Suicide Cases Among Students

Why in the news?

- According to the **Accidental Deaths and Suicides in India (ADSI) 2022 report by the NCRB**, student suicides constituted **7.6% of all suicides** reported in the country, a slight decrease from **8.0% in 2021** and **8.2% in 2020**.

Current Situation and Trends

- **Student suicide rate:** 7.6% of total suicides in 2022 (NCRB).
- **Trend:** Marginal decline from the previous years, yet indicating a persisting crisis.
- **Key factor:** Academic stress, mental health issues, and emerging social problems like substance abuse.

Government Initiatives to Address the Crisis

- **Manodarpan Initiative:** Provides counselling helplines, interactive sessions, and outreach programmes. Reached lakhs of students, teachers, and families.
 - **Example:** Live sessions on stress management for NEET/JEE aspirants.
- **District Mental Health Programme (DMHP):** Provides **suicide prevention services** and **life skills training** in schools and colleges.
- **Anti-drug awareness campaigns** intensified to address addiction-related stress among youth.
- **UGC Advisories:** Encouraged universities to prioritise **physical fitness, sports, and emotional well-being** as part of student welfare.
- **IITs and Higher Education Institutions:** Conducting workshops on **stress management** and **resilience building** under the **Malaviya Mission Teacher**

Challenges Ahead

- **Stigma** surrounding mental health continues to prevent early intervention.
- **Resource gaps** in counselling infrastructure across rural and semi-urban institutions.
- **Academic pressure** linked to competitive examinations and employability concerns.
- **Institutional inertia** in implementing reforms effectively.

Conclusion

Initiatives like **Manodarpan**, **DMHP**, and the proposed **HECI** framework reflect a proactive government response, but their success depends on **effective implementation, greater outreach, and destigmatisation of mental health discussions**. Ensuring that education fosters **holistic well-being** rather than mere academic excellence will be key to reversing this trend.

2. Climate Migration

Why in the news?

- Regions such as **Bundelkhand (Uttar Pradesh & Madhya Pradesh)**, **Vidarbha & Marathwada (Maharashtra)**, and villages along the **Jamuna River in Bangladesh** are witnessing **involuntary climate migration** due to rising temperatures, erratic rainfall, droughts, and riverbank erosion. This **forced movement** of people is reshaping rural economies, eroding social structures, and worsening the vulnerabilities of women, children, and the elderly.

Climate Migration in Bundelkhand: A Case of Deepening Crisis

- **Rising Heat and Declining Rainfall:** Average temperatures in Bundelkhand are projected to rise by **2–3.5°C by 2100**.
 - Districts like **Datia, Lalitpur, and Mahoba** faced **8–9 droughts between 1998 and 2009**.
- **Impact on Farmers and Labourers:**
 - **Crop failures** and **mounting debt** have forced farmers into alternative livelihoods such as working in **diamond mines**.

- When local opportunities fail, men migrate to **Surat, Ahmedabad, Delhi, Bangalore, and Chennai**, leaving behind women to manage households under severe stress.
- **Social impact:** According to **Surendra Singh Jatav (BBAU)**, migration has weakened **village social structures**, increased **women's vulnerability to exploitation**, and disrupted **children's education**.

Riverbank Erosion and Migration in Bangladesh

- **Charpauli village (Bangladesh):** Located on the **Jamuna riverbanks**, it faces **annual flooding and land erosion**, washing away homes and arable land. **Satellite studies (1990–2020)** reveal that the **Jamuna's left bank eroded by 12 m/year** and the **right bank by 52 m/year**.

Vidarbha & Marathwada: Sugarcane Migration

- **Climatic & Geographic Challenges:** These regions lie in the **rain shadow of the Western Ghats**, making them historically arid. Climate change has worsened the situation with **erratic rainfall** and **temperatures exceeding 50°C in May**.
- **Seasonal Migration for Survival:** Families migrate hundreds of kilometers to work as **sugarcane cutters** in **Western Maharashtra & Karnataka**.

Impacts of Climate Migration

- **Economic Precarity:** Migrants often take up **daily-wage informal jobs** (construction, security, dhabas), with poor pay and no social security.
- **Gendered Vulnerabilities:** **Women bear the dual burden** of managing households and protecting children in the absence of male family members, increasing their exposure to **exploitation and sexual violence**.
- **Health and Education:** Migrants live in **slum-like settlements** with poor sanitation, while children's **schooling is disrupted** due to constant relocation.

Government Initiatives and Gaps

- **National Action Plan on Climate Change (NAPCC)** and **State Action Plans** aim to address climate impacts, but **implementation remains weak at the grassroots**.
- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** provides some relief but fails to prevent long-term migration.
- **No dedicated climate migration policy** exists, leaving displaced populations in legal limbo.

Way Forward

- **Develop a National Framework for Climate Migration:** Recognize climate-displaced persons under law and provide **legal and social protections**.
- **Invest in Rural Resilience:** Promote **drought-resistant crops, watershed management, and alternative livelihoods**.
- **Strengthen MGNREGA & Rural Employment Schemes:** Ensure **timely payments** and expand scope to climate-affected households.
- **Urban Preparedness:** Create **affordable housing and sanitation facilities** for migrant workers in cities.
- **Gender-sensitive Policies:** Focus on **safety, health, and education for women and children** in migrant families.

C. GEOGRAPHY

I. Salient features of World's Physical Geography.

1. India's Coastline

Why in the news?

- India's coastline, previously estimated at **7,516 km**, has now been officially revised to **11,098 km**—a nearly **48% increase**, due to **improved measurement techniques**. Similarly, the number of **offshore and inshore islands** has been **revised** following comprehensive reassessment. These updated figures have **significant administrative, ecological, and strategic ramifications**.

State/UT	Coastline length (in km)
Gujarat	2,340.62
Maharashtra	877.97
Goa	193.95
Karnataka	343.3
Kerala	600.15
Tamil Nadu	1,068.69
Andhra Pradesh	1,053.07
Odisha	574.71
West Bengal	721.02
Daman and Diu	54.38
Pondicherry	42.65
Lakshadweep	144.8
Andaman and Nicobar	3,083.50

Source: Ministry of Ports, Shipping and Waterways

Revised Measurement of Coastline

- The earlier measurement from the 1970s was based on **low-resolution maps** (scale: 1:4,500,000).
 - Many offshore islands and minute landforms were omitted.
- The **new measurement** used high-resolution GIS mapping (scale: 1:250,000), capturing the coastline's **bends, inlets, and outcrops** more accurately.
 - Use of modern GIS tools allowed precise digital tracing.
- Inclusion of **previously unmeasured offshore islands** has contributed to the length increase.
- This change reflects the **"coastline paradox"**—wherein the finer the scale of measurement, the longer the resulting coastline appears.
 - A 1-km measuring ruler ignores micro-level features, while a 1-metre ruler captures all irregularities.

Increase in Number of Islands

- In 2016, the **Office of the Surveyor General** listed **1,382 offshore islands**. However, different agencies (e.g., Coast Guard, Navy) had listed **1,334**.
- A **reconciliation exercise** standardised definitions and methods, arriving at:
 - 1,298 offshore islands**
 - 91 inshore islands**
 - Total: 1,389 islands**
 - This does not include inland river islands like Majuli in Assam.
- Tidal conditions further complicate island classification—**some islands appear/disappear with tides**.

Strategic and Administrative Implications

- Coastal Zone Regulations (CRZ):** Coastal land-use and construction permissions are defined under CRZ norms based on proximity to the coastline.

- **Climate Change and Disaster Preparedness:** Accurate mapping helps strengthen **coastal resilience** against rising sea levels and cyclones.
- **Maritime Security and Surveillance:** A longer coastline implies **greater area to patrol and monitor**, necessitating improved deployment of **naval and coast guard resources**.
- **Tourism and Infrastructure Development:** More precise coastline data facilitates **eco-tourism, port development, and coastal connectivity** projects under initiatives like **Sagarmala**.

Global Practice and Periodic Reassessment

- Similar **re-measurement practices** are adopted by countries like the USA and Japan, particularly to monitor **coastal erosion or land reclamation**.
 - **Example:** Netherlands regularly updates coastlines for flood defense planning.
- India has now institutionalized **decadal reassessment** to keep pace with **technological advancements** and **natural changes**.

Conclusion

The updated length of India's coastline and revised island count, though not altering the physical or diplomatic boundaries, signify a leap in **geo-spatial governance**.

II. Important Geophysical Phenomena

1. UN Environment Programme released Frontiers 2025

Why in the news?

The Frontiers Report spotlights emerging environmental issues before they escalate into global or regional crises.

Major Environmental Issues highlighted in the Report

- **Reactivation of Microbes in a Warming Cryosphere:** Climate warming could reactivate and **remobilize dormant microbes** into new environments, potentially **altering microbial communities**, introducing pathogens, or causing biodiversity loss as some might fail to survive thawing.
- **Heatwaves and Vulnerable Populations:** Extreme heat events are increasing in frequency and severity, with older persons (65+) facing heightened mortality and health risks; heat-related deaths in this group have surged by 85% since the 1990s.
- **River Barriers:** All barriers (dams, weir or low-head dam, barrage, culverts, sluices etc.) affect the river ecosystem.
 - **Impact of River Barriers:** Modify water flow and temperature, habitat quality and quantity, downstream sediment transport, displace indigenous community and fish movement.
- **India-Specific Impact:** Between 1986-2005 and 2013-2022, older adults in India experienced an increase of 2.1–4 additional heatwave days per person per year. This has led to higher rates of illness and mortality among the elderly during heatwaves.
- **Report recognizes Barrier Removals** as an accepted strategy to restore river health.
- **Barrier removals** reduce river fragmentation (which will affect 89% of global river volume) and restore connectivity in river ecosystems.
- **Demographic Challenge:** Climate change is exacerbating **environmental risks** such as heatwaves, air pollution, and floods, which **disproportionately threaten increasing population of older adults**.
- **Remobilization of legacy pollutants by flood events:** **Persistent contaminants** (Heavy metal, organic compounds etc.) in water and sediment can enter and accumulate in plants and animals (bioaccumulation), and subsequently contaminate food chains with increased concentrations (biomagnification).

GS 2 - GOVERNANCE, CONSTITUTION, POLITY, SOCIAL JUSTICE AND INTERNATIONAL RELATIONS

A. POLITY

I. Preamble, Basic structure and amendability of the Constitution

1. Socialism and Secularism in the Indian Constitution

Why in the news?

- Calls have emerged to remove ‘**socialism**’ and ‘**secularism**’ from the Constitution’s Preamble, sparking debates on India’s foundational values and constitutional vision.

Socialism:

- Socialism in the Indian context signifies **social and economic justice**, aimed at reducing inequality and establishing a **welfare state**.
 - **Preamble:** Promises “**Justice — social, economic, and political**” and “**Equality of status and opportunity.**”
 - **Fundamental Rights:**
 - Article 14: **Equality before law.**
 - Article 15: **Prohibition of discrimination** based on religion, race, caste, sex, or place of birth.
 - Article 16: **Equal opportunity** in public employment.
 - **Directive Principles of State Policy:**
 - Articles 38 and 39 promote **minimizing inequalities** and ensuring **adequate livelihood** for all.
 - Articles 41, 42, 43: Advocate for **work, education, and humane working conditions.**
- Thus, even before the **42nd Amendment (1976)** added the word “socialist,” the Constitution inherently reflected **socialist ideals**.

Secularism:

- Secularism in the Indian Constitution goes beyond religious neutrality. It ensures **equal treatment of all religions** and protects the rights of minorities.
 - **Preamble:** Promises “**Liberty of thought, expression, belief, faith and worship.**”
 - **Fundamental Rights:**
 - Articles 25–28: Guarantee **freedom of religion.**
 - Articles 29–30: Protect **cultural and educational rights** of minorities.
 - **Judicial Interpretation:** The **Supreme Court** has declared **secularism as part of the Constitution’s basic structure** (*Kesavananda Bharati v. State of Kerala*, 1973).
 - Even without the term “secular” in the Preamble, the **Constitution’s essence guarantees religious equality and fraternity.**

The Basic Structure Doctrine and the 42nd Amendment

- The **42nd Amendment (1976)** inserted “socialist” and “secular” into the Preamble. This came **after the Kesavananda Bharati verdict**, which held that the **basic structure of the Constitution is inviolable**.
- The inclusion of these terms did not alter the Constitution but **affirmed its existing core philosophy**.

Why the Demand to Remove These Words is Problematic

- **Undermines the Foundational Vision:** Socialism and secularism were central to the **Objective Resolution (1946)** and the **freedom struggle**.
- **Weakens Minority Protection:** Removing secularism risks enabling **majoritarianism** and eroding the **rights of religious and cultural minorities**.
- **Destabilizes Welfare Orientation:** Diluting socialism could pave the way for policies **neglecting social justice** and **widening inequalities**.
- **Challenges the Basic Structure:** Any attempt to remove these words would **violate the basic structure doctrine** upheld by the Supreme Court.

Conclusion

The Constitution of India is a **living document** designed to uphold **justice, liberty, equality, and fraternity**. Socialism and secularism are **not mere words** in the Preamble; they are **inseparable pillars** of India's democratic republic.

II. The Judiciary

1. Citizenship Cases

Why in the news?

- The issue of **citizenship determination** in India's border states, especially Assam and Jammu & Kashmir, has raised serious concerns related to **constitutional rights, human dignity, and due process**. Recent interventions by the **Supreme Court and High Courts** reflect judicial concern over the **arbitrary treatment of long-term residents**, often from poor or marginalised communities.

Legal and Administrative Challenges

- **Arbitrary Declaration of Individuals as Foreigners:** Many incidents like despite submitting valid documents and having ancestral ties to Assam, was declared a foreigner by both the **Foreigners' Tribunal** and **Gauhati High Court**. Relief came only after the **Supreme Court stayed her deportation** in June 2024.
- **Due Process Ignored in Citizenship Trials:** In *Md. Rahim Ali vs State of Assam (2024)*, the Supreme Court reaffirmed that **"suspicion cannot substitute legal evidence"**. It highlighted how individuals were being **randomly targeted** under suspicion of being foreigners.

Violation of International Human Rights Norms

- India's actions must comply with the **Universal Declaration of Human Rights (UDHR)**.
- **Article 15** of the UDHR prohibits arbitrary deprivation of nationality.

Way Forward

- **Reforming Foreigners' Tribunals:** Ensure **neutrality, legal training, and evidence-based decision-making** in the tribunals.
- **Fast-Tracking Citizenship Applications:** Create **time-bound frameworks** for processing long-pending applications, especially in humanitarian cases.
- **Re-evaluating the Citizenship (Amendment) Act:** Make the **CAA religion-neutral** to ensure alignment with constitutional principles.
- **Legal Support Mechanisms:** Establish **community-level legal aid centres** in border districts to assist individuals with documentation and appeals.

2. Reservation in Supreme Court

Why in the news?

- Recently, for the first time ever, the Supreme Court of India has introduced a reservation policy for Scheduled Castes (SCs) and Scheduled Tribes (STs) in hiring and promoting its non-judicial staff, such as assistants and attendants.

Importance of the Supreme Court's internal reservation policy

- Bridges the Gap Between Principle and Practice:** For decades, the Court had delivered landmark judgments on affirmative action, but hadn't applied those standards to its own staff.
- Promotes Social Inclusion Within the Judiciary:** By providing 15% reservation for SCs and 7.5% for STs in administrative posts, the Court ensures better representation of marginalised communities within its own ecosystem.

Challenges lie ahead in expanding the reservation to other groups

- Legal Ambiguity:** Extension of reservations to OBCs, PwDs, and others lacks clear policy frameworks and quota specifications.
- Institutional Inertia:** Bureaucratic delays and reluctance to change slow down the adoption of new reservation measures.
- Balancing Equity and Efficiency:** Concerns over merit and administrative efficiency may resist expansion of affirmative action.

Way forward:

- Institutionalise Inclusive Policies:** Ensuring clarity, transparency, and consistency with government norms for SCs, STs, OBCs, PwDs, and other eligible groups.
- Strengthen Monitoring and Accountability:** Establish a diversity oversight mechanism within the judiciary to track representation, address grievances, and ensure timely implementation of reservation provisions.

3. Constitutional Validity of UAPA Upheld by Bombay High Court

Why in the news?

- The **Bombay High Court**, in a significant ruling, upheld the **constitutional validity of the Unlawful Activities (Prevention) Act (UAPA), 1967**, and **Section 124A of the Indian Penal Code (IPC)** pertaining to sedition. The judgment came in response to a **2021 plea filed by Anil Baburao Baile**, who challenged these provisions as unconstitutional and violative of fundamental rights.

What is UAPA?

- Enactment:** Brought into force in 1967, being amended several times—most notably in 2004, 2008, 2012, and 2019—to include terror-related offences and empower the government with wider discretionary powers.
- Purpose:** To prevent unlawful activities, including terrorism, that threaten the sovereignty and integrity of India.
- Provisions:** It grants the government powers to ban organisations, designate individuals/organisations as terrorists, and prescribe enhanced investigation and detention procedures (including extended pre-charge detention and stringent bail conditions).

Arguments in Favour of UAPA

- National Security:** Advocates contend that India faces persistent threats from terrorism, and stringent laws like UAPA are essential to equip agencies to prevent and respond to such threats.

- **International Obligations:** Amendments align Indian law with international conventions and UNSC resolutions against terrorism.
- **Pre-emptive Powers:** Allows security agencies to act before threats escalate—by banning organizations, freezing assets, etc.

Criticisms and Arguments Against UAPA

- **Vague Definitions & Overbroad Powers:** Critics argue the Act allows the executive wide discretion to designate individuals or organisations as “terrorist” or “unlawful” without adequate definition or robust judicial safeguards.
- **Civil Liberties & Dissent:** The law is seen as a tool to suppress dissent, given instances where activists have faced prosecution under its provisions.
- **Extended Detention & Bail:** UAPA restricts bail and allows extended pre-trial custody, drawing concern for violating rights to liberty and fair trial.

4. Misuse of Matrimonial Laws

Why in the news?

- The Nagpur Bench of the Bombay High Court quashed a criminal case of cruelty, unnatural sex, and dowry harassment, stating that marriage is a sacred institution and should not be turned into prolonged, unproductive legal battles.

Misuse of Matrimonial Laws

- **Section 498A of the IPC (Cruelty by husband or his relatives):** Often used to implicate multiple family members, sometimes even distant relatives, without solid evidence.
- **Section 377 of IPC (Unnatural offences):** Sometimes used strategically in marital disputes to exert pressure.
- **Dowry Prohibition Act, 1961:** While dowry is a persistent issue, false allegations under this Act are sometimes made to gain leverage in divorce or property settlement cases.
- **Protection of Women from Domestic Violence Act, 2005:** Misuse involves exaggerated or false claims of mental and physical cruelty.

Key Judicial Observations and Precedents

- **Gian Singh v. State of Punjab, 2012:** The Supreme Court ruled that courts can quash criminal proceedings in matrimonial disputes where parties have settled.
- **Narinder Singh v. State of Punjab, 2014:** Laid down principles for quashing proceedings if the offences are personal in nature and not affecting public interest.
- **Arnesh Kumar v. State of Bihar, 2014:** The Supreme Court limited automatic arrests under Section 498A and called for adherence to procedural safeguards.

Steps Taken by the Government

- **Advisory by Ministry of Home Affairs (2015):** Directed state police to avoid automatic arrests under 498A without preliminary inquiry.
- **CrPC Amendment (2023):** Provided stricter norms for arrests in matrimonial cases.
- **Family Counselling Centres and Mediation Cells:** Set up at district courts to encourage reconciliation.
- **Faster Court Proceedings:** Special family courts have been empowered to handle sensitive cases promptly.

Way Ahead

- **Balanced Legal Reform:** Make certain sections (like 498A) compoundable with court permission and ensure gender-neutral provisions where appropriate.

- **Pre-FIR Mediation:** Introduce mandatory cooling-off periods and mediation before filing criminal cases in matrimonial disputes.
- **Judicial Sensitisation:** Continuous training for judges to differentiate between genuine and malicious cases.
- **Penalty for False Complaints:** Provision for penal action under **IPC Section 211** (false charge) should be invoked where appropriate.
- **Strengthen Legal Aid and Awareness:** Legal literacy campaigns should inform both men and women of their rights and responsibilities.

III. Representation of People's Act

1. Special Intensive Revision (SIR) Electoral Roll in Bihar

Why in the news?

- The Election Commission of India (ECI) has undertaken a **Special Intensive Revision (SIR)** of electoral rolls in Bihar, requiring voters to provide **fresh proof of citizenship**. This has been challenged in the Supreme Court on the grounds of **constitutionality, legality, and practicality**.

Background

- The **SIR exercise** in Bihar mandates voters to provide **fresh citizenship documentation**, affecting more than **7.89 crore electors**.
- Petitioners argue that:
 - The **enumeration forms** used are **extra-statutory**.
 - The **burden of proof** unfairly falls on existing voters, undermining **Article 326**.
- The Supreme Court began **detailed hearings on July 10, 2025**, framing the issue around **citizenship verification, due process, and ECI's authority**.

The 1977 Precedent: *Mohinder Singh Gill v. Chief Election Commissioner*

- **Context:** After the **post-Emergency 1977 Lok Sabha elections**, **violence and destruction of ballots** occurred in one segment of the **Ferozepore seat**. The ECI **cancelled counting and ordered a re-poll**.
- **Challenge:** Candidate **Mohinder Singh Gill**, who was leading, challenged this order in the **Punjab & Haryana High Court** under **Article 226**.
- **Issues Before the Court:**
 - Can ECI order a **re-poll for an entire constituency**?
 - Did the ECI's action **violate principles of natural justice**?
 - Can the High Court intervene under **Article 226**, despite the **bar under Article 329(b)**?
- **Supreme Court Ruling:**
 - **Upheld ECI's order:** Confirmed the Commission's **plenary powers** under **Article 324** for the "**superintendence, direction and control**" of elections.
 - **Scope of Powers:** When laws under **Articles 327 and 328** are silent, ECI can act **independently and decisively**.
 - **Natural Justice:** Must be "**pragmatic and flexible**" to protect electoral integrity.
 - **Judicial Review:** Courts can review **only after elections are complete**, due to the "**blanket ban**" under **Article 329(b)** on mid-election interference.

Criticism

- **Short timeframe:** The ECI allocated just one month, till July 31, for the entire revision process, which is **inadequate for comprehensive voter verification** in a state like Bihar.

- **Strict criteria:** The emphasis on “ordinary residents” could ignore **the legal protection for temporary absentees** as outlined in the Representation of the People Act, 1950.
- **Risk of wrongful deletions:** Migrant workers might not be present for verification, leading to **lakhs of wrongful deletions** from electoral rolls.

Hurdles do migrant voters face in verification?

- **Inaccessibility During Verification Window:** Many **migrant voters** are **unable to be physically present** at their home constituencies during the **short verification period**, making it difficult to confirm their status. **Eg:** An estimated **20% of Bihar’s electorate** is migrant; many may miss the **July 31 deadline**, risking exclusion.
- **Lack of Clarity for Long-Term Migrants:** There is **ambiguity** in addressing voters who have moved long-term but haven’t updated their registration to their new place of work.

Key Legal and Constitutional Concerns

- **Shifting the Burden of Proof**
 - The SIR shifts the **onus of proving citizenship** on **all existing electors**.
 - This **contradicts due process**, where deletion of non-citizens is only permissible **based on specific, evidenced complaints**.
 - **Example:** No data on complaints regarding inclusion of foreign nationals in Bihar has been provided.
- **Lack of Statutory Basis**
 - The **Representation of the People Act, 1950** does **not distinguish** between voters added via **summary** and **special intensive revisions**.
 - The term “**intensive revision**” does not appear in the Act, and even the **1960 Rules** do not clearly define it.
 - This makes the **statutory foundation of SIR legally weak**.
- **Arbitrary Privileging of the 2003 Rolls**
 - The ECI permits electors from the **2003 rolls** (and their children) to use these rolls as citizenship proof.
 - This **privileges older rolls over two decades of electoral updates** without a legal basis.
 - **Example:** There is no evidence of house-to-house verification of citizenship in 2003.
- **Article 324 vs. Statutory Limits:** Plenary powers cannot override **basic constitutional guarantees** or create new obligations beyond legislative intent.
- **Article 326 & Voting Rights:** Shifting the **burden of proof of citizenship** to electors may infringe their **franchise rights**.
- **Article 329(b) & Judicial Review:** Courts face a **limited window** for intervention during electoral processes, creating a tension between **oversight and non-interference**.

Other Concerns

- **Coverage and Inclusion**
 - The ECI claims **90% coverage** of electors, but:
 - **21.35 lakh electors** had not submitted forms by July 18, 2025.
 - **53 lakh electors (6.7%)** were not found at their addresses.
 - **31.5 lakh (4%)** were reported as permanently migrated.
 - The **constituency-wise impact** of such deletions remains undisclosed.
- **Non-acceptance of Aadhaar and Ration Cards**
 - The **Supreme Court** advised inclusion of **Aadhaar** and **ration cards** as permissible documents.
 - The ECI rejected this, arguing that:
 - Aadhaar is not **proof of citizenship**.
 - Ration cards are **prone to forgery**.

- **Contradiction:** ECI's own enumeration forms seek Aadhaar numbers, and it accepts **residence certificates**, which far exceed Bihar's total population.

What constitutional principles are at stake in the current voter verification drive?

- **Universal Adult Franchise:** Article 326 guarantees every Indian citizen above 18 the right to vote without discrimination. The demand for rare documents like land titles or educational certificates risks excluding poor and illiterate citizens.
- **Equality Before Law (Article 14):** The selective burden of proof imposed on new or undocumented voters violates the principle of equal treatment. It creates two classes of citizens — one presumed to be voters and another forced to prove eligibility.
- **Presumption of Innocence (Principle of Natural Justice):** The shift of burden from the state to the citizen undermines the principle that individuals are "innocent until proven guilty."

Vulnerable groups most affected by the SIR process

- **Migrant Workers:** The **Special Intensive Revision (SIR)** disproportionately affects **migrant workers** who are often away from their **home constituencies** during the **verification period**, especially in **July**, a peak **seasonal migration** month.
- **Poor and Illiterate Citizens:** Those from **economically weaker sections**, particularly in **rural areas**, often **lack the official documents** such as **birth certificates**, **matriculation degrees**, or **land records** now required for voter verification. Their reliance on documents like **Aadhaar**, **ration cards**, or **job cards**, which the ECI currently does not accept, puts them at risk of **disenfranchisement**.
- **Women (especially Elderly or Homemakers):** Many **women**, especially **widows**, **elderly**, or those confined to domestic roles, are **not listed on ownership documents** and may lack the required **identity proofs**.
- **Scheduled Castes and Scheduled Tribes (SCs/STs):** Historically **marginalised communities** such as **SCs** and **STs** face greater hurdles due to their **geographic isolation**, **poor access to services**, and **lower literacy levels**, making it harder to furnish the required **documentation** to prove **citizenship or residence**.
- **Urban Slum Dwellers and Informal Settlers:** **Migrants** living in **slums** or **unauthorised colonies** in cities often lack **registered addresses**, **utility bills**, or **tenancy documents**. This makes it difficult to verify their **voter eligibility** either in their **native village** or in the **urban location**, risking **double exclusion** from electoral rolls.

Implications

- **Exclusionary Risks:** Large-scale deletions may disenfranchise genuine voters.
- **Political Fallout:** Political parties in Bihar fear targeted exclusions in sensitive constituencies.
- **Comparison with NRC:** Similarities with **Assam's NRC exercise** (costing ₹1,600 crore but widely discredited) raise concerns of **wastage of public funds** and **social unrest**.
 - **Example:** The NRC in Assam excluded 19 lakh people, leading to prolonged legal disputes and humanitarian concerns.

Way Forward

- **Revisit the SIR Guidelines:** Ensure revisions comply strictly with **RP Act provisions**.
- **Adopt Inclusive Documentation:** Accept **Aadhaar**, **EPIC**, and **ration cards** as supporting documents.
- **Strengthen Due Process:** Use targeted investigations for suspected fraudulent entries instead of **blanket citizenship tests**.
- **Parliamentary Oversight:** Any citizenship verification exercise should have **explicit legislative approval**.

2. 'Ordinary Resident' under the Representation of the People Act, 1950

Why in the news?

- The classification determines who can be enrolled in a particular constituency and has significant implications for **migrant workers, non-resident Indians (NRIs)**, and others with fluid residential patterns.

Who is an 'Ordinarily Resident'?

- Legal Provisions under RP Act**
 - Section 19:** Requires that a person be '**ordinarily resident**' in a constituency for inclusion in its electoral roll.
 - Section 20:** Clarifies the meaning:
 - Merely owning or possessing a house does **not** make one ordinarily resident.
 - A person **temporarily absent** from their residence shall **continue to be ordinarily resident** there.
- Service voters:** Members of the **armed forces, armed police serving outside their State, employees of the Government of India posted abroad**, or those holding a **constitutional office** (as declared by the President) are deemed ordinarily resident at their original residence along with their spouses.
- Section 20A (2010 Amendment):** Enables **NRIs** to register and vote in their passport address constituency even if they reside abroad for long periods.
- Registration of Electors Rules, 1960 (RER):** These rules, notified by the **Central Government in consultation with the EC**, govern the **preparation, inclusion, and exclusion of names** in electoral rolls as per the RP Act.
- Judicial Interpretation**
 - Manmohan Singh Case (1999, Gauhati HC):**
 - Ordinarily resident** means a **habitual resident**.
 - Must be **permanent in character** (not casual or temporary).
 - Should reflect **intention to dwell permanently**.

Why Are Migrant Workers Vulnerable?

- Magnitude of Migration: Periodic Labour Force Survey (2020–21):** Around **11% of the population** migrated for employment—roughly **15 crore migrant voters**.
- Seasonal & Circular Migration:** Many workers (construction, security, etc.) live in **temporary shacks** near work sites and **move across States** but return home periodically.
- Exclusion Risk:** Strict interpretation of 'ordinarily resident' could lead to **removal from original rolls**.
- Are NRIs Allowed to Vote?:** Yes. **Section 20A (2010)** allows **non-resident Indians** to vote in their **home constituency** (as per passport address), despite long-term absence from India.

Why Is This Important?

- Representative Accountability:** Ensures voters have **real ties** to their constituency.
- Prevents Fraud:** Stops **multiple registrations** or fake enrolments.
- Protects Migrant Rights:** Preserving ties with their **home State and constituency**.

Way Forward

- Amend RP Act & RER:** Introduce **provisions preserving the voting rights of migrant workers** in their home constituencies.
- Facilitate Migrant Participation:** Explore **postal ballots, proxy voting, or early voting mechanisms** for migrants.
- Leverage Aadhaar Seeding:** Prevent **duplicate enrolments** across States.

- **Institutionalise Stakeholder Consultation:** Develop a **consensus model** between EC, State governments, and migrant organisations.

B. GOVERNANCE

I. Government policies and Interventions

1. National Sports Policy (NSP) 2025

Why in the news?

- The Union Cabinet chaired by the Prime Minister Narendra Modi approved the **National Sports Policy (NSP) 2025**.

Pillars of NSP 2025:

- **Excellence on the Global Stage:** Focuses on strengthening sports from grassroots to elite levels through early talent identification, development of competitive leagues and infrastructure, and creation of world-class training and coaching systems.
- **Sports for Economic Development:** It promotes sports tourism, startups, and private investment to strengthen India's role in the global sports economy.
- **Sports for Social Development:** The policy emphasizes the role of sports in promoting social inclusion by encouraging participation from marginalized groups, reviving traditional and indigenous games, and fostering diaspora engagement and volunteering.
- **Sports as a People's Movement:** To make sports a national movement, the policy aims to promote mass participation and a fitness culture through campaigns, introduce fitness indices for institutions, and improve access to sports facilities across the country.
- **Integration with Education (NEP 2020):** Aligned with National Education Policy 2020, it seeks to integrate sports into school curricula and train educators to foster early sports engagement.

Sports in post-Independence India (1947–1982)

- **Focus on Nation-Building:** In the years following Independence, the government's priority remained poverty alleviation, health, and education, leaving sports on the periphery of national policy.

Milestones:

- **1951:** India hosted the **first Asian Games** in New Delhi, asserting its regional presence.
- **1954:** Establishment of the **All-India Council of Sports (AICS)** to advise on sports policy and support federations.
- **Challenges:** Limited allocations led to athletes missing global events due to lack of funds.
- **Achievements:** Despite policy gaps, Indian hockey dominated the Olympics (1920–1980), and stars like **Milkha Singh** and **Kamaljeet Sandhu** brought glory in athletics.

Post-2000: Institutionalisation and Modern Schemes

- **2000:** Creation of a **dedicated Ministry of Youth Affairs and Sports (MYAS)**.
- **2001:** Revised **National Sports Policy** focusing on mass participation and international excellence.
- **2011:** Introduction of the **National Sports Development Code (NSDC)** for governance reforms in National Sports Federations (NSFs).

- **Key Initiatives:**

- **Target Olympic Podium Scheme (TOPS, 2014):** Support for elite athletes.
- **Khelo India (2017):** Youth talent identification and grassroots sports promotion.
- **Fit India Movement (2019):** Public health through physical activity.

Contemporary Developments and Olympic Aspirations

- India has expressed intent to **host the 2036 Olympics**, igniting policy and infrastructure momentum.
- **2024:** Release of **Draft National Sports Policy** and **Draft National Sports Governance Bill** for feedback.
- **2025:** Launch of “**Khelo Bharat Niti – 2025**”, a comprehensive sports policy reinforcing India’s Olympic ambitions.

Challenges in Indian Sports Ecosystem

- **Governance Issues:** Inconsistent implementation of policies; delays in passing governance reforms such as the **National Code for Good Governance in Sports (2017)**.
- **Doping Concerns:** India topped the **WADA doping list**, underscoring the need for strict anti-doping enforcement.
- **Infrastructure & Coaching:** Lack of **scientific coaching** and modern infrastructure at grassroots levels.
- **Low Physical Literacy:** Limited integration of physical education in mainstream schooling.

The Way Forward

- **Strengthening Governance:** Fast-track adoption of the **National Sports Governance Bill** and enforce accountability in NSFs.
- **Anti-Doping Measures:** Create robust awareness and testing frameworks.
- **Scientific Training:** Invest in advanced coaching, sports science, and athlete welfare programs.
- **Sports in Education:** Institutionalise **physical literacy** as a core component of school curricula.
- **Public-Private Partnerships:** Leverage corporate participation for funding and infrastructure development.

2. Gig workers seek minimum wages, social security

Why in the news?

- The Telangana Gig and Platform Workers’ Union (TGPWU) urged the State government to ensure minimum wages, legal recognition, and comprehensive welfare schemes, for gig and platform workers.

About Gig Workers

- The **World Economic Forum** defines the gig economy as **short-term, task-based work** facilitated by digital platforms that connect workers with customers.
- **Nature of Work:**
 - **Web-based:** Content writing, software development.
 - **Location-based:** Driving, delivery services (e.g., Ola, Zomato).
- **Employment Type:** Gig workers in India are generally treated as **self-employed, paid per task**, and operate outside traditional 9-to-5 models.

Policy and Legal Recognition

- **Union Budget 2025:** Steps introduced to **formally recognise gig workers** and extend **social protection schemes**.
- **Code on Social Security, 2020:**
 - Legally defines **gig and platform workers**.
 - Provides a framework for **welfare schemes** like the **Social Security Fund** and **National Social Security Board**.

- **Government Initiatives:**
 - **e-Shram portal** for registration and digital ID cards.
 - **Ayushman Bharat** health coverage inclusion.

Challenges Faced by Gig Workers

- **Statistical Invisibility:** Lack of **specific classifications** hinders **accurate data collection** and **welfare planning**.
- **Lack of Social Security:** Welfare schemes depend on **accurate worker data**, which is currently inadequate.
- **Job Insecurity & Low Wages:** Payment is **task-based**, with **no guarantee of minimum wages** or **job continuity**.
- **Growth vs. Protection Gap:** Gig workforce projected to reach **23.5 million by 2029–30**, but legal and welfare frameworks lag behind.

Conclusion

A **data-driven, legally robust framework** will ensure that gig workers, as vital contributors to India's digital economy, receive **equitable recognition and social security**.

3. Custodial Deaths in India

Why in the news?

- The recent custodial death in Sivaganga district in Tamil Nadu, has once again drawn national attention to the issue of custodial practices and the treatment of individuals in police custody.

About Custodial Death

- Custodial death refers to the death of an individual **while in police or judicial custody**. This may occur **before trial, during police interrogation, or after conviction**.
- The death may be caused by torture, negligence, denial of medical aid, or even under suspicious circumstances.
- **It Violates the Constitutional Rights of;**
 - **Article 20(1):** No person shall be punished beyond what is prescribed in law.
 - **Article 20(3):** Protection against self-incrimination; any confession made under duress is inadmissible.
 - **Article 21:** Ensures protection of life and personal liberty, including in police/judicial custody.

Marginalised Communities and Custodial Violence

- **Disproportionate Impact on SCs:** In 2022, **38.5% of detainees** in Tamil Nadu belonged to **Scheduled Castes**, while their population share was only **20%**.
- **High Preventive Detention:** Tamil Nadu had **2,129 detainees** under preventive detention as of **December 31, 2022**-nearly **half of India's total**.
- **Pattern:** Dalits and marginalised communities **bear a disproportionate burden of police excesses**.

Reasons for Low Convictions

- **Institutional Bias:** Weak oversight of police personnel and reluctance to prosecute.
- **Procedural Hurdles:** Delay in magisterial inquiries and compromised investigations.
- **Legal Loopholes:** Lack of independent investigative bodies for custodial crimes.
- **Witness Intimidation & Lack of Transparency:** Survivors and witnesses often fear retaliation.

International Legal Frameworks for Protection

- **United Nations Charter (1945):** It sets out the purposes and principles of the UN, including the promotion of human rights.

- **Universal Declaration of Human Rights (1948):** It prohibits torture and ensures the presumption of innocence.
- **International Covenant on Civil and Political Rights (1966):** It protects right to life and prohibits torture.
- **The Nelson Mandela Rules**, officially known as the **UN Standard Minimum Rules for the Treatment of Prisoners 2015**, establish minimum standards for the humane treatment of all individuals deprived of their liberty.
- **European Convention on Human Rights (1950):** It recognises individual dignity and access to justice mechanisms.

Way Forward

- **Independent Investigative Mechanisms:** Establish **autonomous custodial death investigation units** separate from the police.
- **Strengthen Legal Framework:** Implement **UN Convention Against Torture** (India has signed but not ratified). Amend CrPC to mandate time-bound inquiries.
- **Judicial Oversight:** Fast-track custodial death cases through **special human rights courts**.
- **Community Representation & Sensitisation:** Police training on **human rights and caste sensitivity**. Increase representation of marginalised communities in policing.
- **Data Transparency:** Revise **Periodic Labour Force Survey (PLFS)**-like models for accurate custodial data reporting.

Conclusion

To uphold constitutional values of **life and dignity (Article 21)**, India must urgently **reform custodial investigation mechanisms, enforce strict accountability, and strengthen oversight**—turning public outrage into meaningful structural change.

II. Developmental processes and Development industry

1. Employment-Linked Incentive (ELI) scheme

Why in the news?

- Union Cabinet approved the **Employment-Linked Incentive (ELI) Scheme** with an allocation of **₹99,446 crore** to promote job creation, particularly in the manufacturing sector.

Incentive boost

The ELI scheme will provide incentives to employees as well as employers to improve creation of job opportunities

■ Around **1.92 crore** beneficiaries will be first-time employees

■ Scheme offers one-month wage up to **₹15,000** in two instalments

■ Benefits applicable to jobs created **between August 1, 2025 and July 31, 2027**



Key Features of the ELI Scheme

- **Budgetary Allocation and Target:** Outlay of **₹99,446 crore**. Aims to generate **3.5 crore jobs** over **two years**, with **1.92 crore first-time entrants** into the workforce.
- **Beneficiaries:** Employees earning **up to ₹1 lakh per month** are eligible. First-time employees will receive **one month's wage (up to ₹15,000)** as direct support.
- **Incentives to Employers:** Employers will receive **₹3,000 per month per additional employee** for two years. **Extended benefits for the manufacturing sector** for the third and fourth years.
- **Implementation Timeline:** Jobs created between **August 1, 2025 and July 31, 2027** are eligible for incentives.
- **Part of a Larger Package:** The scheme is one of the **five flagship initiatives** under the **Prime Minister's employment and skilling package** worth **₹2 lakh crore**, targeting **4.1 crore youth**.

Expected Impact

- **Encouragement for Formalisation:** Incentives tied to sustained employment may **encourage employers to formalise jobs**.
- **Boost to Manufacturing Sector:** **Extended incentives** for manufacturing are expected to **revive labour-intensive industries**.
- **Increased Workforce Participation:** Targeting **1.92 crore first-time employees** aims to **integrate more youth into the labour market**.

Challenges and Criticisms

- **Risk of Fund Misuse:** Concerns over **public funds being routed to employers** without strict accountability.
- **Sustainability of Employment:** Ensuring that jobs created under the scheme are **long-term and productive**, not just temporary additions.
- **Implementation Oversight:** Monitoring will be crucial to ensure **genuine employment creation** and prevent fraudulent claims.

Conclusion

The ELI Scheme blends fiscal incentives with employment generation, aiming to boost manufacturing jobs, integrate first-time workers, and foster sustainable workforce growth, though effective monitoring remains crucial.

III. NGOs, Self-help group

1. National Cooperative Policy, 2025

Why in the news?

- The Union Ministry of Cooperation unveiled the **National Cooperation Policy – 2025**

Core Objectives

- **Inclusive Development:** Focus on **villages, agriculture, rural women, Dalits, and tribals**.
- **Model Cooperative Villages:** **5 model cooperative villages in every tehsil** (initiative launched in Gandhinagar by NABARD).
- **Employment & Youth Engagement:** Connecting youth with opportunities in cooperatives.
- **Universal Coverage:** At least **one cooperative society in every village**.

Targets by 2034

- **Triple** the cooperative sector's contribution to **GDP**.

- **50 crore active members** in cooperatives.
- **30% increase** in the number of cooperative societies (currently 8.3 lakh).

Key Pillars of the Policy

- **Strengthening the foundation** of cooperatives.
- **Promoting vibrancy** in cooperative functioning.
- **Preparing for the future** with technology-driven & transparent systems.
- **Enhancing inclusivity & expanding reach.**
- **Entering new sectors** like **tourism, taxi services, insurance, and green energy.**
- **Engaging youth** in cooperative development.

97th Constitutional Amendment Act 2011

- It established the right to form cooperative societies as a fundamental right (**Article 19**).
- It included a new Directive Principle of State Policy on the Promotion of Cooperative Societies (**Article 43-B**).
- It added a new **Part IX-B** to the Constitution titled “**The Co-operative Societies**” (**Articles 243-ZH to 243-ZT**).
- It authorizes the Parliament to establish relevant laws in the case of **multi-state cooperative societies (MSCS)** and state legislatures in the case of other cooperative societies.

Major Initiatives

- **White Revolution 2.0:** To enhance women’s participation in dairy cooperatives.
- **Sahkar Taxi:** Cooperative taxi service (profits go directly to drivers).
- **Tribhuvan Sahkari University:** For trained manpower in cooperative activities.
- **PACS Expansion:**
 - **45,000 new PACS** being set up.
 - PACS engaged in **Jan Aushadhi Kendras (4,108 approved)**, **petrol/diesel outlets (393 applications)**, **LPG distribution**, **Har Ghar Jal**, **PM Surya Ghar Yojana**.
- **Three multi-state cooperatives** for exports, seed production, branding & marketing of organic products.
- **National Cooperative Exports Limited** for global outreach.

Monitoring & Implementation

- **83 intervention points** identified (**58 completed, 3 fully implemented, 2 ongoing**).
- **Cluster & monitoring system** for better oversight.
- **Policy review & legal amendments every 10 years** to stay relevant.

IV. Important Aspects of Governance (RTI, Citizen Charter etc)

1. Artificial Intelligence (AI) governance

Why in the news?

- India has declared its aspiration to become a **global leader in Artificial Intelligence (AI) governance**. As the **world’s largest democracy** and an emerging **technological powerhouse**, India is uniquely positioned to shape a **human-centric, inclusive AI framework**.

Current AI Governance Framework in India

- The **IndiaAI Mission**, under the **Ministry of Electronics and IT**, is a key operational programme.
- It is housed under a **Section 8 company**, led bureaucratically without parliamentary oversight.
- Lacks clarity on **national priorities, ethical frameworks, and institutional structure**.

Key Challenges in India's AI Ecosystem

- **Strategic Autonomy and National Security Risks:** AI integration in **defence, intelligence, and infrastructure** increases vulnerability to foreign tech dependencies.
- **Opaque Data Governance:** Lack of **transparent and debated frameworks** around **public data platforms** threatens **market concentration** and public trust.
- **Labour Market Disruption**
 - **Job losses:** ~65,000 layoffs in 2024 from major IT firms.
 - **IMF estimate:** 26% of Indian jobs exposed to generative AI; 12% at risk of automation.
 - **Gap:** Absence of input from **labour economists and civil society** in AI policy formation.
- **Energy and Environmental Concerns:** AI systems, especially data centres, demand **enormous energy and water**. Cities like **Bengaluru and Hyderabad** face **water stress** amid rising AI infrastructure.
- **Social and Ethical Implications:** AI's influence on **education, training, and skill valuation** will redefine the **social contract**.
 - Risk of **bias, discrimination, and accountability loss** in healthcare, policing, and welfare applications.

Way Forward

- **Parliamentary Oversight:** Establish a **Standing Committee on AI and Emerging Tech**.
- **Mandate:** Review policies, ethical risks, and conduct **public consultations**.
- **Commission Employment Impact Study:** Focus on **AI-led disruptions in white-collar sectors**. Provide **sector-wise, region-wise, and demographic** employment impact data.
- **Democratic and Inclusive Governance:** Include **educators, civil society, industry, and labour unions** in policy dialogue. Shift from **technocratic rulemaking** to **open, deliberative governance**.

2. Use of AI for judiciary work

Why in the news?

- The **Kerala High Court** has released a landmark policy document titled '**Policy Regarding the Use of AI Tools in District Judiciary**' — the first of its kind by any High Court in India — to ensure the **responsible use of artificial intelligence (AI)** in judicial work.

Key Features of the Policy

- **Scope & Applicability**
 - Applies to **all members of the district judiciary** — judges, clerks, interns, and court staff.
 - Covers AI use on **personal and government devices**.
- **Classification of AI Tools**
 - **General AI tools** vs. **Approved AI tools**.
 - Only tools **approved by the Kerala High Court or Supreme Court** can be used for court work.
 - **Generative AI tools** (e.g., ChatGPT, DeepSeek) are defined separately due to their human-like responses.
- **Permitted & Prohibited Uses**
 - **Prohibited:** Drafting judgments, orders, or findings; unverified translation of documents.
 - **Permitted with verification:** Research (citations, judgments) under supervision.

- **Encouraged:** Administrative tasks (e.g., scheduling, court management) under observation.
- **Error Reporting & Training**
 - Errors to be reported to **Principal District Court/Judge** and forwarded to the **High Court IT department**.
 - Mandatory **training sessions** for judicial officers and staff on AI ethics and technical usage.
- **Accountability & Enforcement**
- **Disciplinary action** for violation of policy norms

Why is it Relevant?

- In **February 2025**, the Centre encouraged AI adoption in courts to **tackle case backlogs** and improve efficiency.
- The policy addresses **risks like AI hallucination**, as highlighted by the **Solicitor General** and judicial observations (e.g., Karnataka High Court's concerns on overdependence).
- Sets a **benchmark for responsible AI integration**, balancing **innovation with judicial integrity**.

Conclusion

By issuing this **first-of-its-kind framework**, the Kerala High Court has taken a **proactive step in regulating AI use** within the judiciary. It **limits AI to supportive and administrative roles**, safeguarding the **independence and reliability of judicial processes**, while laying down **clear accountability mechanisms** for ethical usage.

C. SOCIAL JUSTICE

I. Issues Relating to Development and Management of Social Sector/Services relating to Health, Education, Human Resources

1. Unsafe Cancer Drugs

Why in the news?

- Recently, a major global investigation by the **Bureau of Investigative Journalism**, found that **low-quality and unsafe cancer drugs**.

Why Are Cancer Drugs at Risk?

- **Complex Manufacturing Process**
 - Cancer drugs undergo **multi-stage production**, from sourcing raw materials to final distribution.
 - **Sterility** is critical — even minor lapses in **cleanroom protocols**, water filtration, or equipment sanitization can lead to contamination.
 - **Example:** Improperly disinfected technicians or unfiltered water can introduce deadly bacteria into life-saving drugs.
- **High Contamination Risks**
 - **Manufacturing flaws** (e.g., inadequate raw material testing) can render cancer drugs **toxic or ineffective**.
 - **Case Study:** In 2022, **10 children died in Yemen** after receiving contaminated **methotrexate**, a chemotherapy drug.

Consequences of Unsafe Cancer Drugs

- **Direct Patient Harm:**
 - **Saudi Arabia (2019):** 5 young patients developed high fever; 1 died.
 - **Colombia (2019):** 4 children died and 100 fell ill after consuming a substandard drug.
- **Loss of Trust in Healthcare Systems:** Substandard drugs undermine public confidence in cancer care.

- **Increased Healthcare Burden:** Treating complications caused by toxic drugs increases costs for families and governments.

WHO's Role in Drug Safety

- **Rapid Alert System:** Issues warnings to governments **after incidents occur**, but cannot prevent initial harm.
- **Global Benchmarking Tool:** Rates regulatory systems on a scale of 1–4; **70% of countries remain at levels 1–2** (low capacity).
- **Essential Medicines List:** Helps prioritize safe, effective drugs.
- **Prequalification Program:** Ensures procurement of WHO-approved drugs, labs, and raw materials.
- **Good Manufacturing Practices (GMP):** Certifies adherence to international production quality standards.
- **WHO Certification Scheme (CoPP):** Acts as a “passport” confirming drug safety in the exporting country.

Challenges & Limitations

- WHO measures **cannot match the level of oversight** seen in advanced regulatory environments like the U.K.
- **Implementation gaps** in LMICs mean that even certified drugs may be mishandled or adulterated.
- **Insufficient regulatory manpower** hampers proactive enforcement.

Way Forward

- **Strengthen National Regulatory Authorities (NRAs):** Improve capacity through WHO's Global Benchmarking Tool.
- **Expand Pre-Shipment Testing:** Make **double quality checks** mandatory for all high-risk drugs entering LMICs.
- **Use Digital Tracking:** Deploy **blockchain-based drug tracking** for transparency in supply chains.
- **Public-Private Partnerships:** Collaborate with pharma companies for **technology transfer** and **in-country quality testing**.
- **Increase WHO's Proactive Role:** Move beyond alerts to **capacity-building and real-time monitoring** in LMICs.

2. WHO's “3 by 35” Initiative

Why in the news?

- The **World Health Organization (WHO)** has launched the “**3 by 35**” Initiative, calling on countries globally to **increase taxes** on tobacco, alcohol, and sugary drinks.

About Health Tax

- A health tax is a levy imposed on products that have a negative impact on public health—primarily tobacco, alcohol, and sugary drinks.

- The world faces an urgent challenge of **non-communicable diseases (NCDs)** such as heart disease, cancer, and diabetes now account for **over 75% of global deaths**.
- Simultaneously, shrinking development aid and rising public debt have strained health systems, especially in low- and middle-income countries.
- Studies suggest a **one-time 50% price hike could prevent up to 50 million premature deaths** over the next 50 years and raise USD 1 trillion in public revenue over the next decade.
- From 2012 to 2022, nearly **140 countries raised tobacco taxes**, with real prices rising over 50% on average, demonstrating that large-scale change is possible.

Objectives and Expected Impacts

- **Reduce NCD Burden:** Lower consumption of unhealthy products to prevent millions of premature deaths.
- **Mobilize Revenue:** Generate an additional US\$ 1 trillion globally over the next decade.
- **Strengthen Health Systems:** Fund universal health coverage, prevention, and health infrastructure.
- **SDG 3:** Ensure healthy lives and promote well-being for all ages, with targets to reduce NCD mortality by one-third by 2030.

Challenges and Considerations

- **Industry Opposition:** Strong lobbying by tobacco and beverage industries; policy delays and dilution.
- **Regressive Tax Concerns:** Risk of disproportionate impact on low-income groups unless paired with subsidies.
- **Revenue Volatility:** Declining consumption may affect long-term revenue stability.
- **Tax Exemptions:** Long-term industry agreements can restrict tax increases and weaken public health.

Way Forward

- Designing robust, broad-based health taxes.
- Avoiding industry-driven tax exemptions.
- Using revenues to fund health, education, and social protection, especially for vulnerable groups.
- Building cross-sectoral alliances and engaging civil society for sustained impact.

3. Tamil Nadu's Health Sector

Why in the news?

- Tamil Nadu has long been considered a leader in public health, with **11,000+ health institutions**, strong health indicators, and a range of **innovative health schemes**. Yet, beneath these successes lies a growing crisis — **workforce shortages, vacancies, and unmet demands of healthcare professionals** threaten the system's sustainability.

Focussed Initiatives and Innovative Programmes

- **Makkalai Thedi Maruthuvam (MTM):** A flagship doorstep healthcare scheme offering **screening and medicine delivery** for **non-communicable diseases (NCDs)** like diabetes and hypertension. It has improved disease control significantly, with **blood pressure control among hypertensives rising from 7.3% to 17%** and **blood sugar control in diabetics improving from 10.8% to 16.7%**.
- **Community-based cancer screening:** Enabling early detection at the grassroots level.
- **Tamil Nadu Medical Services Corporation (TNMSC):** Ensures **streamlined drug procurement and distribution** across public hospitals.
- **Transplant Authority of Tamil Nadu (TRANSTAN):** Manages organ transplant allocation and waitlists effectively.
- **Dr. Muthulakshmi Reddy Maternity Benefit Scheme:** Provides **financial and nutritional support** to **disadvantaged pregnant women**.
- **Chief Minister's Comprehensive Health Insurance Scheme:** Improves access to **advanced medical procedures and transplants** for economically weaker sections.

Notable Gains

- **Maternal Mortality Ratio (MMR):** Declined to **39.4 per 1,00,000 live births (2024–25)** from **45.5 (2023–24)**.
- **Infant Mortality Rate (IMR):** Reduced from **8.2 to 7.7 per 1,000 live births** in the same period.
- **Under-5 Mortality Rate:** Dropped from **8.9 to 8.2** between 2023–24 and 2024–25.

Challenges in the Health Workforce

- **Village Health Nurses (VHN):** Each VHN is now covering **2–3 villages** instead of one, impacting maternal and child health outreach.
- **Shortage of Specialists: Skewed distribution** of specialists at secondary and tertiary levels, with **shortages in super-specialty areas** like cardiothoracic and vascular surgery.
- **Delayed Recruitment:** While **3,500 medical officers** have been hired for primary healthcare in four years, **specialist shortages remain unaddressed**.
- **Workforce Discontent:** Contractual recruitments and proposed **public-private partnership models** (e.g., in haemodialysis) face stiff resistance from existing staff.

II. Issues relating to Poverty and Hunger.

1. Bridging the Gap Between Education and Employment in India

Why in the news?

- According to the **India Employment Report 2024 (ILO–IHD)**, youth (15–29 years) constitute **83% of the country's unemployed population**, with unemployment higher among those with **secondary or higher education**.

Current Trends in Employment

- The **Employees' Provident Fund Organisation (EPFO)**, with **7 crore members**, is one of the largest social security organisations globally.
- **Post-2019**, EPFO enrolments declined due to the pandemic, but **March 2025 data shows a steady rise in formal workforce participation**.
- **Young professionals dominate new enrolments:** The **18–25 age group** constitutes a significant share, with the **18–21 subgroup alone making up 18–22%** of new subscribers.
- **Nearly 90%** of India's workforce remains **informally employed**, and **regular salaried jobs have been declining** since 2018.
- Growth in **contractual employment** has not been accompanied by adequate **job security or social welfare measures**.

Youth Skill Deficit

- The **Economic Survey 2023–24** notes that **only 50% of graduates are job-ready**.
- **Digital illiteracy:**
 - **75%** of youth struggle with basic email operations.
 - **60%** cannot perform simple file operations.
 - **90%** lack fundamental **spreadsheet skills**.
- *Example:* The **WEF Future of Jobs Report 2025** predicts **170 million new jobs by 2030**, but also **92 million job displacements**, underscoring the urgency of **reskilling and upskilling**.

Challenges in Employment Integration

- **Skill–Industry Mismatch:** Outdated curricula fail to meet industry demands, particularly in emerging sectors like AI, data analytics, and advanced manufacturing.
- **Technological Disruptions:** AI and automation threaten traditional job roles, especially in India's IT and service sectors.
- **Weak Academia–Industry Collaboration:** Lack of mandatory partnerships between institutions and industry limits students' exposure to real-world applications.

- **Limited Global Orientation:** Skilling programmes rarely target **international labour markets**, missing opportunities in ageing economies of the West.
- **Accountability Deficit:** Higher education institutions are **not evaluated based on student employability or placements**, leading to low outcome-oriented performance.

What India Must Do: Policy Prescriptions

- Mandate **formal partnerships** between higher education institutions and industry.
- Introduce **Idea Labs and Tinker Labs** in all high schools and colleges for applied learning.
- **Accreditation linked to job placements** to ensure institutions are accountable for employability.
- Make **humanities, soft skills, and foreign language learning** mandatory for holistic development.
- Align skilling programmes with **global labour demands**, especially for **ageing Western economies**.
- Collaborate with initiatives like the **EU's Link4Skills project** to create migration corridors for skilled Indian workers.
- **Establish an Indian Education Services:** On the lines of **IAS**, create a **specialised cadre** to attract top talent into managing and reforming the education sector.

D. INTERNATIONAL RELATIONS

I. India and its Neighborhood- Relations

1. China's Expanding Strategic Presence in IOR

Why in the news?

- Parliament Committee Report has highlighted that **China's expanding strategic presence in the Indian Ocean Region** is a challenge for India.

Highlights of the Report

- **China's Belt and Road Initiative (BRI) and Strategic Dependence**
 - The report critiques the **BRI** for facilitating **debt-trap diplomacy**, especially in the Indian Ocean Region.
 - China's investments in **dual-use infrastructure** — ports, airports, and logistics nodes — blur the line between civilian and military utility.
 - These projects often result in **unsustainable debts** for partner nations, thereby **enhancing China's strategic leverage**.
 - **Example:** Hambantota Port in Sri Lanka, leased to China for 99 years.
- **Naval Expansion and Military Presence:** China has significantly increased the **frequency and duration** of its naval deployments in the IOR.
- **Maritime Domain Activities and Ocean Surveillance:** Chinese research vessels are increasingly present in the IOR under the guise of **scientific surveys**.
- **Port Infrastructure Projects Near India**
 - China is investing in maritime infrastructure in **littoral IOR states**, including **India's neighbourhood**.
 - The strategy supports China's broader ambition to emerge as a **global maritime power**.
 - Development of Kyaukphyu port in Myanmar close to the Bay of Bengal.

India's Diplomatic and Strategic Responses

- **Regional Awareness and Engagement:** India is partnering with regional states to **highlight the long-term strategic risks** of Chinese projects. Emphasises the **security implications** of the militarisation of Chinese-funded infrastructure.
- **Assurance from Sri Lanka (2024):** Sri Lankan President Anura Kumara Dissanayake assured India that no activities on its soil would threaten India's security.
- **India's Stand on BRI and CPEC**
 - India **opposes BRI** on the grounds of sovereignty violations.
 - The **CPEC route** passes through Indian territory **illegally occupied by Pakistan** in Jammu & Kashmir and Ladakh.
 - India has registered formal protests to China.

India's Multi-Pronged Strategic Posture

- **Diplomatic and Humanitarian Leadership**
 - India projects itself as a **net security provider** and **first responder** in regional crises.
 - Initiatives like **MAHASAGAR** reflect India's inclusive maritime vision.
 - India now actively seeks **strategic partnerships** with like-minded democracies.
- **Naval Modernisation**
 - India is building a **blue-water navy** through indigenous platforms:
 - **INS Vikrant** (aircraft carrier)
 - **INS Visakhapatnam** (stealth destroyer)
 - Enhanced maritime domain awareness improves **deterrence and rapid deployment capacity**.

Conclusion

China's incremental expansion in the IOR is a **direct strategic concern** for India.

India's doctrine is evolving to combine **regional leadership, capacity building, and multilateral cooperation**.

The maritime competition in the IOR is set to **define the future balance of power** in the Indo-Pacific.

2. China's Mega Dam on Brahmaputra

Why in the news?

- China has begun constructing the **world's largest hydropower project** on the **Yarlung Zangbo (Brahmaputra)** near the **Great Bend** in Medog county, Tibet, close to the Arunachal Pradesh border.



Key Concerns for India

- **Security and Strategic Fears:** Arunachal Pradesh CM **Pema Khandu** has described the dam as a potential “**water bomb**” and an “**existential threat**”, fearing deliberate water release that could **devastate the Siang belt**.
- **Weaponisation of water:** Concerns exist that China could use the dam to exert pressure on India, especially during geopolitical tensions.
- **Environmental and Seismic Risks:** The dam is being built in an **ecologically fragile, earthquake-prone zone** where the **Indian and Eurasian tectonic plates collide**, raising fears of **dam failure, landslides, or flooding**.
- **Hydrological Impact** Potential for **flow disruption** into Arunachal Pradesh and downstream into **Assam and Bangladesh**, affecting agriculture, ecology, and livelihoods.

India's Diplomatic and Strategic Response

- **Monitoring:** India has said it is **closely tracking Chinese activities** on trans-boundary rivers.
- **Engagement with China:** The Ministry of External Affairs has reiterated the need for **transparency and consultations** with downstream countries.
- **Confidence-building measures:** During recent talks, India and China discussed **resumption of cooperation on trans-border rivers**.
- **Regional Coordination:** Experts suggest **engaging Bangladesh, Bhutan, and Myanmar** for a **joint protocol on advance warning and disaster preparedness**.

Mitigation Strategies

- **Storage and Buffer Infrastructure:** **Upper Siang project (300m dam)** in Arunachal Pradesh is critical for **hydropower generation and flow regulation** to counter China's dam.
- **Inland Water Channels:** **National Water Development Authority (NWDA)** has proposed links between the **Brahmaputra and Ganga basins** to utilise excess water and address regional water scarcity.
- **Scientific Assessment:** Experts call for **continuous hydrological analysis and data sharing with China** to gauge downstream impacts.

Conclusion

India's response must combine **diplomacy, regional cooperation, scientific monitoring, and strategic infrastructure** such as the **Upper Siang project** to safeguard its interests and ensure **water security for its northeastern states and Bangladesh**.

II. India & World

1. Conflict in Middle East

Why in the news?

- The **Iran-Israel conflict** has drawn **global attention** for its impact on **oil prices**, but a less visible and equally serious issue is emerging in **fertiliser supply**, which poses a significant **risk to farming and food security in India**.

Fertiliser security risks for India

- **Disruption of Import Routes:** India relies heavily on **fertiliser imports** from **Gulf countries** like Qatar, Saudi Arabia, and Oman. These imports pass through the **Strait of Hormuz**, a key shipping route vulnerable to blockades during conflicts like the **Iran-Israel standoff**.

- **Volatile Global Prices:** Geopolitical tensions raise the prices of **natural gas** (used to produce urea) and finished fertilisers. **Eg:** A conflict-induced surge in **natural gas prices** increases the cost of domestic urea production, straining India's **fertiliser subsidy bill**.
- **Dependence on Conflict Zones:** India imports **100% of MOP** (Muriate of Potash), including from **Belarus and Israel**, both affected by global instability.

Unanswered Lessons from Russia-Ukraine Crisis

- **Lack of Strategic Buffer Stocks:** Despite 2022 supply disruptions, India **still lacks a fertiliser buffer stock policy** or **minimum stocking norms** for critical imports like DAP and MOP. **Eg:** During peak sowing seasons (like Kharif), **30–45 days of operational stock** is inadequate to absorb external shocks.
- **Failure to Diversify Import Sources Meaningfully:** While India talks of diversification, it **continues to rely heavily on Gulf countries** and politically unstable regions. **Eg:** After disruptions in nitrogen and potash from Russia and Belarus, the current **dependence on Israel and Jordan for DAP** remains high, risking repetition.
- **Reactive Rather than Proactive Policymaking:** The policy response has focused more on short-term procurement than long-term resilience building through joint ventures, domestic innovation, or alternative fertilisers.

Fertilisers be part of India's national security planning

- **Critical for Food Security:** Fertilisers are essential for sustaining **agricultural output** in an **input-intensive farming system**. **Eg:** Disruptions in **urea or DAP** supply during **sowing seasons** can directly impact **crop yields** and **food availability**.
- **Vulnerability to Geopolitical Shocks:** Heavy reliance on **imports from unstable regions** exposes India to **external risks**.
- **Impact on Economic and Rural Stability:** Fertiliser **shortages or price hikes** raise **subsidy burdens** and can lead to **rural distress**.

Way forward

- **Develop Strategic Fertiliser Reserves:** Establish buffer stocks of key fertilisers like **urea, DAP, and MOP**, especially for critical sowing seasons (e.g., **Kharif and Rabi**) to cushion against global disruptions.
- **Expand and Diversify Import Partnerships:** Forge **long-term agreements** and **joint ventures** with stable countries (e.g., **Morocco, Canada, Jordan**) and explore **alternative shipping routes** to reduce overdependence on the Middle East and de-risk supply chains.

2. India-U.K's Comprehensive Economic Trade Agreement (CETA)

Why in the news?

- India and the United Kingdom have signed a **reciprocal Double Contributions Convention (DCC)** alongside the Comprehensive Economic and Trade Agreement (CETA), aiming to enhance trade and mobility between the two countries.

About DCC

- The DCC exempts employees working temporarily (up to three years) in either country from paying **double social security contributions**, thereby improving ease of doing business and boosting cross-border professional mobility.

A win-win deal: Who gets what



Key Features of the DCC

- **Social Security Exemption:** Employees temporarily working for up to three years will pay social security only in their home country.
 - **Example:** An Indian IT professional deployed to London for two years pays social security only in India.
- **Coverage:** Prevents fragmentation of workers' social security records across countries.
- **Scope:** Applies to a wide range of professionals, including **IT specialists, architects, engineers, chefs, yoga instructors, and musicians.**
- **Exclusivity:** While it facilitates contributions, it does **not grant access to social security benefits** in the host country.

Benefits for India

- **Boost to Services Sector:** Increased access to **IT, financial, legal, educational, and digital trade** sectors in the UK.
- **Enhanced Worker Take-Home Pay:** Exemption from dual social security contributions raises net income for around **75,000 Indian workers.**
- **Cost Reduction for Indian Companies:** Reduces the cost of deploying Indian professionals in the UK, improving competitiveness.
- **Strengthening Bilateral Trade:** Complements CETA, which covers nearly **100% of trade value** between the two nations.
- **Facilitation of Professional Mobility:** Liberalised visa categories and simplified entry procedures for Indian professionals.
- **Attracting Investments:** UK companies gain easier access to India's skilled workforce, likely spurring investment inflows.

Benefits for the UK:

- **Reduced tariffs on nearly 90% of UK goods entering India:** This will make British products more affordable in India.
- **Big cuts on duties for British whisky and gin:** Tariffs on popular British products like whisky and gin will drop significantly, from 150% to 75% immediately and then gradually to 40% within ten years. This gives UK distillers a significant advantage in the large Indian market.
- **Lower tariffs on certain UK-made automobiles:** Car duties will be reduced, improving the competitiveness of British car manufacturers in India.
- **Access to Indian federal government procurement tenders:** UK firms can bid for government contracts in India worth over a certain amount, opening up a large market.
- **Benefits for financial and professional services:** The agreement includes commitments that benefit UK companies in IT, financial services, and professional services like consulting and engineering.

Challenges and Political Concerns

- **Domestic Opposition in the UK:** Critics argue the exemption prioritises Indian workers over locals.
- **Immigration Sensitivities:** Concerns of increased migration and overstaying visas.
- **Fiscal Impact on the UK:** Estimated cost to the British government: **£100 million**, though deemed offset by overall economic benefits.

Way Forward

- **Monitoring Implementation:** Ensure smooth tracking of contributions and worker compliance.
- **Strengthening Labour Mobility Framework:** Extend similar agreements with more countries to boost global opportunities for Indian professionals.
- **Public Outreach:** Address domestic concerns in both nations through transparent communication on long-term economic gains.

III. Bilateral, Regional and Global Groupings and Agreements

1. Shanghai Cooperation Organisation (SCO) Defence Ministers' Meeting

Why in the news?

- India has refused to sign a joint declaration at the Shanghai Cooperation Organisation (SCO) Defence Ministers' meeting in Qingdao, China. India is not satisfied with the language of the joint document and there was **no mention of cross-border terrorist activities specially recent Pahalgam Terror attack**.

Shanghai Cooperation Organisation (SCO)

- **Shanghai Five** emerged in **1996** from a series of border demarcation and demilitarization talks between **4 former USSR republics and China**.
- **Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan** were members of the **Shanghai Five**.
 - With the accession of **Uzbekistan** to the group in **2001**, the Shanghai Five was renamed the SCO.
- **Objective:** To enhance regional cooperation for efforts to curb terrorism, separatism, and extremism in the Central Asian region.
- **Members:** China, Russia, India, Pakistan, Iran, Belarus and the four Central Asian countries of Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan.
 - India became a full member in **2017** and assumed the rotating **chairmanship in 2023**.
 - Member countries contribute around **30 per cent of the global GDP** and about **40 percent of the world's population**.
- **Observer status:** Afghanistan and Mongolia.
- **Language:** The SCO's official languages are Russian and Chinese.
- **Structure:** The **supreme decision-making body** of the SCO is the **Council of Heads of States (CHS)** which meets once a year.
- **The Organization has 2 standing bodies** — the Secretariat in Beijing and the Executive Committee of the Regional Anti-Terrorist Structure (RATS) in Tashkent.

Significance for India

- **Regional Security:** The SCO serves as a platform for addressing security concerns, including terrorism, separatism, and extremism, which are critical issues for India.
- **Balancing China and Pakistan:** While both are SCO members, the forum allows India to assert its position and prevent the formation of anti-India narratives.

- **Energy Security:** Central Asia is rich in oil, gas, and uranium. SCO membership allows India to strengthen energy ties with these countries.
- **Economic Cooperation:** The organization facilitates economic collaboration among member states, which enhance trade and investment opportunities for India, particularly with Central Asian countries.
- **Central Asia:** The SCO is especially important for India because its membership and focus emphasize Central Asia—a region where India is keen to ramp up ties but faces an inherent constraint with its outreach.

Challenges

- **China-Pakistan Axis:** The strong partnership between China and Pakistan within the SCO complicates India's strategic positioning, as at times it limits India's influence in regional security discussions.
- **Geopolitical Tensions:** Ongoing border disputes and geopolitical tensions with China and Pakistan spill over into SCO discussions, making it difficult for India to engage constructively.
- **Focus on Security over Economic Development:** The SCO's primary focus on security issues sometimes overshadows economic and developmental cooperation, which are crucial for India's interests in the region.
- **Institutional limitations:** Decision-making within SCO is consensus-based, slowing progress on key issues.

Conclusion

Despite challenges, India uses SCO to promote its vision of "Security and Growth for All in the Region (SAGAR)" and as a counterbalance to Western alliances.

2. Quad Critical Minerals Initiative

Why in the News?

- The Quad has launched the "Quad Critical Minerals Initiative" to secure critical mineral supplies, addressing concerns over China's price manipulation and coercive practices.

About Quad Critical Minerals Initiative

- **Launch:** The Quad Critical Minerals Initiative was launched during the second Quad Foreign Ministers' Meeting held in **Washington, DC**.
- **Participants:** The meeting was attended by the foreign ministers of **India, the United States, Australia, and Japan**.
- **Aim:** To strengthen cooperation among Quad nations on building **secure and diversified critical mineral supply chains**.
- **Strategic Objectives:**
 - **Reduced Dependency:** It seeks to reduce reliance on any single country, particularly China, for the **processing and refining of critical minerals**.
 - **Risk Mitigation:** The Quad statement emphasized that overdependence exposes nations to **economic coercion, price manipulation, and supply chain disruption**.

Need for such Initiative:

- **Chinese Supremacy:** China dominates global mineral processing, controlling over **90% of rare earth refining**, and **50–70% of lithium and cobalt refining**.
- **Reserves Leadership:** China holds the **largest rare earth reserves at 44 million metric tons**, far ahead of countries like India (6.9 MMT) and Australia (5.7 MMT).
- **Strategic Investments Abroad:** China has acquired **key mining assets in Africa**, securing access to cobalt, lithium, and other critical minerals.

- **Supply Chain Leverage:** With its monopolistic control, China can **stall the global EV, battery, and renewable energy sectors** through export restrictions.

Significance for India:

- **Continued Import Dependence:** Despite ongoing efforts, India remains **heavily dependent on China**, particularly for **graphite and rare earth elements**.
- **Long Project Timelines:** A **2024 IEEFA report** estimates that **domestic mining operations may take over a decade** to start production.
- **Rising Demand Pressure:** India's demand for critical minerals is expected to **more than double by 2030**, necessitating rapid action on exploration and supply diversification.
- **Need for Strategic Tie-ups:** To secure future needs, India must **accelerate global partnerships** and develop **domestic value chains** from mining to processing.

3. India-South Africa Maritime Partnership

Why in the news?

- India and South Africa recently signed **two agreements on submarine cooperation** during the **9th Joint Defence Committee meeting** in Johannesburg.

Background of India–South Africa Maritime Cooperation

- **Historical Ties:** Rooted in anti-Apartheid solidarity and Global South cooperation.
- **Multilateral Engagement:** Active collaboration through **BRICS, Indian Ocean Rim Association (IORA)**, and advocacy for equitable global governance.
- **New Shift:** From rhetorical solidarity to **operational cooperation** in sensitive domains such as submarines, requiring trust and interoperability.

India's Strategic Position

1. **Rising Maritime Power:**
 - Expanding **naval footprint** in the Indian Ocean.
 - Investments in **indigenous defence manufacturing**: INS Vikrant, Visakhapatnam-class destroyers.
 - Guided by **MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions)** vision.
2. **Economic Clout:**
 - Robust growth trajectory enables greater resource allocation for defence modernisation.
 - Positioned as a net security provider in the Indian Ocean region.
 - **Example:** Indian naval presence in anti-piracy missions in the Gulf of Aden and East Africa.

South Africa's Maritime Constraints

1. **Economic Stagnation:**
 - **Underinvestment in defence** has eroded naval capabilities.
 - Decline in **shipbuilding and maritime industries**.
2. **Political Instability:**
 - Fragmented **coalition politics** post-ANC dominance.
 - Prioritisation of **domestic socio-economic challenges** over strategic maritime commitments.
3. **Limited Strategic Ambition:**
 - While strategically located at the **Cape of Good Hope**, Pretoria's focus remains largely on **continental African issues** and **ideological foreign policy commitments**.

Potential Benefits of the Submarine Cooperation

- **Strengthened Maritime Security:**
 - Joint efforts to secure critical sea lanes, especially as **security concerns rise in the Suez Canal**.
- **Countering China's Naval Influence:**
 - Developing a **Southern maritime partnership** as a counterbalance in the Indian Ocean.
- **Boosting Anti-Piracy and Surveillance Operations:**
 - Enhancing cooperative patrols in piracy-prone waters near East Africa.
- **Defence Industry Opportunities:**
 - Scope for **technology transfer** and revival of South Africa's shipbuilding sector.

Challenges and Strategic Divergences

- **Asymmetrical Capabilities:** India's growing naval capacity vs. South Africa's declining maritime power creates a **junior-senior dynamic**.
- **Divergent Priorities:** India's **ocean-centric strategy** vs. South Africa's **continent-focused agenda**.
- **Political and Budgetary Constraints:** Pretoria's fragile coalition politics may reduce sustained focus on defence cooperation.
- **Risk of Symbolism Over Substance:** Without **follow-through mechanisms**, agreements risk remaining declaratory.

Way Forward

- **Institutional Mechanisms:** Establish a **maritime cooperation framework** with regular joint exercises and working groups.
- **Capacity-Building Support:** India can assist South Africa in **naval modernisation** through training and technology sharing.
- **Economic Engagement:** Link maritime cooperation to broader **trade and investment partnerships** to make it politically viable in South Africa.
- **Multilateral Synergy:** Align efforts with **IORA** and **BRICS** maritime security initiatives for regional legitimacy.

IV. Important International Institutions, agencies and fora

1. WTO Agreement on Safeguards (AoS)

Why in the news?

- Invoking the Agreement on Safeguards (AoS), India has notified the WTO of its plan to impose \$724 million in retaliatory tariffs on the U.S. for breaching trade commitments through unilateral auto import duties.

About Agreement on Safeguards (AoS)

- **Overview:** It is a **World Trade Organization (WTO)** treaty that allows countries to apply **temporary trade barriers**-called safeguard measures-when a **domestic industry is harmed by a surge in imports**.
- **Purpose in Practice:** The agreement maintains **global trade discipline**, offering legal protection tools but with checks to avoid abuse.
- **Conditions for Use:** Safeguards can only be used when there is **clear evidence of serious injury or threat** to domestic producers due to increased imports.
- **Rules-Based System:** The agreement ensures safeguard actions are **transparent, time-bound, and non-discriminatory**, preventing misuse for permanent protectionism.

Key Rules:

- **Article 12.3:** Before acting, a country must **notify and consult** with other WTO members who may be affected by the safeguard.
- **Article 8:** If consultation fails, the affected country can **retaliate** by suspending trade benefits equal to the loss it suffered.
- **Ban on Informal Restrictions:** AoS strictly **prohibits voluntary export restraints** or informal quotas that evade WTO rules, ensuring fairness.

India's Use of the AoS – The 2025 U.S. Tariff Case:

- **Trigger:** The U.S. had imposed **25% tariffs on Indian-origin vehicles and parts** in **March 2025**, which India claims are **safeguard measures disguised as unilateral tariffs**.
- **Violation of Rules:** India alleges that the U.S. **did not follow Article 12.3** (mandatory consultations) and thus **violated both AoS and GATT 1994** rules.
- **Impact on Indian Exports:** India estimates that **\$2.89 billion worth of exports** have been affected and that the U.S. collected nearly **\$723.75 million in duties**, matching India's proposed retaliation.
- **India's Justification:** India asserts that this move is **legal under WTO rules**, not protectionist, and aims to **defend its export interests** while continuing trade talks with the U.S.

India's Changing Role in WTO Safeguard Policy:

- **Early Strategy (1995–2010):** India was initially **cautious at the WTO**, accepting tough terms under **TRIPS, GATS, and AoA**, and **rarely used legal tools** like retaliation, focusing more on **diplomatic solutions**.
- **Recent Assertiveness (Post-2010):** India now **actively invokes WTO rules** like AoS to protect its interests and has **won key disputes**—such as:
 - The **solar panel case** against the U.S.
 - Legal challenges to **EU's export restrictions on food**.
- **Global Leadership Role:** India has taken the lead among developing countries to **protect food security rights** and push for **fairer global trade terms**, especially at **Bali (2013)** and **Nairobi (2015)** WTO summits.

2. India-EU Trade Deal Negotiations

Why in the news?

- India and EU have exchanged offers on goods and services in the 12th round of FTA talks, marking key progress on risk assessment and regionalization, but harmonization and dispute resolution remain unresolved.

Present Status of Trade Relations and Relevance for India

- India's bilateral trade in goods with the EU was \$137.41 billion in 2023-24 (exports – \$75.92 billion, imports – \$61.48 billion), making it the largest trading partner for goods.
- The EU market accounts for about 17% of India's total exports, while exports to India make up 9% of its total exports.
- In addition, the bilateral trade in services, in 2023, between India and the EU was estimated at \$51.45 billion.
- The two sides are negotiating a free trade agreement, an investment protection agreement and an agreement on geographical indications (GIs).
 - The trade agreement with the EU would help India in further expanding and diversifying its exports of goods and services while securing the value chains. India is seeking to forge balanced agreements with major world economies to increase its market share in global trade.

Key Issues

- **Agriculture & Dairy:** India imposes high tariffs (39%) to protect small-scale farmers, while the EU pushes for access to its dairy and agricultural products.

- **Services & Mobility:** India seeks Mutual Recognition Agreements (MRAs) for qualifications and relaxation in visa rules.
- **Sustainability & CBAM:** The EU's Carbon Border Adjustment Mechanism (CBAM)—a levy on carbon-intensive imports—has raised concerns in India, especially from MSMEs.
- **Sanitary and Phytosanitary (SPS) Measures:** Despite progress in several areas, differences over food safety regulations—specifically SPS measures—continue to hinder the deal's finalization
- **EU's Stringent Standards:** The EU enforces pesticide residue limits and aflatoxin thresholds that are stricter than WHO Codex norms.

Future Outlook

- India and the EU are planning to conclude the FTA in two phases, with the first phase targeting areas of convergence by the end of 2025.
- Successful finalisation of the India-EU FTA will depend on mutual flexibility, phased compromises, and pragmatic approaches, especially in sensitive areas like agriculture, services, and sustainability.
 - India and the EU could adopt flexible models, as seen in EU's FTAs with Singapore and Vietnam—phased liberalisation or sectoral exemptions.

3. U.S. To Pull Out of UNESCO

Why in the news?

- The United States has decided to withdraw from the UN cultural and education agency UNESCO.

Reasons cited by US for the withdrawal

- Alleged anti-Israel bias.
- The US has stated that UNESCO promotes social and cultural causes that are “out-of-step” with “America First” foreign policy.
- The US has lingering concerns about the need for fundamental reform within the organization.

Impacts of US Withdrawal from UNESCO

- **Financial and Structural:** The US is a significant funder & its withdrawal impacts UNESCO's budget, threatening program continuity in education, culture, and heritage conservation.
- **Global Heritage and Science:** UNESCO oversees World Heritage Sites, including 26 in the US (Statue of Liberty, Grand Canyon, etc.). US sites may lose funding for preservation and miss opportunities for new inclusions.
- **Geopolitical and Diplomatic:** US absence creates vacuums for other powers (notably China) to boost influence in setting global norms and priorities. Seen as a retreat from multilateralism which may embolden other states to deprioritize UN agencies.

About UNESCO

- **Foundation:** Established in 1945 after World War II, its constitution came into force in 1946.
- **Objective:** It aims to foster peace through cooperation in education, science, culture, and communication.
- **Headquarters:** Paris, France.
- **Members:** 194 Member States and 12 Associate Members (as of July 2025, the USA rejoined in July 2023).
- **Governing Bodies:** General Conference and Executive Board.
- Important reports from UNESCO: Global Education Monitoring Report
 - The United Nations World Water Development Report
 - UNESCO Science Report: Towards 2030

- Global Ocean Science Report
- **Key Programs and Initiatives:** Man and the Biosphere (MAB) Programme (1971), International Hydrological Programme (IHP), Global Geoparks Network, World Heritage Convention (1972), UNESCO Creative Cities Network (UCCN) etc.

4. Group of Friends for Accountability for Crimes Against Peacekeepers.

Why in the news?

- Recently, India co-chaired a high-level meeting of the **Group of Friends for Accountability for Crimes Against Peacekeepers**.

About UN Peacekeeping

- UN Peacekeeping began in **1948** with the establishment of the **United Nations Truce Supervision Organization (UNTSO)** in the Middle East to monitor ceasefires
 - It initially focused on unarmed observation and mediation.
- During the Cold War, operations were limited due to global political tensions.
- However, after the Cold War, peacekeeping expanded significantly, with multidimensional missions addressing **civil conflicts, governance support, human rights protection, and humanitarian efforts**.
- Modern missions now emphasize civilian protection, gender inclusion, and partnerships with regional organizations.

India's Contribution to UN Peacekeeping

- India has a long and distinguished history of serving in UN peacekeeping, dating back to its participation in the **UN operation in Korea in 1953**.
- India's commitment to non-violence, enshrined in its philosophy and championed by Mahatma Gandhi, aligns with the UN's approach to promoting global peace.
- Since the 1950s, India has sent over 290,000 peacekeepers to more than 50 missions worldwide, making it the largest contributor to UN peacekeeping efforts.
- Today, over 5,000 Indian troops serve in nine of the eleven active missions, often in dangerous and hostile regions, dedicated to upholding global peace and security.
- **In 2023**, India received the UN's highest peacekeeping honour, the Dag Hammarskjöld Medal, posthumously awarded to Indian peacekeepers Shishupal Singh and Sanwala Ram Vishnoi and civilian UN worker Shaber Taher Ali for their sacrifice in the Democratic Republic of Congo.

Issues and Concerns

- UN peacekeepers are facing violence and peacekeepers face serious threats while serving in dangerous areas, yet most crimes against them go unpunished.
- According to UN data, more than 1,000 peacekeepers have been killed in hostile acts since 1948.

Way Ahead

- India's role in UN peacekeeping highlights its strong commitment to global peace, security, and multilateralism.
- Recently, India has strongly reiterated its commitment to ensuring justice for crimes committed against UN peacekeepers, calling accountability a strategic necessity for the success of global peacekeeping missions.
- Member states agreed that ensuring accountability is vital to the safety and credibility of peace operations.

GENERAL STUDIES – 3

A. INDIAN ECONOMY

I. Indian economy issues relating to planning, mobilization of resources

1. GST REFORMS AND RATE RATIONALISATION

Why in news?

- The union home minister has started discussions with states and central ministries to build consensus on long-awaited Goods and Services Tax (GST) reforms.

About GST

- GST was launched in **2017** through the **101st Constitutional Amendment Act**.
- It is a **destination-based, indirect tax** that applies at each stage of the supply chain but only taxes value added.
- It has three components:
 - CGST** – collected by the Centre.
 - SGST/UTGST** – collected by the States or Union Territories.
 - IGST** – applied on inter-state trade and settled between Centre and States.

Current GST Rate Structure

- Four major tax slabs: **5%, 12%, 18%, and 28%**.
- High-value or sin goods (like luxury cars, tobacco) attract **28% + cess**.
- Essential items are in the **5% or exempted** category.
- Revenue breakdown (2023–24):
 - 18% slab**: 70–75% of GST income.
 - 12% slab**: 5–6%.
 - 5% slab**: 6–8%.
 - 28% slab**: 13–15%.

Why Reform is Needed

- The 12% slab adds **complexity** and causes **classification disputes**.
- Shifting items to **5% or 18%** slabs may simplify the tax system.
- It also aims to resolve **inverted duty structures** where input taxes are higher than output taxes.

Key Challenges

- Removing the 12% slab may lead to a **revenue loss of ₹70,000–₹80,000 crore**.
- Some states oppose the idea due to fear of **losing revenue** or overburdening taxpayers.

Other Proposed GST Reforms

- Widen the Tax Base**: Bring **petroleum, electricity, and real estate** under GST.
- Improve Technology & Compliance**: Use **AI and analytics** to detect fraud. Strengthen **e-invoicing** and **e-way bills**.
- Simplify Input Tax Credit (ITC)**: Ensure timely and smooth ITC flow for businesses. Reduce confusion in ITC rules.

- **Strengthen GST Council:** Encourage **regular meetings** and **transparent decision-making**. Build **stronger Centre-State cooperation**.

Way Ahead

- A **three-slab GST structure** is being considered.
- The Group of Ministers (GoM) is expected to revisit the proposal on 148 items in the next GST Council meeting.
- India aims for a **simpler, more efficient, and technology-driven GST system** that supports economic growth and formalisation.

2. RBI'S FINANCIAL INCLUSION INDEX (FI-INDEX)

Why in news?

- The Reserve Bank of India (RBI) released the latest **Financial Inclusion Index** of 2024–25.

What is Financial Inclusion?

- It means making sure that individuals and small businesses can **easily access and use** formal financial services.
- Services include **bank accounts, loans, insurance, investments, and pension schemes**.

Financial Inclusion Index (FI-Index)

- Launched by RBI to measure **financial inclusion progress** across the country.
- The index value ranges from **0 to 100**:
 - 0 = total exclusion,
 - 100 = full inclusion.

Three key parameters:

- **Access (35%)** – Availability of banking outlets, ATMs, etc.
- **Usage (45%)** – Frequency and variety of service use.
- **Quality (20%)** – Financial awareness, transparency, and reduced inequality.

Key Findings (2024–25)

- FI-Index increased from **64.2 (2023–24)** to **67 (2024–25)**.
- All three sub-indices—**access, usage, and quality**—showed improvement.
- Growth was largely due to increased engagement and better **financial education** among users.

Importance of Financial Inclusion

- **Promotes entrepreneurship** and small businesses.
- Helps achieve **7 out of 17 Sustainable Development Goals (SDGs)**.
- **Empowers women** and boosts household resilience.
- Strengthens the **formal economy** and lowers poverty.

Government Initiatives

1. PM Jan Dhan Yojana (PMJDY):

- A financial inclusion scheme launched in 2014 to provide **universal access to banking services**, including savings accounts, credit, and insurance.
- As of now, **54.58 crore bank accounts** have been opened, increasing formal financial participation among the poor.

2. Atal Pension Yojana (APY):

- A pension scheme targeting workers in the **unorganised sector**, offering guaranteed monthly pensions after 60 years.
- Over **7.3 crore people** have enrolled, ensuring old-age income security for low-income households.

3. PM Jeevan Jyoti Bima Yojana (PMJJBY):

- A life insurance scheme offering **₹2 lakh cover at ₹436 per year** to individuals aged 18–50.
- It has settled **₹17,600 crore in claims**, providing financial protection to families after the death of the insured.

4. PM Suraksha Bima Yojana (PMSBY):

- An accident insurance scheme offering **₹2 lakh cover at ₹20 annually**, covering accidental death or disability.
- It has disbursed **₹2,995 crore in claims**, aiding low-income families in distress situations.

5. MUDRA Scheme:

- Provides collateral-free loans up to ₹10 lakh under three categories—**Shishu, Kishor, and Tarun**—to promote small enterprises.
- So far, **₹32.36 lakh crore** in loans have been disbursed, with **68% of beneficiaries being women entrepreneurs**.

6. Stand-Up India Scheme:

- Aims to promote entrepreneurship among **SC/STs and women** by facilitating bank loans between ₹10 lakh to ₹1 crore.
- So far, **₹53,609 crore** has been sanctioned, enabling inclusive economic growth through first-time entrepreneurs.

Challenges

- Access gaps persist between **urban and rural** populations.
- **Women** still have lower access to formal financial services.
- **Digital illiteracy and poor infrastructure** remain issues.
- **Weak consumer protection** can lead to fraud and misuse.

Way Forward

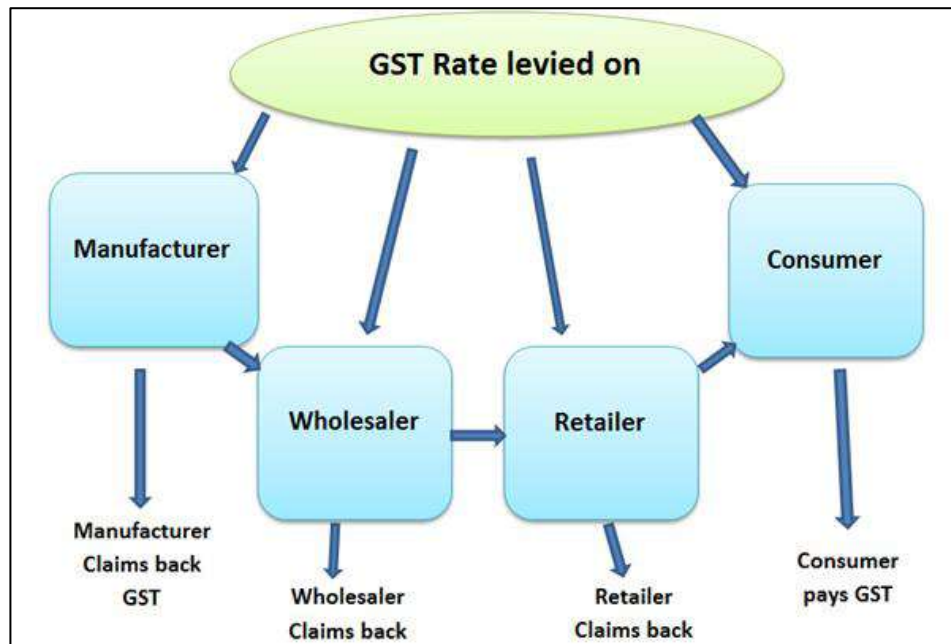
- Strengthen **digital infrastructure** and internet access.
- Improve **financial literacy** and awareness programs.
- Reinforce **consumer safety laws** for digital financial services.
- Continue inclusive schemes to bridge **income and regional gaps**.

Conclusion

The steady rise in RBI's FI-Index highlights India's progress toward inclusive finance. Strengthening digital infrastructure and ensuring equal access can make financial inclusion truly universal.

II. Growth and Development, Employment**1. 8 YEARS OF GOODS AND SERVICES TAX (GST)****Why in news?**

- India marked the **8th anniversary** of the Goods and Services Tax (GST) on **July 1, 2025**, which was launched to create a **unified indirect tax system** across the country.



Achievements in 8 Years

- **Unified Tax Regime:** Subsumed 17 taxes and 23 cesses, streamlining India's tax structure.
- **Revenue Growth:** FY 2024-25 saw record GST collections of ₹22.08 lakh crore.
- **Wider Tax Base:** Over 1.51 crore active GST registrations by April 2025.
- **Reduced Tax Cascading:** ITC ensures taxes are only charged on value addition.

Ongoing Challenges

- **Key Exclusions:** Petroleum products and alcohol remain outside GST, limiting full integration.
- **Multiple Tax Slabs:** 0%, 5%, 12%, 18%, and 28%, along with special rates and cess, lead to disputes.
- **Complex Compliance:** Frequent rule changes, especially for MSMEs, create confusion.
- **Inverted Duty Structure:** Higher tax on inputs than outputs in sectors like textiles affects liquidity.
- **Input Tax Credit Issues:** Denial of ITC due to supplier non-compliance burdens honest buyers.

GST 2.0: The Road Ahead

- **Include Petroleum and Electricity:** Helps reduce cascading and widen the tax base.
- **Simplify for MSMEs:** Quarterly returns, simplified forms, and auto-reconciliation tools needed.
- **Revise Tax Slabs:** Reduce slab count to avoid classification confusion.
- **Broaden Scope:** Cover digital services and gig economy more effectively.
- **Reform GST Council:** Ensure quicker decision-making and stronger Centre-State coordination.

GST COUNCIL

- Created under **Article 279A** via the **101st Amendment Act (2016)**.
- Chaired by the **Union Finance Minister**.
- Makes key recommendations on tax rates, exemptions, and dispute resolution.
- **Voting Power:** Centre – 1/3rd, States – 2/3rd.

Conclusion

Though GST has modernized India's tax framework, **key reforms are overdue**. To support India's goal of becoming a **\$5 trillion economy**, a more **simplified, inclusive, and efficient GST system** is essential.

2. FALLING HOUSEHOLD SAVINGS IN INDIA

Why in news?

- India is witnessing a significant drop in household financial savings along with rising personal debt levels.

What Are Household Savings?

- Household savings refer to the part of income left after paying for all consumption, taxes, and loan repayments.
- These savings help in managing future expenses, emergencies, and investments.

Recent Trends in Household Savings

- India's total savings-to-GDP ratio dropped from **34.6% (2011–12)** to **29.7% (2022–23)**—the lowest in nearly 40 years.
- Financial savings of households declined from **11.5% of GDP in 2020–21** to just **5.1% in 2022–23**.
- At the same time, **household liabilities rose to 6.4% of GDP** in FY24, reaching a 17-year high.
- A clear **rural–urban divide** exists: Urban households are more financially literate and invest in mutual funds, stocks, etc. Rural households depend mostly on informal savings methods.

Reasons for Declining Savings

- High Inflation:** Reduces purchasing power, leaving less room for savings.
- Low Real Wages:** Especially in the informal sector, wage growth is stagnant.
- Youth Unemployment:** Slows down income growth and limits savings potential.
- Lower Interest on Deposits:** Traditional saving schemes seem unattractive.
- Post-Covid Borrowing:** Increased loans for housing, education, and daily needs.
- Shift in Spending Culture:** Urban households are spending more on lifestyle needs and foreign travel, reducing traditional saving habits.

Why It's a Concern

- Less Domestic Capital:** Household savings form 60% of India's total domestic savings. A fall limits funds for infrastructure and development.
- Higher Debt Pressure:** Increased borrowing with reduced savings adds to financial stress.
- Retirement Risk:** Lack of savings may leave many elderly financially unprepared.
- Rise in Speculative Investment:** Shift from secure savings to risky assets like equities may threaten financial stability.

Way Forward

- Tax Reforms:** Provide better tax incentives for saving in schemes like PPF and KVP.
- Financial Inclusion:** Expand pension schemes and create savings products for rural/informal workers.
- Fintech Solutions:** Promote micro-savings through digital apps, use AI for saving suggestions.
- Behavioural Nudges:** Auto-enrolment in saving plans and reminder systems can improve habits.
- National Strategy:** Launch a coordinated savings policy with region-specific solutions.

Conclusion

Declining household savings in India is a structural issue that needs immediate attention through policy reform, tech-driven tools, and awareness campaigns to secure economic stability and citizen welfare.

3. CORPORATE INVESTMENT LAGGING BEHIND

Why in news?

- The **Index of Industrial Production (IIP)** growth dropped to a **nine-month low** as reported by the Ministry of Statistics and Programme Implementation (MoSPI).

What is the Index of Industrial Production (IIP)?

- IIP tracks changes in the **volume of industrial output** over time.
- Published monthly by the **National Statistical Office (NSO)** under MoSPI.
- Base Year:** 2011–12
- Major sectors in IIP: **Manufacturing** – 77.6% weight, **Mining** – 14.4%, **Electricity** – 8.0%
- IIP also classifies goods into categories like capital goods, consumer durables, and infrastructure goods.

Why is Corporate Investment Still Low?

- Uncertain Demand:** Post-COVID, consumer demand is unstable. Companies are hesitant to expand without long-term demand clarity.
- Global Uncertainty:** Ongoing geopolitical tensions (e.g., Ukraine conflict, Red Sea issues) have reduced trade confidence. This affects exports and investor outlook in India.
- Slow Lending to Industry:** Despite lower RBI repo rates, credit to industry grew slowly. Banks prioritized low-risk retail loans over industrial finance.
- Infrastructure Challenges:** High logistics costs and slow clearances impact investment pace. Projects under schemes like **PM Gati Shakti** are still evolving.
- Weak FDI in Manufacturing:** FDI inflows are mostly in services and tech, not core sectors. Even with PLI schemes, investors remain cautious due to business hurdles.
- Delayed Impact of Public Capex:** Government is increasing infrastructure spending, but the private sector hasn't yet followed. States' fiscal limitations also reduce local investments.

Steps Taken by the Government

- Corporate Tax Cut (2019):** Slashed from 30% to 22% to enhance profitability and attract investment.
- Capex Increase:** Higher public infrastructure spending to stimulate private investment.
- Monetary Policy Support:** RBI cut interest rates and ensured liquidity post-COVID.

Conclusion

India's corporate investment remains weak due to low demand and global uncertainties. Policy efforts must now focus on reviving consumption, improving investor confidence, and ensuring that public investment leads to **private sector participation**.

4. 10 YEARS OF SKILL INDIA MISSION

Why in news?

- The **Skill India Mission (SIM)** has completed a decade since its launch in **2015**. This milestone highlights the progress and challenges in building a skilled workforce in India.

Background and Objective

- Launched on **July 15, 2015**, aligning with **World Youth Skills Day**.
- The mission aims to train, re-train, and upgrade skills for youth through a network of institutions.

- In 2025, the mission was **restructured** by merging key schemes under one umbrella for better coordination and impact.



Major Achievements (2015–2025)

- More than 6 crore people trained** in sectors like IT, manufacturing, services, construction, and agriculture.
- Improved gender inclusion:** More women trained and employed across sectors.
- India ranked **11th in WorldSkills 2022**, showing global competitiveness.
- Notable sectoral employment rise—**manufacturing (15%), services (20%), construction (25%)**.

Socio-Economic Outcomes

- Job readiness improved:** Employability rate of graduates rose to **54.81%** (India Skills Report 2025).
- Labour force participation** increased from **36.9% to 37.9%**.
- Supported growth in rural, tribal, Left-Wing Extremism (LWE)-affected, and Northeast regions.
- Boosted **entrepreneurial skills**, helping youth launch **start-ups and MSMEs**.

Key Schemes under Skill India

1. Pradhan Mantri Kaushal Vikas Yojana (PMKVY 4.0)

- Offers short-term skill training, certification, and recognition of prior learning (RPL) across various sectors to increase employability.
- Targets school/college dropouts and unemployed youth, aligned with industry needs.

2. National Apprenticeship Promotion Scheme (PM-NAPS)

- Promotes **on-the-job training** by offering financial incentives to employers for engaging apprentices.
- Focuses on creating a skilled workforce through real workplace exposure.

3. Jan Shikshan Sansthan (JSS)

- Provides skill development for non-literates, school dropouts, and marginalized groups through vocational training.
- Emphasis on rural women, SCs, STs, and minorities in backward districts.

4. SANKALP (Skills Acquisition and Knowledge Awareness for Livelihood Promotion)

- A World Bank-supported programme aimed at improving skilling institutions, quality assurance, and market linkages.
- Focuses on decentralised planning and strengthening district-level skill ecosystems.

5. STRIVE (Skills Strengthening for Industrial Value Enhancement)

- Also, World Bank-funded, STRIVE supports **industrial training institutes (ITIs)** through improved infrastructure, faculty training, and industry linkage.
- It enhances the delivery quality of vocational education and employer engagement.

Key Challenges

- **Skill-job mismatch:** Training often doesn't match industry requirements.
- **Low job placement**, especially in rural and informal sectors.
- **Uneven implementation** across states.
- **Stigma** around vocational education persists.
- **Trainer and infrastructure shortage.**
- **Funding delays and poor coordination**, as flagged by the **Sinha Committee (2022)**.

Way Forward

- **Digital tools:** Promote online learning and AI-based monitoring.
- **Global tie-ups and private sector involvement** to ensure industry-relevant training.
- **Focus on results**, like jobs and entrepreneurship, rather than just number of trainees.

Conclusion:

The Skill India Mission has made significant progress in enhancing youth employability and promoting inclusive growth. Going forward, aligning training with industry needs and ensuring outcome-based evaluation will be key to its sustained success.

III. Inclusive growth and issues

R.C. REDDY
IAS STUDY CIRCLE
1. GIG WORKERS SEEK MINIMUM WAGES AND SOCIAL SECURITY**Why in news?**

- The Telangana Gig and Platform Workers' Union (TGPWU) has appealed to the State government to ensure **legal status**, **minimum wages**, and **social security benefits** for gig and platform-based workers.

Who are Gig Workers?

- Gig workers take up **short-term, task-based work** usually offered through digital platforms.
- Examples include **delivery agents (Zomato, Swiggy)**, **drivers (Ola, Uber)**, **freelancers**, and **online content developers**.
- They are generally **paid per task**, without fixed salaries or job security.
- Most gig workers in India are classified as **self-employed**, making regulation and protection difficult.

Why Gig Workers Are Required

- **Flexibility & Cost-Effectiveness:** Companies prefer gig workers for on-demand tasks without long-term commitments, reducing fixed employment costs.
- **Job Opportunities in Urban India:** Gig work (e.g., delivery, ride-sharing) provides employment to semi-skilled youth and migrants.
- **Technology-Driven Economy:** Digital platforms (like Swiggy, Ola, Urban Company) have created scalable gig-based service ecosystems.

Legal Status of Gig Workers

- **Not Recognized as 'Employees':** Most gig workers are treated as "independent contractors" and fall outside the traditional labor laws.
- **Code on Social Security, 2020:** Legally defines *gig* and *platform workers* for the first time, paving the way for social protection.
- **Lack of Comprehensive Regulation:** Absence of clear employment terms leaves them vulnerable to job insecurity and exploitation.

Minimum Wages

- **No Guaranteed Minimum Wages:** Gig workers are paid per task, not hourly or monthly, often earning below minimum wage thresholds.
- **Inconsistent Income:** Earnings fluctuate based on algorithms, customer ratings, and availability of work.
- **Policy Gaps:** Existing laws like the Minimum Wages Act do not apply to platform-based gig workers directly.

Challenges Faced by Gig Workers

- **Statistical Invisibility:** The **Periodic Labour Force Survey (PLFS) 2025** still doesn't clearly list gig workers. Workers are often classified under broad terms like "casual labour" or "self-employed."
- **Policy Implementation Gaps:** Without proper categorisation, many workers miss out on **welfare benefits** like pension, insurance, etc.
- **No Fixed Wage or Benefits:** Workers face **income uncertainty**, **lack of paid leave**, **health risks**, and **job insecurity**.

Way Forward

- **Improve Data Collection:** Modify PLFS surveys or add dedicated sections to capture gig work accurately.
- **Legal Safeguards:** Formulate specific laws ensuring **fair pay**, **health insurance**, and **retirement benefits**.
- **Platform Accountability:** Companies must promote **transparent contracts**, **fair wages**, and **safe working environments**.

Government Initiatives:

- **Union Budget 2025:** Took steps to formally recognise gig workers and expand social welfare coverage.
- **Code on Social Security, 2020:** Defined gig and platform workers legally and proposed social protection.
- **e-Shram Portal:** Registration platform for unorganised workers, including gig workers.
- **Digital ID cards** and **Ayushman Bharat health coverage** are being extended to eligible workers.

Conclusion:

The growing gig economy demands urgent reforms to ensure fair wages, legal protection, and social security for workers. A collaborative, data-driven approach is key to safeguarding their rights and well-being.

2. INDIA RANKS 4TH AMONG WORLD'S MOST EQUAL SOCIETIES

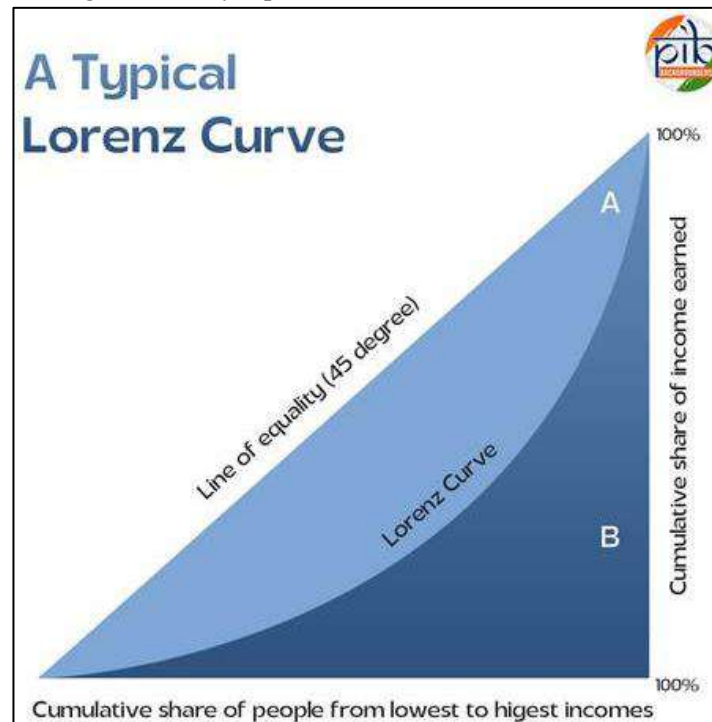
Why in news?

- According to recent World Bank data, India ranks 4th globally in income equality with a Gini Index of 25.5.

What is Gini Index?

- The Gini Index measures how evenly income or consumption is distributed among a population.
- **Scale:** Ranges from 0 (perfect equality) to 100 (complete inequality).

- **Lorenz Curve:** A graph used to calculate the Gini Index—greater deviation from the diagonal line of equality means more inequality.
- **India's Score:** 25.5, indicating a relatively equal income distribution.

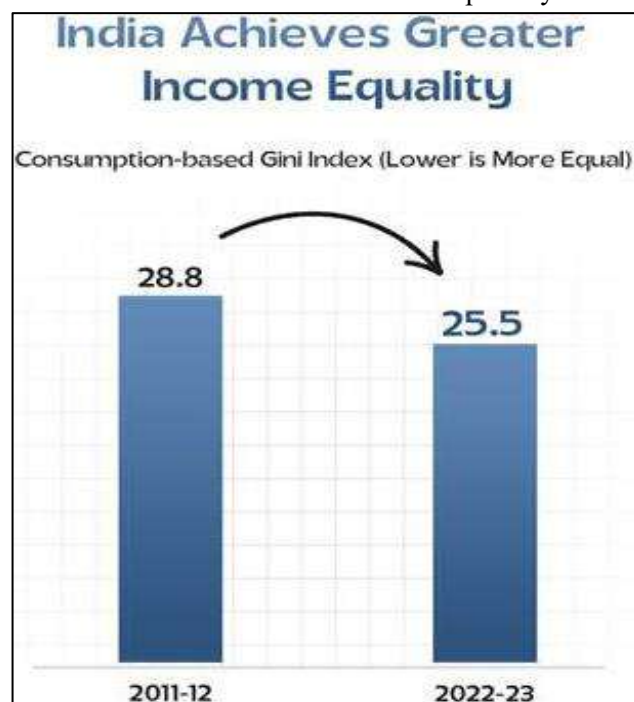


Global Comparison

- **Rank:** 4th most equal society globally.
- **Ahead of:** China (35.7), U.S. (41.8), and 167 other countries.
- **Top Countries:** Slovakia, Slovenia, Belarus, followed by India.

Progress in Reducing Poverty

- **Poverty Drop:** Extreme poverty reduced to just 2.3% in 2022–23.
- **Upliftment:** Around 171 million Indians moved out of extreme poverty between 2011 and 2023.



Why Equal Societies Are Needed in an Economy

- **Promotes Inclusive Growth:** When income is fairly distributed, more people can participate in economic activities, boosting overall demand and productivity.
- **Reduces Social Tensions:** Economic equality helps reduce poverty, crime, and unrest, leading to a more stable and peaceful society.
- **Ensures Fair Access to Opportunities:** Equality enables access to education, healthcare, and jobs, helping people improve their lives and contribute to national development.

Key Government Initiatives Promoting Equality

- **PM Jan Dhan Yojana:** Over 55 crore accounts opened, increasing financial inclusion.
- **Aadhaar and DBT:** Aadhaar ensures accurate targeting; DBT reduces leakages in welfare schemes.
- **Ayushman Bharat:** Health coverage up to ₹5 lakh per family annually.: New Ayushman Vay Vandana extends coverage to senior citizens over 70.
- **Stand-Up India:** Loans for SC/ST and women entrepreneurs to start businesses.
- **PMGKAY:** Free ration during and after the pandemic for low-income households.
- **PM Vishwakarma Yojana:** Support for traditional artisans via skill-building and credit access.

Conclusion

India's low Gini Index reflects real, on-the-ground efforts to reduce inequality. Through focused schemes and digital governance, India shows that economic growth and social equity can go hand in hand.

3. COOPERATIVES AS INDIA'S ECONOMIC BACKBONE

Why in news?

- The Union Cooperation Minister laid the foundation stone of India's first national-level cooperative university (*Tribhuvan Sahkari University*) in Gujarat.

What are Cooperatives?

- A **cooperative** is a voluntary group owned and managed by its members for shared economic, social, or cultural benefit.
- Every member usually has equal voting rights (one-member, one-vote), irrespective of their financial contribution.
- The primary goal is **community welfare**, not private profit.

Types of Cooperatives in India

- **Agricultural Cooperatives:** Provide seeds, tools, fertilizers, and marketing help to farmers.
- **Dairy Cooperatives:** Like *Amul*, help with milk collection, processing, and selling.
- **Consumer Cooperatives:** Supply goods at fair prices by eliminating middlemen.
- **Worker Cooperatives:** Owned and operated by workers, sharing profits and responsibilities.
- **Credit Cooperatives:** Offer loans and savings services to people in rural or underbanked areas.

Constitutional Backing – 97th Amendment (2011)

- Recognized the **right to form cooperatives** under Article 19.
- Added **Article 43B** to promote cooperative societies.
- Introduced **Part IXB** (Articles 243-ZH to 243-ZT) for cooperative governance.
- Empowered Centre and States to frame laws for multi-state and state cooperatives, respectively.

Role in Economic Growth

- **Empowers Marginal Groups:** Uplifts small farmers, women, workers, and tribal communities by giving collective power and voice.
- **Boosts Rural Economy:** PACS (Primary Agricultural Credit Societies) provide financial services to remote areas.
- **Fosters Self-Reliance:** Cuts dependency on middlemen; members own the value chain from production to sale.
- **Promotes Employment & Inclusion:** Encourages local entrepreneurship and sustainable livelihoods.

Government Support

- **Multi-State Cooperative Societies Act (2002):** For cooperatives operating in multiple states.
- **National Cooperative Policy (2002):** Promotes transparency, accountability, and financial discipline.
- **Ministry of Cooperation (2021):** Established to strengthen the cooperative ecosystem.

Success Stories

- **Amul (Gujarat):** Empowered over 3 million dairy farmers and revolutionized India's dairy industry.
- **Maharashtra's Water Cooperatives:** Efficient water management through local participation.
- **Kerala Model:** Strong cooperative presence in banking, farming, and housing.

Key Challenges

- **Poor Governance:** Mismanagement, delays, and political interference.
- **Limited Finance Access:** Lack of credit limits growth.
- **Technology Backwardness:** Many cooperatives lack digital tools.
- **Private Sector Competition:** Face pressure from large firms and corporates.

Conclusion

Cooperatives represent a **people-centric economic model**, key to inclusive growth and rural empowerment. With the right reforms, transparency, and digital transformation, they can emerge as a strong third pillar of the Indian economy—alongside the public and private sectors—driving the vision of an *Atmanirbhar Bharat*.

4. WOMEN-LED MSMEs AND CREDIT CHALLENGES

Why in news?

- Women-led MSMEs, have continued to face significant credit-related hurdles, receiving much less financial support and institutional backing than their male counterparts.

Why Do Women-Led MSMEs Struggle for Credit?

- **Gender Disparity in Loan Disbursement:** Women face a 35% credit gap compared to 20% for men.
 - Eg: A woman applying for ₹10 lakh may only get ₹6.5 lakh.
- **Lack of Asset Ownership:** Many women lack property in their name, making it hard to offer collateral.
 - Eg: A woman in a rural tailoring unit may be denied loans despite good business.
- **Low Financial Awareness:** Many are unaware of loan schemes or cannot manage paperwork.
 - Eg: Lack of access to schemes like PMMY in smaller towns.
- **Biased Risk Assessment:** Women in informal sectors are seen as high-risk by lenders.
- **Dependence on Informal Loans:** With no bank support, many borrow from moneylenders at high interest.
 - Eg: Loans at 24% interest push women into long-term debt traps.

Why Government Schemes Like PMMY Aren't Fully Effective

- **Low Loan Sanction Rates:** Women have 64% of PMMY accounts but get only 41% of the total amount.

- **Delays and Poor Support:** Lengthy processing and poor facilitation reduce benefits.
- **Lack of Information:** Many don't know how to apply or don't get help from banks.

How Does Financial Illiteracy Affect Women Entrepreneurs?

- **Unable to Use Formal Banking:** Many avoid banks due to lack of knowledge of terms, documents, or rules.
- **Fear of Borrowing:** Lack of confidence in managing loans leads to business stagnation.

Role of the Udyam Assist Portal

- **Brings Informal Women Enterprises into Formal System:** Helps register small businesses for official schemes.
 - Eg: Over 70% of informal enterprises on Udyam Portal are led by women.
- **Improves Loan Eligibility:** Udyam ID helps access schemes like CGTMSE and PMMY.
- **Boosts Employment:** Registered women-run IMEs are creating a major share of jobs in the informal sector.

Ways to Encourage Credit for Women-Led MSMEs

- **Targeted Credit Schemes & Subsidies:** Strengthen schemes like **Stand-Up India**, **Mudra Yojana**, and **Mahila Coir Yojana** that provide collateral-free loans and interest subsidies specifically for women entrepreneurs.
- **Credit Guarantee & Risk Mitigation Mechanisms:** Expand credit guarantee coverage (e.g., **CGTMSE**) to reduce the risk for lenders and boost their confidence in funding women-led enterprises.
- **Financial Literacy & Digital Access:** Promote **digital banking** and **financial literacy programs** for women entrepreneurs to improve credit awareness, application readiness, and formal financial inclusion.

Way Forward

- **Easier Access to Collateral-Free Loans:** Simplify norms and relax conditions for first-time women entrepreneurs.
- **Improve Financial Literacy:** Launch training in local languages through SHGs, NGOs, and panchayats.
- **Gender-Inclusive Banking:** Set gender-based targets for lending and monitor credit flow to women-owned businesses.

Conclusion

Women-led MSMEs are vital for inclusive growth but need better access to finance.

Focused reforms in credit systems, training, and recognition can unlock their full economic potential.

IV. Agriculture and allied

1. STATISTICAL REPORT ON AGRICULTURE AND ALLIED SECTORS

Why in news?

- The **National Statistics Office (NSO)** has published its annual report on the **Value of Output from Agriculture and Allied Sectors** for the period **2011–12 to 2023–24**.

Key Highlights of the Report

- Document presents updated data on the growth trends in **crop production, livestock, forestry, and fisheries** across India.
- **Overall Growth:** Gross Value Added (GVA) at **current prices** increased by **225%**, from ₹1,502 thousand crore (2011–12) to ₹4,878 thousand crore (2023–24).
- Gross Value of Output (GVO) at **constant prices** grew by **54.6%**, reaching ₹2,949 thousand crore in 2023–24.

Sector-wise Contribution (2023–24 at constant prices)

- **Crop Sector:** Accounts for **54.1%** of total GVO. Cereals and fruits & vegetables form **52.5%** of total crop output. **Top contributors of cereal GVO:** Uttar Pradesh, Madhya Pradesh, Punjab, Telangana, and Haryana.
- **Livestock Sector:** GVO increased from ₹488 to ₹919 thousand crore. Milk remains the major product, though its share dropped slightly to **65.9%**. Meat output share increased to **24.1%**.
- **Forestry and Logging:** Showed steady but **moderate growth** in contribution.
- **Fisheries and Aquaculture:** Share rose to **7.0%** from 4.2% in 2011–12. **Marine fishing** gained more share compared to **inland fisheries**. Notable output shift seen in **West Bengal and Andhra Pradesh**.

Role of Agriculture & Allied Sectors in India

- **Contributes ~18%** to national GVA (2023–24).
- Provides employment to **about 45%** of India's working population.
- Ensures **food security** for over **1.4 billion people**.
- Major source of exports like rice, tea, meat, and spices.
- Crucial for **rural development**, price stability, and political focus.

Government Schemes**1. Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)**

- Provides **direct income support of ₹6,000 per year**, in three equal instalments, to **small and marginal farmers**.
- This aims to offer **financial relief for input costs** and ensure minimum income stability for cultivators.

2. Pradhan Mantri Fasal Bima Yojana (PMFBY)

- Offers **crop insurance at affordable premiums** to protect farmers against losses due to **droughts, floods, pests, and diseases**.
- Farmers pay only 1.5% to 5% premium, while the rest is **subsidised by the government**.

3. Namo Drone Didi Scheme

- Distributes **agricultural drones to 15,000 Women Self-Help Groups (SHGs)** to promote **precision farming** and create **drone-based livelihood opportunities**.
- It empowers rural women and introduces **modern technology in small farms**.

4. Soil Health Card Scheme

- Provides farmers with **soil testing reports** every two years to guide **balanced fertiliser usage** and improve **soil fertility**.
- It promotes **sustainable farming** by reducing overuse of chemical inputs.

5. e-NAM (Electronic National Agriculture Market)

- A **pan-India online trading platform** that connects existing APMC mandis to enable **transparent price discovery** and **better market access** for farmers.
- Farmers can sell their produce **across states** without middlemen interference.

Conclusion

Agriculture and allied activities are not only critical for food supply but also key to **India's economic stability, employment, and sustainable development**. Strengthening this sector is essential for building a **self-reliant and inclusive India**.

2. CONFINED FIELD TRIALS OF GM MAIZE APPROVED**Why in news?**

- The Genetic Engineering Appraisal Committee (GEAC) has granted approval for confined field trials of two genetically modified (GM) maize varieties at Punjab Agricultural University.

About GM Maize Trials

- **Purpose:** One maize type is modified to tolerate *glyphosate*, a common herbicide. Another is designed to resist *lepidopteran pests* like stem borers.
- **Goal:** To evaluate weed control performance and crop protection benefits before considering wider use.

What are GM Crops?

- GM crops are plants whose genes have been scientifically modified to improve traits such as yield, pest resistance, or herbicide tolerance.
- Common methods used include *Agrobacterium* transfer, gene guns, and *CRISPR*.
- **Main trait types in GM crops:**
 - **Herbicide Tolerance (HT)**
 - **Insect Resistance (IR)**
 - **Stacked traits** (both combined)

GM Crop Scenario in India

- **Bt Cotton** (approved in 2002) is the only GM crop allowed for commercial use.
- GM versions of brinjal and mustard (DMH-11) are under development.
- Approval is overseen by the **GEAC** under the Ministry of Environment, Forest and Climate Change.

Regulatory Framework

- **Key laws governing GM crops:**
 - Environment Protection Act (1986)
 - Biological Diversity Act (2002)
 - Food Safety and Standards Act (2006)
 - Foreign Trade Policy Rules
- Field trials require a No Objection Certificate (NOC) from the concerned state.

Concerns

- **Glyphosate use:** Banned in Punjab, yet being tested in trials. Health risks include *cancer* and soil harm.
- **Biodiversity threat:** Risk of gene transfer to native species and promotion of monoculture.
- **Health worries:** Use of antibiotic resistance genes could weaken real antibiotic use in humans.
- **Lack of transparency:** Civil society groups argue there's little public consultation or independent oversight in trial approvals.

Way Forward

- Encourage peer-reviewed, transparent studies to ensure safety.
- Involve public, farmers, and experts in open consultations.
- Protect local crops through isolation zones.
- Give more autonomy to biosafety and ethics panels.
- Limit agricultural universities to research roles, not GM promotion.

Conclusion

Careful and science-backed handling of GM trials is crucial to balance innovation with health, environment, and farmer interests.

3. PRADHAN MANTRI DHAN-DHANYA KRISHI YOJANA

Why in news?

- The Union Cabinet has approved the **Pradhan Mantri Dhan-Dhanya Krishi Yojana**, India's first focused programme aimed at boosting agriculture and allied activities in low-performing districts.

About the Scheme

- Launched by:** Union Cabinet in 2025
- Time Period:** 6 years (2025–26 to 2030–31)
- Annual Budget:** ₹24,000 crore
- Coverage:** 100 districts (at least one from each state/UT)
- Inspired by:** Aspirational Districts Programme of NITI Aayog
- Beneficiaries:** 1.7 crore farmers

Key Features

- Integrated Approach:** Brings together **36 central schemes** from **11 Ministries**, plus **state schemes and private investments**.

Greener fields

The PMDDKY aims at enhancing **agricultural productivity**, increasing adoption of **crop diversification** and **sustainable agricultural practices**, and augmenting **post-harvest storage**

₹ 24,000 cr. to be allocated yearly for six years for the scheme ■ States and private sector to partner with the Centre to implement the scheme	100 districts to come under the scheme which will begin this financial year ■ Districts to be identified based on 3 key indicators: low productivity, low cropping intensity, less credit disbursement Helping hand: Nearly 1.7 crore farmers will benefit from the scheme. PTI
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Objectives

- Boost productivity** in identified low-performing districts
- Promote crop diversification** and shift away from over-reliance on a few crops
- Encourage sustainable farming** and eco-friendly practices
- Improve storage infrastructure** at panchayat/block levels to reduce post-harvest losses
- Strengthen irrigation systems**
- Provide access to short-term and long-term agricultural credit**

Implementation Strategy

- District-level planning:** Each district will prepare a **District Agriculture and Allied Activities Plan (DAAAP)**. Formulated by a **District Dhan-Dhanya Committee**
- Monitoring Structure:** District, State, and National-level committees for supervision. Use of real-time dashboard tracking using **117 Key Performance Indicators (KPIs)**. **NITI Aayog** to monitor progress and provide strategic guidance

Why It Matters

- Addresses long-standing issues in backward districts with tailored interventions
- Helps align multiple schemes for **better impact and efficiency**
- Encourages **public-private partnerships** for holistic rural development

Conclusion

The Dhan-Dhanya scheme reflects a strategic and data-driven approach to improving agriculture in lagging districts. Its success will depend on coordination, real-time monitoring, and active participation from all stakeholders.

V. Industry and Industrial Policies**1. MICRO, SMALL AND MEDIUM ENTERPRISES (MSMES) DAY 2025****Why in news?**

- June 27 is observed as **World MSME Day** to highlight the vital contribution of Micro, Small and Medium Enterprises to economic development.

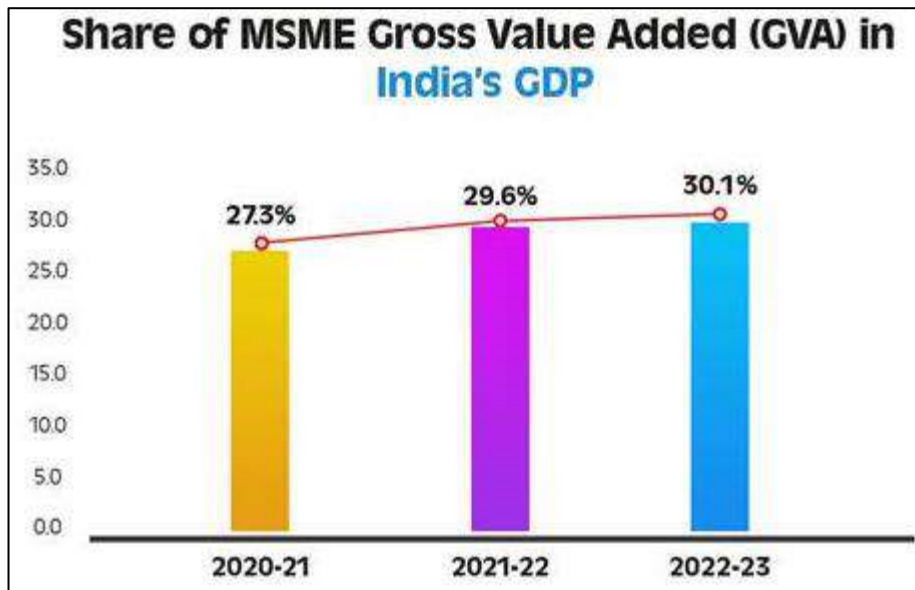
Importance of MSMEs

- MSMEs form about 90% of global businesses and provide over 50% of jobs worldwide.
- In India, they contribute 30% to GDP and account for 45% of total exports.
- MSMEs are the second-largest employment provider after agriculture.
- Export figures from the MSME sector increased from ₹3.95 lakh crore (2020–21) to ₹12.39 lakh crore (2024–25).

EXISTING MSME CLASSIFICATION			
CRITERIA: INVESTMENT IN PLANT & MACHINERY EQUIPMENT			
Classification	Micro	Small	Medium
Manufacturing Enterprises	Investment <₹25 lakh	Investment <₹5 crore	Investment <₹10 crore
Service Enterprise	Investment <₹10 lakh	Investment <₹2 crore	Investment <₹5 crore
REVISED MSME CLASSIFICATION			
COMPOSITE CRITERIA: INVESTMENT & ANNUAL TURNOVER			
Classification	Micro	Small	Medium
Manufacturing & Services	Investment <₹1 crore & Turnover <₹5 crore	Investment <₹10 crore & Turnover <₹50 crore	Investment <₹20 crore & Turnover <₹100 crore

Challenges Faced by MSMEs

- **Credit Access Issues:** Lack of collateral and formal history prevents easy access to loans.
- **Obsolete Technology:** Many firms use outdated tools due to high upgrade costs.
- **Regulatory Complexity:** Burdensome tax, labour, and licensing rules increase difficulties.
- **Delayed Payments:** Large companies and government departments often delay payments.
- **Low Productivity:** Informality and poor adoption of modern practices hinder output.



Government Initiatives for MSME Support

- **PM Vishwakarma (2023–28):** Supports traditional artisans through quality improvement and wider market linkages.
- **Udyam Portal (2020):** Offers free, self-declared, paperless MSME registration.
- **PMEGP:** A subsidy-linked scheme for starting micro-enterprises in non-agricultural areas.
- **Public Procurement Policy (2012):** Mandates **25% annual purchase** from MSEs, with sub-quotas for SC/ST (4%) and women (3%).
- **Khadi and Gramodyog Vikas Yojana:** Promotes village industries without state funding.

Conclusion

MSMEs are vital for India's inclusive and sustainable growth. With the right policies, digital access, and support, these enterprises can boost innovation, create jobs, and empower rural and urban communities alike.

2. INDIA'S START-UP ECOSYSTEM

Why in news?

- A new **report by Meta** highlights that **India's start-up ecosystem has grown rapidly** over the last decade, driven by technology, regional expansion, and innovation.

Growth Drivers of India's Startups

- **Artificial Intelligence (AI) Integration:** Over 70% of Indian startups now use AI. Sectors like health, education, and beauty are ahead in using AI for customer service and analytics.
- **Tier-2 and Tier-3 Expansion:** Startups are reaching smaller cities using local language content and WhatsApp-based sales.
- **Other Growth Factors:** Emphasis on **creator-led brands** using social media influence. Focus on **omnichannel sales**, combining online and offline presence.

India's Startup Landscape

- India has **over 1.4 lakh startups**, with **30,000+ tech startups**, ranking 3rd globally after the US and China.
- **Recognised startups** grew from 500 (2016) to over 1.59 lakh (2025).
- In 2024 alone, India produced **6 new unicorns**.
- These startups have created **over 16.6 lakh direct jobs**.

Impact and Importance

- **Job Generation:** Startups are a major employment source after agriculture.
- **Boost to Economy:** They raise productivity and support smaller industries.
- **Foreign Investments:** Attracting VC and private equity globally.
- **Social Impact:** Startups in rural areas improve access to healthcare, education, and farming tools.

Challenges to India's Startup Growth

- **Funding Crunch:** Many startups, especially in early stages, struggle to secure stable and long-term funding due to investor caution and global slowdown.
- **Regulatory Hurdles:** Complex compliance norms, frequent changes in taxation (like Angel Tax), and bureaucratic red tape often slow down startup operations.
- **Talent and Skill Gap:** There is a shortage of skilled professionals in emerging fields like deep tech, AI, and cybersecurity, which hampers innovation and scalability.

Government Initiatives

- **Startup India (2016):** Launched to promote a **startup-friendly ecosystem**, the goal is to encourage **innovation**, **job creation**, and reduce bureaucratic hurdles for young enterprises.
- **Startup India Seed Fund Scheme (SISFS):** Provides **early-stage funding up to ₹20 lakh for idea validation** and up to ₹50 lakh for market entry and product development.
- **Atal Innovation Mission (AIM):** A flagship initiative under NITI Aayog to create a **culture of innovation and entrepreneurship** in schools and in institutions to nurture creativity and problem-solving skills.
- **IndiaAI Mission (2024):** A newly launched **₹10,300 crore programme** to develop India's **AI ecosystem**, to build **indigenous AI models**, support **ethical AI use**, and position India globally in the AI race.

Conclusion

India's startup scene is **evolving into a tech-driven, inclusive, and globally focused ecosystem**, playing a key role in economic growth, employment, and innovation.

3. PLI SCHEMES ARE PROGRESSING SLOWLY**Why in news?**

- The government is reviewing the reasons to improve PIL effectiveness and ensure timely outcomes of the 14 Production-Linked Incentive (PLI) schemes

Background:

- The **PLI scheme**, launched to boost domestic manufacturing and reduce import dependency, offers financial incentives to companies based on their production and sales targets.
- However, implementation across certain sectors has been sluggish due to multiple challenges.

Advantages of the Production Linked Incentive (PLI) Scheme

- **Boost to Manufacturing & 'Make in India':** Encourages companies to increase **domestic production** through financial incentives and Supports **Make in India** by attracting manufacturers.
- **Increase in Exports & Global Value Chain Integration:** Enhances **export competitiveness** and helps India become a **hub in global value chains (GVCs)**, especially in sectors like electronics, pharmaceuticals, and automobiles.
- **Employment Generation & Economic Growth:** Drives overall **economic development** by increasing investment, innovation, and industrial output.

Reasons for Delay in Implementation

- **Strict Eligibility Conditions:** Many companies, especially medium and small ones, find it difficult to qualify for the scheme due to high investment and capacity thresholds.
- **Slow Infrastructure Setup:** Sectors like **solar modules** and **ACC batteries** require 1.5 to 3 years to establish manufacturing units. This delays job creation and output expansion.
- **Limited Access to Machinery & Talent:** Companies struggle to obtain specialized equipment, often imported from countries like China.
- **Import Dependence:** Some industries are still heavily reliant on imports, making it harder to shift quickly to self-reliant production models.
- **Delayed Fund Disbursement:** The incentive payouts in the initial years have been low, reducing enthusiasm among firms.

Sector-Specific Challenges

- **Textiles:** High competition and rigid norms are deterring wider participation.
- **Solar Modules:** Manufacturing of solar cells is lagging (only 7.6 GW vs 77.2 GW module capacity), causing supply gaps.
- **Automobiles:** Market uncertainty and rising input costs, along with a shift to EVs, are slowing progress.
- **ACC (Battery Cells):** Long gestation period and high technology investment required.
- **IT Hardware:** Though recently strengthened with more funding, rollout remains slower than mobile phones.

Way Forward

- **Relax Eligibility Rules:** Broader participation, especially from smaller firms, can be encouraged.
- **Strengthen Supply Chains:** Government support to local suppliers can ease production bottlenecks.
- **Ensure Resource Availability:** Quick access to tools and skilled labour is essential.
- **Frequent Monitoring:** Regular review and policy flexibility can help address issues early.
- **Support Ancillary Sectors:** Promoting smaller industries around major players boosts job creation and production.

Conclusion

While PLI schemes hold great promise for India's industrial growth, their success depends on timely implementation, ease of access, and supportive ecosystems. Fixing current hurdles will help India fully leverage this initiative to drive self-reliance and economic resilience.

VI. Services sector

1. GOVERNMENT AIMS TO RAISE SHARE OF TOURISM IN ECONOMY

Why in news?

- The Union Tourism Minister recently announced that India plans to increase tourism's share in the national economy to **10% by 2047**, aligning with the goal of becoming a \$32 trillion economy.

Current Status of India's Tourism Sector

- Tourism contributes about **5–6% to India's GDP** and is expected to rise with targeted interventions.
- India ranks **14th globally** in terms of tourism receipts.
- The sector is expected to grow at a **24% annual rate** in the coming years.
- Focus on **diverse tourism segments** like spiritual, adventure, eco, medical, and cultural tourism.

Types of Tourism in India

- **Spiritual Tourism:** Religious places like Varanasi, Tirupati, and Amritsar attract millions annually.
- **Adventure Tourism:** Activities like trekking, rafting, and paragliding in regions like Ladakh, Sikkim, and Himachal.
- **Beach Tourism:** Goa, Kerala, and Andaman Islands are major destinations.
- **Cultural Tourism:** Festivals and fairs such as Pushkar Mela and Surajkund Mela showcase India's heritage.
- **Wildlife Tourism:** National parks like Ranthambore and Kaziranga are famous for rare species.
- **Medical Tourism:** India offers affordable yet high-quality medical services attracting foreign patients.

Boosting tourism helps the Indian economy cyclically

- **Generates Income & Jobs Locally:** Tourism increases demand for hotels, transport, guides, food, and handicrafts, creating **direct and indirect employment**. Example: **Temple tourism** in places like Varanasi, Tirupati, and Puri boosts income for local vendors, drivers, and priests.
- **Improves Infrastructure:** Increased tourist flow encourages better **roads, airports, sanitation, and digital facilities**, which benefit the whole region. Example: **Heritage circuits** like Ramayan Circuit and Buddhist Circuit lead to better connectivity and attract **private investments** in hospitality.
- **Stimulates Local Industries:** Tourism supports **cottage industries**, crafts, and local services, leading to **rural development and poverty reduction**. Example: Pilgrim footfall in places like **Kashi** or **Rameswaram** helps artisans selling religious souvenirs, boosting **local supply chains**.

Challenges Faced

- **Weak infrastructure** and limited last-mile connectivity in tourist spots.
- **Seasonal tourist inflow**, causing uneven income for stakeholders.
- **Environmental stress** from over-tourism and poor waste management.
- **Lack of standardisation** in services affecting visitor satisfaction.
- **Inadequate marketing** of hidden or offbeat locations.

Government Interventions

- **50 destinations** to be developed through state partnerships using a challenge-based model (Budget 2025–26).
- **Swadesh Darshan 2.0** for theme-based tourism circuits.
- **PRASHAD Scheme** to improve facilities at religious and heritage sites.
- **“Heal in India” campaign** to boost medical tourism.
- **e-Visa reforms** and **visa fee waivers** for select countries.
- **MUDRA loans** to encourage homestays and rural entrepreneurship.
- **Incentives to states** for better tourist management and amenities.

Conclusion

India's tourism push aims to generate jobs, attract global travellers, and boost local economies. With strong government backing and infrastructure focus, tourism can become a key pillar of India's \$32 trillion vision by 2047.

VII. Infrastructure

1. INDIA'S INFRASTRUCTURE FAILURES AND NEED FOR REGULAR AUDITS

Why in news?

- On **July 9, 2025**, a section of a **40-year-old bridge in Vadodara, Gujarat**, collapsed, throwing several vehicles into the **Mahisagar River** and causing **fatalities**.

Reasons Behind Frequent Infrastructure Failures

- **Aging Structures:** Many bridges and buildings have **crossed their safe usage limits** without timely upgrades. Example: The **Morbi bridge** collapse in 2022.
- **Overloading:** Structures built for low traffic now face **increased usage due to urban growth**, leading to stress and collapse. Example: **Indrayani bridge in Pune (2024)** collapsed under excessive pedestrian load.
- **Lack of Maintenance:** Regular inspections are often skipped, and **warnings by locals are ignored**, as seen in the Vadodara case.
- **Administrative Gaps:** Local bodies often **lack staff, funds, and capacity** to maintain infrastructure, especially in smaller towns and suburban areas.
- **Weak Accountability:** Post-collapse, **reports are rarely published**, limiting learning and corrective action. Example: Mizoram rail bridge collapse in 2023.

What is Peri-Urban Infrastructure and Why is it Vulnerable?

- **Peri-urban areas** are zones between rural and urban regions with **roads, bridges, and utilities**.
- These areas suffer due to:
 - **Unplanned construction** without proper regulations.
 - **Confusing jurisdiction** between urban and rural authorities.
 - **Neglect in budget and attention**, leading to delayed repairs.

Role of AMRUT and UIDF in Infrastructure Upkeep

- **AMRUT 2.0:** Helps cities **upgrade aging utilities** (e.g., drainage in Pune and Agra).
- **UIDF:** Provides **affordable funding** to smaller cities for repair works.
- **Digital Monitoring:** Cities like Bhubaneswar use **geo-tagging tools** to track infrastructure health.

Audit Gaps and Challenges

- **Overlapping responsibilities** between multiple departments delay action.
- **Political interference** can weaken investigations and accountability.
- Example: **Vivekananda flyover collapse** in Kolkata (2016).

Conclusion

To prevent more tragedies, India must enforce timely audits and modern monitoring systems. A centralized, transparent audit authority can ensure public infrastructure remains safe and reliable.

2. SHARE OF CLEAN ENERGY GENERATION STILL LOW DESPITE HIGH CAPACITY

Why in news?

- India has achieved 50% of its installed electricity capacity from non-fossil fuel sources ahead of its 2030 target. However, these clean sources contribute less than 30% to actual electricity generation.

Clean Energy in India

- **Installed Capacity (March 2025):** Total renewable capacity: 220.10 GW, FY 2024–25 addition: 29.52 GW (highest ever)
- **Major Sources:** **Solar:** 105.65 GW (23.83 GW added in FY25), **Wind:** 50.04 GW (4.15 GW added), **Bioenergy:** 11.58 GW, **Small Hydro:** 5.10 GW
- **Project Pipeline:** 169.4 GW under construction, 65 GW tendered, 65 GW in hybrid/RTC/thermal+RE formats
- **Global Ranking:** 4th in RE capacity, wind; 5th in solar, Leading RE states: Rajasthan, Gujarat, Tamil Nadu, Karnataka

Why India needs to encourage clean energy

- **Climate Change Mitigation:** India is the **3rd largest emitter** of CO₂ after China and the U.S. Transitioning to clean energy like solar, wind, and hydro helps reduce **greenhouse gas emissions** and fight **global warming**.
- **Reducing Dependence on Fossil Fuel Imports:** India imports over **85% of its crude oil** needs and around **50% of natural gas**, putting pressure on foreign exchange.
- **Economic Growth & Job Creation:** The **renewable energy sector** is labour-intensive and creates jobs. According to IRENA, India could create over **3 million clean energy jobs by 2030** with sustained investment.

Challenges

- **Low Output Despite High Capacity:** Capacity Utilisation Factor (CUF) is low due to weather dependence. Solar CUF: ~20%, Wind: ~25–30%, Coal: ~60%, Nuclear: ~80%
- **Coal Dependency for Base Load:** Coal meets over 75% of actual electricity needs, especially at night.
- **Grid & Storage Gaps:** Lack of large-scale battery storage to store excess solar power. Transmission networks are not keeping pace with renewable expansion.
- **Tariff Issues:** No time-of-day pricing to incentivize solar usage. Flat rates discourage daytime power consumption.

Why CUF Must Improve

- **(Capacity Utilisation Factor)** It is the **ratio of the actual energy generated by a power plant** over a period of time to the **maximum possible energy it could have generated** at full capacity during that same period.
- **Energy Demand:** Expected to double by 2040, low RE efficiency may raise coal use.
- **Climate Targets:** Emission intensity must drop 45% from 2005 levels (NDC goal). Low RE output hampers climate commitment progress.
- **Health Hazards:** Coal-related pollution worsens air quality — 13 of 20 worst cities are in India.
- **Economic Losses:** Poor RE use reduces returns for investors and raises cost burdens for discoms.

Government Steps

- **Green Energy Corridor (GEC):** Aims to create **dedicated transmission infrastructure** to evacuate and integrate **renewable energy (RE)** from solar and wind plants into the national grid.
- **PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan):** Encourages **solarisation of agriculture** by providing farmers with **subsidised solar pumps** and the option to **sell surplus solar power** to the grid.
- **National Green Hydrogen Mission:** Launched to make India a **global hub for green hydrogen production and export**. Targets production of **5 MMT (million metric tonnes)** of green hydrogen annually by 2030.
- **Production Linked Incentive (PLI) Scheme , Solar and Batteries:** Provides **financial incentives to domestic manufacturers** of solar PV modules and **advanced chemistry cell batteries**, to reduce import dependency.

Way Forward

- **Smart Grids & ToD Pricing:** Upgrade grids and introduce differential tariffs.
- **Battery Storage Expansion:** Support BESS via VGF and PLI schemes.
- **Distributed RE Models:** Promote rooftop solar, solar pumps, and microgrids.
- **Tariff & Market Reform:** Introduce green energy trading and peak pricing.
- **Ease Land & Grid Access:** Launch a national land portal and plan transmission in sync with RE rollout.
- **Stable Policy:** Ensure long-term PPAs and reduce DISCOM payment delays.

Conclusion

India's clean energy growth needs to go beyond installation targets by improving actual generation and grid integration. A mix of policy stability, smart technology, and infrastructure planning is key to truly greening the power sector.

VIII. Trade and External sector

1. INDIA'S EXTERNAL DEBT

Why in news?

- India's external debt has come under focus following a recent increase, prompting concerns over economic sustainability.

What is External Debt?

- External debt** refers to the total **outstanding borrowings** of a country from **foreign sources**, such as governments, global financial institutions (like IMF, World Bank), commercial banks, and foreign investors.
- It includes both:**
 - Long-term debt:** Loans with maturity over **1 year**.
 - Short-term debt:** Loans and obligations with maturity of **1 year or less**.

Key Highlights of India's External Debt (as of March 2025)

- Total External Debt:** Rose to **\$736.3 billion**, from **\$668.8 billion** in FY 2024.
- Debt-to-GDP Ratio:** Increased to **19.1%** from **18.5%** the previous year.
- Long-term Debt:** Rose to **\$601.9 billion**, an increase of over **\$60 billion** year-on-year.
- Short-term Debt:** Although its share decreased to **18.3%**, its **ratio to forex reserves** rose to **20.1%**, suggesting higher risk in liquidity management.

Composition of External Debt

- Loans:** Largest share at **34%**.
- Currency & Deposits:** Around **22.8%** of total external debt.
- Trade Credit & Advances:** Account for **17.8%**.
- Debt Securities:** Form **17.7%** of external borrowings.

Currency Breakdown

- US Dollar:** Dominates India's external borrowings with a **54.2% share**.
- Other currencies:** Include Japanese Yen, Euro, SDR (Special Drawing Rights), and Indian Rupee (for masala bonds).

Challenges Due to Rising External Debt

- Exchange Rate Risk:** Majority of India's debt is in **USD**. A depreciation of the **rupee** increases **repayment burden**.
- For example,** if the rupee weakens from ₹80 to ₹85 per dollar, India must pay more in rupee terms for the same amount of debt.
- Short Term Pressures:** Even with a smaller share, **short-term debt's rising ratio to reserves** signals exposure to **global interest rate fluctuations and capital flight**.
- Credit Rating Concerns:** If external debt rises faster than GDP or exports, it may lead to a **downgrade in sovereign credit ratings**, making future borrowing costlier.
- Rising Interest Costs:** As debt increases, **interest outgo also rises**, contributing to a **higher primary income deficit** in the current account.

Government's Suggested Measures

- **Promote Rupee-Denominated Instruments:** Encourage use of **Masala Bonds** (rupee-denominated bonds sold abroad). Sign **bilateral currency swap agreements** to diversify away from the US dollar.
- **Improve Transparency:** Develop a **real-time tracking system** for corporate and private sector foreign borrowings. Monitor **currency mismatches** and **hedging coverage** closely.
- **Export-Led Growth Strategy:** Strengthen export sectors like **textiles, electronics, pharmaceuticals**, to **earn more foreign exchange** and reduce the need for borrowing.
- **Strengthen Forex Reserves:** Maintain healthy **foreign exchange reserves** to act as a cushion during times of capital outflows or currency volatility.
- **Fiscal Discipline:** Stick to **Fiscal Responsibility and Budget Management (FRBM)** targets to avoid excessive domestic and foreign borrowing.

Conclusion

India's growing external debt reflects its **increased participation in the global economy** and access to foreign capital. However, it also raises **macro-economic risks** tied to **exchange rate volatility, global financial conditions, and repayment pressures**.

2. POWERING INDIA'S PARTICIPATION IN GLOBAL VALUE CHAINS**Why in news?**

- NITI Aayog released a report titled *"Chemical Industry: Powering India's Participation in Global Value Chains"*, which highlights the potential of India's chemical sector

What are Global Value Chains (GVCs)?

- Global Value Chains refer to the full range of activities involved in producing a product or service, from design, production, marketing to distribution, **carried out across multiple countries**.
- The goal is to **use the strengths of each country** (like cheap labor, raw materials, or advanced technology).

Simple Example of a GVC: (Smartphone Manufacturing)

- **Design** – Done in the **USA** (e.g., Apple headquarters).
- **Display Screen** – Manufactured in **South Korea** (e.g., Samsung).
- **Chips & Processors** – Produced in **Taiwan** (e.g., TSMC).
- **Assembly** – Done in **China or Vietnam** (due to cheap labor).
- **Marketing & Sales** – Handled worldwide in countries like **India, UK, UAE**, etc.

About the Chemical Industry in India

- India is the **6th largest chemical producer globally** and **3rd in Asia**.
- In **2023**, the industry was valued at **\$220 billion**, contributing **7% to GDP** and supplying key inputs to agriculture, pharmaceuticals, textiles, and construction.
- India's **global share** in chemical value chains is **3.5%**, with potential to rise.
- It is expected to grow to **\$400–450 billion by 2030** and touch **\$1 trillion by 2040**.

Major Segments of the Chemical Market

- **Petrochemicals:** Largest segment (\$65–75 billion); used in plastics and textiles. India has a consistent **production gap** here.
- **Specialty Chemicals:** Includes dyes, paints, agrochemicals, and textile chemicals. Valued at **\$40–45 billion**; over **50% of exports** come from this segment.

- **Inorganic Chemicals:** Crucial for construction and electronics; includes **salts, metals, minerals**. Market size is **\$15–20 billion**.
- **Other Products:** Fertilizers, personal care, pharmaceuticals — together form a **\$90 billion** market.

Key Challenges

- **High Import Dependence:** \$75 billion worth of imports in 2023 (mostly from China), creating a **\$31 billion** trade deficit.
- **Low R&D Investment:** Only **0.7% of investment** goes into research (global average is 2.3%).
- **Poor Infrastructure:** Outdated clusters, high transport costs, and lack of world-class facilities.
- **Regulatory Delays:** Multiple approvals and slow environmental clearances.
- **Skill Shortage:** 30% gap in skilled professionals, especially in green chemistry and safety.

Seven Strategic Interventions

- **Develop Chemical Hubs:** Upgrade old hubs (e.g. Dahej, Vizag) and create a **central fund** for infrastructure.
- **Strengthen Port Connectivity:** Build **8 coastal clusters** with better port facilities.
- **Opex Subsidy Scheme:** Support local producers to reduce import dependency and boost exports.
- **Faster Environmental Approvals:** Set time-limits (max 270 days); merge authorities for quicker processing.
- **Bridge Skill Gaps:** Expand ITIs and create new courses aligned with industry demands.

Global Example: China's Growth

- China raised its chemical market share from **6% in 2000 to 35% by 2023**.
- Used state support, scale, and long-term policies to become a net exporter.

Conclusion

With focused policies and infrastructure upgrades, India can become a global hub for chemical manufacturing. This will boost exports, create jobs, and support India's vision of a \$5 trillion economy.

3. INVISIBLE HAND IN INDIA'S FOREIGN TRADE

Why in news?

- The Economic Survey 2024–25 highlights a major shift in India's foreign trade, where **services exports and remittances (invisibles)** now play a larger role than goods exports. India's growing services sector is redefining its global trade position.

Why the Issue Matters

- India's trade balance is increasingly shaped by non-merchandise flows—especially IT services, business outsourcing, and remittances.
- This trend shows India's evolution from a goods-based exporter to a service-based global player.

What Is the Services Sector?

- It includes industries like **IT, telecom, banking, insurance, education, healthcare, transport, tourism, retail**, and public services.
- It acts as the **backbone of India's GDP**, employment, and foreign exchange earnings.

Present Status

- **Contributes ~55% to GVA (FY25)**, up from 50.6% in FY14.
- Average growth over 6% annually in the last decade, rebounding to **8.3%** post-COVID.

- Employs around **30% of India's workforce**.
- India is **7th globally in services exports**, holding **4.3% of the world market share**.
- **Computer and business services** make up 70% of total service exports.

Growth Drivers

- **Knowledge-based advantage:** Strong IT, engineering, and business support services.
- **Government support:** Digital India, Smart Cities, Clean India, etc.
- India offers cost-effective, skilled service professionals, especially in tech and back-end processes.

Key Challenges

- **Digital & physical infrastructure gaps**, especially in rural areas.
- **Skill mismatch:** Lack of trained workers in high-end services.
- **Complex regulations** hinder ease of doing business in services exports.
- Vulnerability to **global economic shocks** like recession or outsourcing restrictions.

Government Efforts

- **Action Plan for Champion Services Sectors** to boost 12 key industries.
- **Tourism sector** targeted to generate \$50.9 billion by 2028.
- **Mahatma Gandhi National Fellowship** and 1,000+ universities to upskill the youth.
- **Jan Dhan Yojana** deepens financial inclusion.
- **Production-linked incentives** and **Ayushman Bharat** enhance related service support.
- **FDI cap increased in insurance** to attract foreign investment.

Conclusion

India's **service-led export model and remittances** help control the current account deficit. India is evolving into the "office of the world," exporting talent and digital services.

B. ENVIRONMENT

I. Biodiversity and conservation

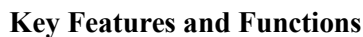
1. 50 YEARS OF CITES

Why in news?

- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has completed **50 years** since it came into force.

About CITES

- **Origin:** CITES was first proposed in **1963** at an IUCN meeting and formally came into effect in **1975**.
- **Purpose:** It aims to **control international trade** in wild animals and plants so that such trade does not threaten their survival.
- **Nature:** It is a **voluntary legal agreement** between governments.
- **Implementation:** Countries must follow CITES rules through their **national laws**. It does not override domestic wildlife protection laws.
- **Secretariat:** Located in **Geneva, Switzerland**, and managed by the **UN Environment Programme (UNEP)**.
- **Membership:** 185 member countries as of 2024.
- **India** joined CITES in **1976**.



2. CHHATTISGARH FOREST DEPARTMENT WITHDRAWS ORDER ON COMMUNITY FOREST RIGHTS (CFR)

Why in news?

- The Chhattisgarh Forest Department has restricted NGOs and private agencies from working on Community Forest Resource (CFR) management.

Background of the Issue

- The withdrawn order referred to earlier guidelines from 2020 and the **National Working Plan Code (NWPC), 2023**, emphasizing “scientific forest management.”
- It contradicted the **2023 guidelines from the Ministry of Tribal Affairs**, which empowered **Gram Sabhas** to lead CFR plan creation and implementation, seeking Forest Department input only after plans were drafted.
- This conflict created **institutional confusion** and was viewed as undermining tribal rights.

About the Forest Rights Act (FRA), 2006

- The FRA legally recognizes the rights of **Scheduled Tribes (STs)** and **Other Traditional Forest Dwellers (OTFDs)** over forest resources.
- Section 3(1)(i):** Gives communities the right to **protect and manage** forest areas.
- Section 5:** Empowers **Gram Sabhas** to conserve biodiversity and forests, putting them at the center of forest decision-making.

What are Community Forest Resources (CFR)?

- CFRs are forest lands that local communities have used and protected traditionally for **livelihood, culture, and ecological balance**.
- Defined under **Section 2(a)** of the FRA, 2006.

Importance of Community Forest Rights

- Empowers Tribals:** Gives legal recognition to traditional forest management practices.
- Conserves Forests:** Community-managed forests often show better conservation and biodiversity outcomes.
- Improves Livelihoods:** Ensures legal access to minor forest produce (MFP), enabling **sustainable income**.
- Climate Benefits:** Supports **carbon storage** and aligns with India’s environmental goals.

Key Issues

- Power Struggle:** The Forest Department’s approach to controlling forest areas clashes with FRA's community-based governance.
- Violation of FRA:** The May 2025 advisory undermined legal authority of Gram Sabhas granted under FRA.
- Policy Confusion:** Delay in issuing **model CFR management plans** at the national level has led to implementation issues.

GOVERNMENT MEASURES

- DAJGUA Scheme:** Provides technical and financial help to Gram Sabhas for better CFR implementation.
- NWPC 2023:** Offers modern guidance on forest management, but must align with FRA principles.
- Van Mitra App:** A new GPS-based tool helping in digital mapping of CFR lands and promoting transparency.

Conclusion

The withdrawal of the order restores the rightful role of Gram Sabhas in forest governance. Stronger coordination between departments and better policy clarity are essential for realizing the full potential of community forest rights.

3. RISING SEA LEVELS.

Why in news?

- India is facing increasing coastal displacement due to climate change, especially from rising sea levels.

Why the Issue Matters

- Climate change is forcing many coastal families to migrate, showing weak support systems and poor climate planning.
- Displaced people often face poverty, job loss, and lack of legal safeguards in their new settlements.

Social and Economic Impacts of Coastal Climate Change

- Displacement from Villages:** Coastal erosion, floods, and saltwater intrusion are forcing families to relocate.
 - Example:** Satabhaya (Odisha) villagers were resettled due to the sea swallowing their homes.
- Loss of Traditional Work:** Fishing and coastal farming are badly hit by environmental changes and development.
 - Example:** In Honnavar (Karnataka), mangrove loss and tourism harmed fishing jobs.
- Urban Migration & Informal Work:** Many move to cities and work in unregulated sectors like brick kilns or construction.
- Exploitation of Women:** Female migrants face harassment, low wages, and no legal protection.
- No Legal Support:** Most climate migrants don't fall under welfare laws or labour codes, increasing inequality.

How Climate Displacement Challenges Democratic Values

- Right to Life (Article 21):** Displaced people live without basic rights like shelter, food, or safety.
- No Informed Consent (Article 19(1)(a)):** Locals are not consulted before approving large coastal projects.
- Suppression of Protest (Article 19(1)(b & c)):** Activists who oppose unfair projects are often arrested or silenced.

Why a Legal Framework is Necessary

- Rights-Based Rehabilitation:** Legal recognition can ensure access to housing, work, and basic services.
- Fixing Gaps in Law:** Current acts (like the Disaster Management Act) focus only on short-term relief, not long-term solutions.
- Preventing Exploitation:** Formal protection under labour codes can stop abuse in jobs like domestic work or brick kilns.

Role of Grassroots Movements

- Protecting Local Ecosystems:** Communities resist harmful industrial projects.
 - Example:** Save Satabhaya movement fought for rehabilitation.
- Fighting for Justice:** Groups like the Pattuvam Mangrove Movement demand sustainable development.
- Challenging Policy Failures:** Protests like those against the Adani port in Ennore expose the flaws in current planning.

Way Forward

- Legally define climate migrants in disaster and migration laws.
- Extend labour protections to include migrants in informal work.
- Revise CRZ rules with mandatory local community approval and sustainability focus.

Conclusion

Coastal climate change is no longer just an environmental issue but a human rights concern. India must act quickly to protect vulnerable communities through strong laws and inclusive planning.

4. GLOBAL WETLAND OUTLOOK 2025

Why in news?

- The **Ramsar Convention** has released the **Global Wetland Outlook for 2025**, offering a fresh assessment of the health, trends, and future of the world's wetlands.



About the Report

- Prepared by, **Scientific and Technical Review Panel (STRP)** of the **Ramsar Convention**.
- Assesses 11 types of wetlands like **mangroves, lakes, rivers, coral reefs, peatlands, and estuaries**.
- Aims to guide **policy, conservation, and funding strategies** worldwide.

Key Findings

- Loss of Wetlands:** Around **411 million hectares (22%)** lost since 1970.
- Rate of Loss:** Wetlands are shrinking at an average of **0.52% per year**.
- Main Causes:** In developing regions: **Urbanisation, industrialisation**, and infrastructure expansion. In Europe: **Drought**; in Oceania and North America: **Invasive species**.
- High Economic Value:** Remaining wetlands provide benefits worth **\$8–39 trillion annually**. Well-managed wetlands till 2050 can deliver over **\$205 trillion in value**.

Need for Conservation

- Restoration Costs:** Can range from **\$1,000 to \$70,000 per hectare** annually.
- Preventive Conservation** is cheaper and more effective than restoration.
- Global **biodiversity funding** is only **0.25% of global GDP**, too low to protect wetlands.

Recommendations

- Integrate wetlands into **climate and biodiversity finance**, like **KM-GBF** (Kunming-Montreal Global Biodiversity Framework).
- Encourage **public-private partnerships** for wetland conservation.
- Need for **strong political will and increased funding**.

India and Wetlands

- India has about **4.6% of its land area as wetlands**.
- 91 wetlands** are listed as **Ramsar Sites**, the **highest in South Asia**.

- Includes **Himalayan high-altitude wetlands, floodplains, deltas, mangroves, and coastal lagoons.**

Importance of Wetlands

- Support **biodiversity** and endangered species.
- Help in **flood control, water purification, and groundwater recharge.**
- Store **carbon**, helping in **climate mitigation.**
- Provide **livelihoods** through tourism, fishing, and agriculture.

ABOUT RAMSAR CONVENTION

Signed in 1971 at Ramsar, Iran, it is an **international treaty** for the **conservation and wise use of wetlands.** Wetlands under this convention are called **Ramsar Sites** and are recognised for their **ecological, hydrological, and biodiversity value.**

- Came into force in **1975**; India joined in **1982.**
- It promotes the concept of "**wise use**" – balancing **conservation and sustainable development.**
- As of 2024, **India has 80 Ramsar sites**, the highest in Asia.
- Montreux Record** is maintained under the convention for sites under **threat or ecological change.**
- Celebrated annually on **February 2** as **World Wetlands Day.**
- It helps integrate **wetland conservation into national planning and international cooperation.**

Conclusion

The Wetland Outlook 2025 is a wake-up call to invest in and protect wetlands before they vanish further. India must combine local conservation with global goals for biodiversity and sustainability.

5. KERALA: AS INDIA'S TOP BIODIVERSITY DISCOVERY HOTSPOT

Why in news?

- Kerala has topped the list in India for the **newest animal species discoveries in 2024**, according to a **Zoological Survey of India (ZSI)** report.

Key Findings from ZSI's 2024 Report

- 683 animal species/subspecies** were newly recorded in India in 2024 (up from 641 in 2023).
 - 459** are globally new species.
 - 224** are new records for India.
- Kerala alone contributed **101 faunal species** (80 new to science + 21 new to India).
- Other leading states: Karnataka (82), Arunachal Pradesh (72), Tamil Nadu (63), West Bengal (56), and Meghalaya (42).
- Andaman & Nicobar Islands** added 43 new entries (14 new species + 29 new records).
- Unique discovery:** *Anguiculus dicaprio*, a snake species found in Himachal Pradesh, was named after Leonardo DiCaprio for his environmental work.

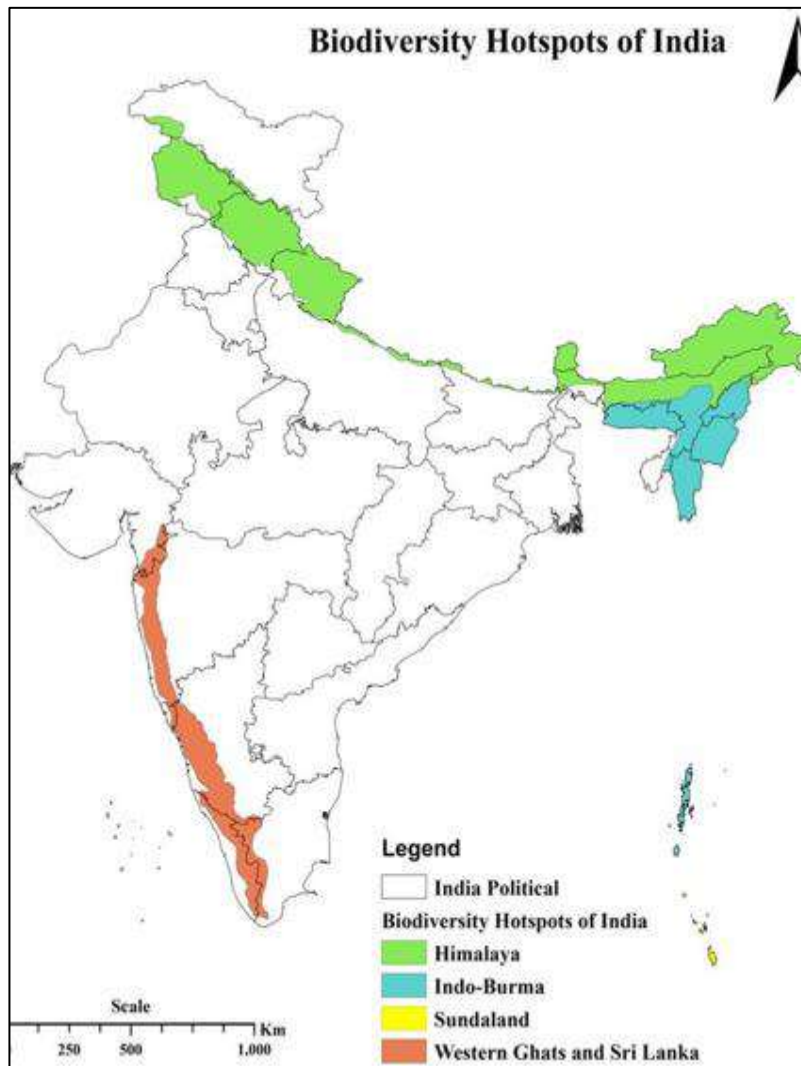
Plant Discoveries by Botanical Survey of India (BSI)

- 433 new plant taxa** were documented.
- Kerala again led with **58 plant discoveries.**
- Types included **angiosperms, lichens, fungi, algae, and microbes.**
- India's total documented plant species now stands at **56,177.**

Why Kerala Leads

- Diverse ecosystems - from **Western Ghats** to **wetlands**.
- Use of **advanced tools** like DNA barcoding.
- Focused taxonomic research by ZSI and BSI.

INDIA'S BIODIVERSITY HOTSPOTS



India hosts **four global biodiversity hotspots**:

- **Himalayas**
- **Indo-Burma (Northeast + Andamans)**
- **Western Ghats (including Kerala)**
- **Sundaland (Nicobar Islands)**

These zones are rich in **endemic species**, offer vital **ecosystem services**, and are **critical for conservation**.

Conservation Measures

- **Protected Areas:** National Parks, Wildlife Sanctuaries.
- **Laws:** Wildlife Protection Act (1972), Biological Diversity Act (2002).
- **Community efforts:** Sacred groves, joint forest management.
- **Global Goals:** Convention on Biodiversity, **SDG-15 (Life on Land)**.

Conclusion

Kerala's biodiversity leadership highlights India's ecological richness. Sustained research and protection are essential for preserving this natural heritage.

II. Environmental pollution

1. EU'S 2040 TARGET TO CUT GREENHOUSE GAS EMISSIONS

Why in news?

- The European Commission has proposed a legally binding goal to cut net greenhouse gas (GHG) emissions by 90% by 2040 compared to 1990 levels.

Background of the Issue

- The EU's latest climate target fills a critical policy gap between the 2030 targets and the long-term 2050 climate neutrality objective.
- It aims to provide direction to industries and governments on reducing emissions sustainably.

Key Highlights of EU's 2040 Climate Target

- **Emission Reduction Target:** Legally binding goal to reduce net GHG emissions by 90% by 2040 (compared to 1990 levels).
- **Use of Carbon Offsets:** From 2036, up to 3% of the target can be met through verified carbon credits from outside the EU.
- **Tech Neutrality:** All low-carbon technologies are welcome — including renewables, nuclear power, and carbon capture.

Complementary Measures:

- **Fit for 55 Package:** Targets 55% emission reduction by 2030.
- **Carbon Border Adjustment Mechanism (CBAM):** Charges on carbon-intensive imports.
- **EU Emissions Trading System (EU ETS):** Expands cap-and-trade to cover more sectors.

India's Efforts and Achievements

Updated NDC (2022):

- 45% cut in emissions intensity by 2030 (compared to 2005).
- 50% electricity capacity from non-fossil sources by 2030.
- Carbon sink creation of 2.5–3 billion tonnes through tree cover.

Progress So Far:

- 36% fall in emission intensity between 2005 and 2020.
- 46.5% of total installed capacity from non-fossil sources by October 2024.
- Solar power alone accounts for 92 GW of capacity.
- India ranks 10th in the Climate Change Performance Index 2025.

Challenges Faced

- Coal still contributes about 75% of emissions.
- Steel and energy-intensive industries rely heavily on fossil fuels.
- Carbon trading market still not mandatory.
- Climate targets are not yet aligned with 1.5°C goals.

Recommendations

- Strengthen NDC targets for deeper cuts.
- Push clean tech in industries (e.g., green hydrogen, electric furnaces).

- Make carbon markets fully functional and mandatory by 2026.
- Expand EV and solar energy use for energy efficiency.

Conclusion

The EU's 2040 climate target is a major step toward net zero, but requires strict rules and balanced policies. India must also intensify efforts to ensure sustainable growth while pushing for global climate justice.

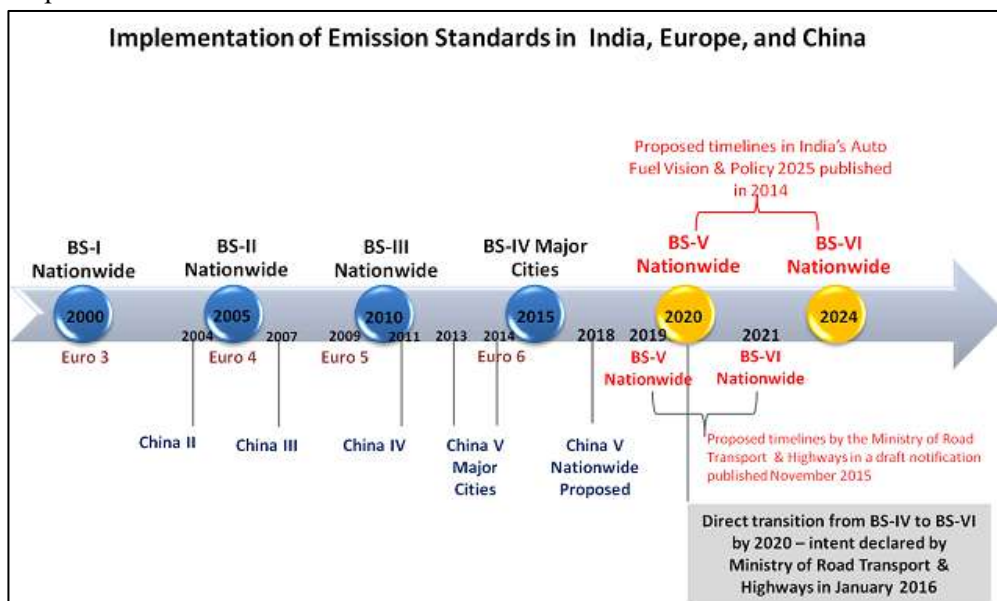
2. DELHI'S FUEL BAN FOR OLD VEHICLES

Why in news?

- The **Commission for Air Quality Management (CAQM)** has postponed its decision to **stop fuel supply to end-of-life vehicles** in Delhi till **November 1, 2025**.

Background of the Fuel Ban Policy

- In **2015**, the **National Green Tribunal (NGT)** banned **diesel vehicles older than 10 years** and **petrol vehicles older than 15 years** in Delhi-NCR.
- The **Supreme Court** supported this order in 2018 and said such vehicles should be **confiscated** if they continue to operate.
- As per the new **End-of-Life Vehicles Rules, 2025**, vehicles must be scrapped **within 180 days** after their registration expires.



How Enforcement is Being Planned

- **ANPR (Automatic Number Plate Recognition)** cameras are being installed at petrol pumps to identify old vehicles.
- These cameras scan number plates and check the **VAHAN database**.
- If a vehicle is listed as unfit or expired, it will be **denied fuel** and may be **scrapped or seized** unless exempted.

Why Older Vehicles Are a Problem

- Vehicles made before **BS-VI (Bharat Stage VI)** norms cause far more **pollution**.
- Example: BS-IV vehicles release **4.5 to 5.5 times more particulate matter** than BS-VI ones.
- Vehicles contribute significantly to **Delhi-NCR's pollution**: **28%** of PM2.5, **41%** of Sulphur Dioxide (SO₂), **78%** of Nitrogen Oxides (NO_x)

About the Commission for Air Quality Management (CAQM)

- Created under the **CAQM Act, 2021**.
- Covers Delhi, Punjab, Haryana, Rajasthan, and Uttar Pradesh.
- Aims to: Coordinate policies and actions on air pollution. Replace the older system with a **centralized authority**.

BHARAT STAGE NORMS (BS NORMS)

- These are **pollution control standards** based on **European (Euro) norms**.
- Apply to **all motor vehicles** in India—2-wheelers to heavy trucks.
- Help reduce harmful gases and improve fuel quality.

Challenges in Implementation

- **Auto Industry Pressure:** Skipping BS-V led to a quick, costly transition to BS-VI.
- **Fuel Supply Upgrades:** Refineries needed expensive changes to produce cleaner fuels.
- **High Vehicle Costs:** BS-VI vehicles are costly, which discourages new purchases.
- **Enforcement Gaps:** Difficult to monitor vehicle compliance in smaller areas.
- **Reluctance to Scrap:** Many vehicle owners resist scrapping due to low awareness and incentives.

Way Forward

- Strong enforcement of CAQM's directive can gradually reduce pollution from older vehicles.
- Success depends on:
 - **Better technology** like ANPR and database tracking.
 - **Cooperation among states**, especially to control cross-border fuel refilling.
 - **Public participation and awareness**.
- A joint effort is needed from **government, industry, and citizens** to clean up Delhi's air.

Conclusion:

The delayed fuel ban for old vehicles in Delhi is a crucial step toward improving air quality. Its success will rely on strong enforcement, public cooperation, and seamless inter-state coordination.

3. HOW IS GLOBAL SHIPPING TRYING TO DECARBONISE**Why in news?**

- The global shipping sector is adopting green fuels such as methanol and ammonia to curb carbon emissions, highlighting the growing need for clean marine energy solutions.

What Are Green Fuels?

- **Green Hydrogen** is produced using **renewable energy** (solar/wind) through electrolysis.
- **Green Ammonia** is made by combining green hydrogen with nitrogen.
- **Green Methanol** is made using green hydrogen and captured CO₂.
- These fuels **emit little or no carbon**, unlike fossil fuels.

How Green Fuels Help Reduce Emissions

- **Low Carbon Output:** Green methanol emits about **10%** of CO₂ compared to VLSFO. Green ammonia is nearly **zero-carbon**.
- **Smooth Transition:** Green methanol requires **minimal engine changes**. Over **360 ships** using methanol are operational or being built.

- **Future-Ready:** Helps countries comply with global **decarbonisation targets**. India is building **green fuel hubs** in **Kandla** and **Tuticorin**.

How India Can Lead in Green Marine Fuels

- **Use Coastal Industrial Areas:** Link ports with green fuel production zones (e.g., Mumbai–Pune corridor).
- **Green Fuel Exports:** Partner with EU's **FuelEU Maritime** for steady export of green methanol.
- **Boost R&D in Coastal States:** Set up **marine energy research centres** in Tamil Nadu, Odisha, or Andhra Pradesh.

Challenges in Green Fuel Transition

- **High Costs:** Ship retrofits and new infrastructure are expensive.
- **Expensive Fuels:** In Feb 2025, e-methanol cost **\$1,950/tonne**, while VLSFO was **\$560/tonne**.

Policy & Financial Solutions

- **Sovereign Guarantees:** Reduce investment risks and attract green finance.
- **PLI for Electrolysers:** Boost local production and reduce costs.
- **CCUS Incentives:** Support CO₂ capture for methanol production.

Boost to India's Maritime Sector

- **Revive Domestic Shipyards:** Build green fuel-ready ships at HSL (Andhra Pradesh).
- **Expand Ship Exports:** Export low-emission vessels to Africa and Indian Ocean countries.
- **Strengthen Supply Chain:** Create green marine clusters (e.g., in Kochi) with global firms.

Conclusion

India can turn the global shift to green shipping into a strategic win by becoming a producer and exporter of clean marine fuels. With the right mix of policy support and global partnerships, it can emerge as a leader in the future maritime economy.

III. Global Warming and Climate Change

1. ARTIFICIAL RAIN IN DELHI

Why in news?

- For the first time, **Delhi is preparing to conduct a cloud seeding experiment** to produce **artificial rain** and reduce rising air pollution levels.

What is Artificial Rain?

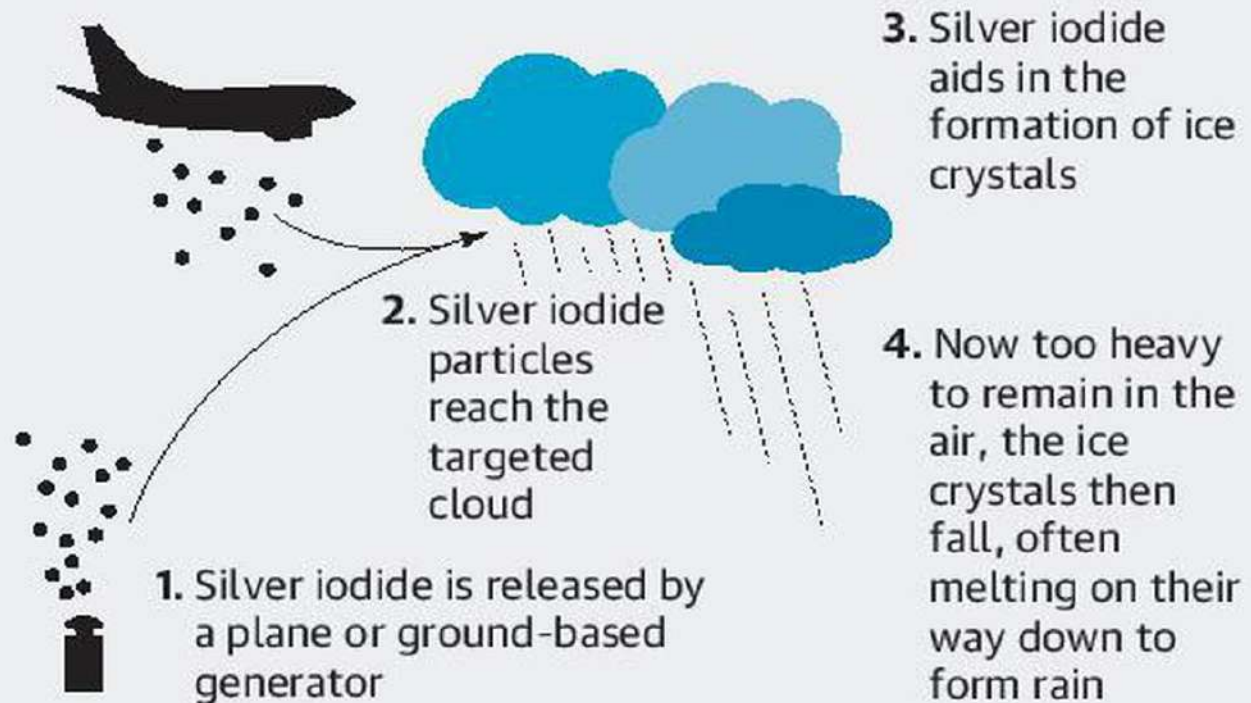
- Artificial rain is created by a process called **cloud seeding**, where **chemicals are sprayed into rain-bearing clouds** to **stimulate rainfall**.
- Commonly used substances include:
 - **Silver Iodide**
 - **Potassium Iodide**
 - **Sodium Chloride (Salt)**
 - **Dry Ice (solid carbon dioxide)**

Conditions Required

- Presence of clouds with moisture.

- Adequate **humidity and temperature instability**.
- Favourable **wind and atmospheric conditions**.

How cloud seeding works



Benefits of Artificial Rain

- **Reduces Air Pollution**: Rain helps settle **dust and harmful pollutants**, improving air quality temporarily in polluted cities like Delhi.
- **Helps in Drought Management**: States like **Maharashtra** and **Karnataka** have used it during dry spells (e.g., Project Meghdoot, Varshadhari).
- **Aids in Forest Fire Control**: Increased moisture from artificial rain can prevent or reduce the severity of wildfires.
- **Used Globally**: Countries like **China**, **UAE**, **Thailand**, and parts of the **USA** regularly use cloud seeding for **weather modification**, water resource management, and clearing skies during major events.

Concerns and Limitations

- **Environmental Risk**: Chemicals used may enter **soil and water systems**, affecting crops and groundwater.
- **Not a Permanent Fix**: Doesn't address **root causes** like stubble burning, traffic emissions, or poor city planning.
- **Ethical & Legal Questions**: Weather modification may lead to **moral and regulatory issues**.
- **Potential Health Hazards**: Long-term use could impact **human health and biodiversity**.

Way Forward

- Use **cloud seeding only in emergency situations**, especially when AQI reaches hazardous levels.
- Ensure **scientific accuracy** with tools like **Doppler radar**, satellite data, and weather models.
- Focus on **long-term solutions**: Shift to **electric mobility**, Promote **urban green spaces**, Support **PUSA decomposer** for crop stubble management

Conclusion

Artificial rain can provide **short-term relief** during severe air pollution, but it should not replace **long-term sustainable solutions** for clean air and climate resilience.

IV. Indian Initiatives, efforts and Commitments**1. INDIA'S FIRST ELECTRIC TRUCK INCENTIVE SCHEME UNDER PM E-DRIVE****Why in news?**

- The Indian government has launched its first dedicated incentive scheme to promote **electric trucks**, under the **PM E-DRIVE initiative**.

Background of the Scheme

- Earlier electric vehicle schemes like **FAME** did not include **electric trucks**.
- This new scheme focuses on cutting pollution from **old diesel trucks** by encouraging scrapping and replacing them with electric alternatives.

Key Features of the Electric Truck Incentive Scheme

- Launch Timeline:** The scheme runs from **October 1, 2024 to March 31, 2026**.
- Budget Allocation:** ₹500 crore total, with 20% reserved for trucks registered in **Delhi**, a pollution hotspot.
- Mandatory Scrapping:** Incentives are provided only if the buyer agrees to **scrap an old diesel truck**.
- Warranty Requirement:** Battery: 5 years or 5 lakh km. Vehicle and Motor: 5 years or 2.5 lakh km.

About PM E-DRIVE Scheme

- Merged Schemes:** The new scheme subsumes **EMPS-2024 (Electric Mobility Promotion Scheme)**.
- e-Voucher System:** One vehicle per **Aadhaar** eligible. A **digitally signed voucher** is issued after the sale, which the manufacturer uses to claim reimbursement.

Incentives for Other Electric Vehicles

- Two-Wheelers:** ₹5,000 per kWh (max ₹10,000 in year 1). Halved to ₹2,500 per kWh (max ₹5,000 in year 2).
- Three-Wheelers:** ₹25,000 in year 1, ₹12,500 in year 2.
- L5 Cargo Three-Wheelers:** ₹50,000 in year 1, ₹25,000 in year 2.

Charging Infrastructure Development

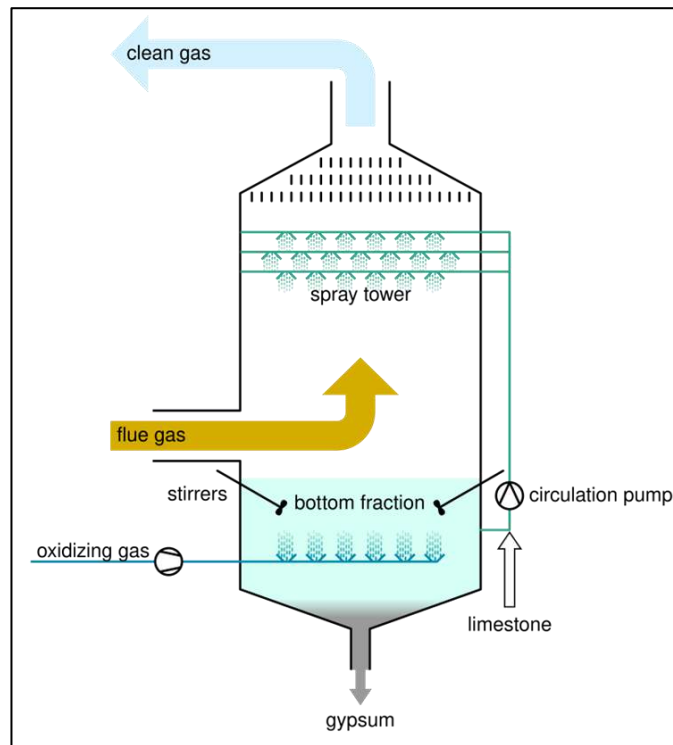
- To reduce "**range anxiety**," the government will support: **Public charging stations (EVPCS)** in cities with high EV usage. **Charging points** on selected national highways.

Conclusion

India's e-truck incentive scheme marks a crucial step towards clean logistics. With proper infrastructure and support, it can accelerate the country's shift to sustainable transport.

2. ENVIRONMENT MINISTRY EXEMPTS COAL PLANTS FROM INSTALLING FGD SYSTEMS**Why in news?**

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has exempted **coal-based thermal power plants (TPPs)** from installing **Flue Gas Desulphurisation (FGD)** systems.



What is FGD (Flue Gas Desulphurisation)?

- FGD is a pollution control method that removes **sulphur dioxide (SO₂)** from the exhaust of coal power plants.
- Most commonly, it uses **limestone slurry** to turn SO₂ into **gypsum**.
- It helps **reduce acid rain**, secondary particulate matter (PM_{2.5}), and improve **ambient air quality**.

New Categorisation of Thermal Power Plants

- **Category A (11%)**: Plants within 10 km of NCR or cities with population over 1 million. Must install FGD by **December 2027**.
- **Category B (11%)**: Located near **Critically Polluted Areas (CPAs)** or **Non-Attainment Cities (NACs)**. FGD installation **depends on approval** by the Expert Appraisal Committee (EAC) by **December 2028**.
- **Category C (78%)**: Located outside major pollution zones. **Fully exempted** from installing FGD systems.

Global Practices

- Countries like **China** and **USA** have made **FGDs compulsory** for coal power plants.
- China has achieved **95% SO₂ removal** using nationwide FGD coverage.

Key Concerns

- **Health Risks**: SO₂ is a cause of **PM_{2.5} pollution**, linked to **asthma, heart disease, and early death**. India faces over **2.3 million pollution-related deaths** annually (Lancet 2022).
- **Environmental Violation**: This exemption contradicts the **Polluter Pays Principle** and **Clean Air goals**.
- **Long-range Pollution Spread**: Coal emissions can travel up to **200 km**, impacting rural and nearby states.

Way Forward

- **Account for Health Costs**: Use **Health Impact Assessments (HIA)** to factor in medical and economic damage.
- **Encourage Renewables**: Promote **solar, wind**, and other **clean energy** options to reduce coal use.
- **Uniform Pollution Norms**: All categories of plants should follow **strict emission standards**.
- **Build Domestic FGD Industry**: Support **Make in India** to scale up FGD equipment production.
- **Ensure Public Monitoring**: Share **real-time emission data** for transparency and accountability.

Conclusion

Given the health hazards and wide spread of pollution, India must adopt a **scientific and people-first approach** to pollution control, ensuring compliance with both **constitutional rights** and **global environmental goals**

V. Environmental impact assessment

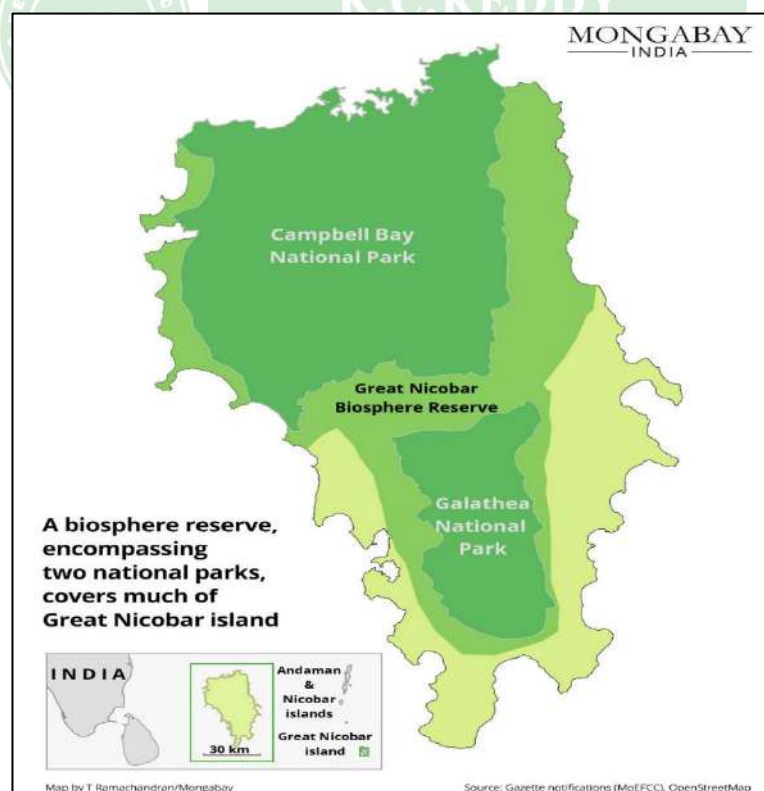
1. EARTHQUAKE RISKS IGNORED IN GREAT NICOBAR PROJECT STUDY

Why in News?

- The Environment Impact Assessment (EIA) for Great Nicobar Infrastructure Project (GNIP) downplays the risk of a major earthquake, despite the region's known vulnerability.

About the Great Nicobar Infrastructure Project (GNIP)

- The GNIP is a multi-sectoral development plan proposed on Great Nicobar Island.
- It includes:
 - An international transshipment deep-sea port at Galathea Bay
 - A greenfield airport
 - A 450 MVA power plant and solar energy facilities
 - A township for 1.25 lakh people
- The project is being developed by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) with environmental assessments by Vimta Labs.
- Strategic aim: to develop Great Nicobar as an economic and security hub in the Indo-Pacific region, close to the Malacca Strait.



Key Findings of the EIA Report

- Assesses the region's seismic risk as low based on sediment data and studies from IIT Kanpur.
- Claims the return period for strong earthquakes (magnitude 7.5 and above) is between 80 to 120 years.
- Does not suggest major construction restrictions based on seismic hazard.

Expert Concerns

- The island lies near the active Andaman-Sumatra fault, part of the subduction zone responsible for the 2004 tsunami.
- Risk assessment should be based on detailed, site-specific seismic studies, not just general models.
- The possibility of rare but catastrophic events remains significant.
- Infrastructure may not be resilient to extreme seismic activity without proper planning.
- Predicting earthquakes remains uncertain, making over-reliance on probability-based models risky.

Ecological Concerns

- The project threatens the **Galathea Bay Wildlife Sanctuary**, home to endangered species like the leatherback sea turtle.
- Large-scale deforestation of over 130 square kilometers is expected, affecting biodiversity and tribal habitats.
- Coastal construction can damage **coral reefs** and **marine ecosystems**, weakening natural tsunami barriers.

Strategic Importance

- The island's location near the **Malacca Strait**, a vital global shipping route, gives India a strategic maritime advantage.
- Strengthening India's presence in the **Indo-Pacific region** counters China's growing influence.
- Enhances **defence logistics**, trade connectivity, and regional maritime surveillance.

Way Forward

- Conduct detailed seismic micro-zonation and hazard mapping before construction begins.
- Strengthen disaster-resilient infrastructure using earthquake-resistant designs and regular drills.
- Ensure strict environmental safeguards to preserve the island's fragile ecosystems.
- Involve local communities, especially **Nicobarese tribes**, in the planning process.
- Balance strategic goals with sustainability and disaster preparedness.

Conclusion

While the Great Nicobar project offers strategic and economic benefits, ignoring seismic and ecological risks can lead to long-term harm. A science-led, inclusive, and environmentally responsible approach is vital for sustainable development.

C. DISASTER MANAGEMENT**I. Disasters and their management****1. GUJARAT BRIDGE COLLAPSE AND FRAGILITY OF PUBLIC INFRASTRUCTURE IN INDIA****Why in news?**

- A part of the **Mujpur-Gambhira bridge** over the **Mahisagar (Mahi) river in Gujarat** recently collapsed, exposing serious flaws in India's public infrastructure safety.

India's Public Infrastructure

- Infrastructure includes roads, bridges, ports, railways, telecom, drainage, and energy systems.
- It plays a crucial role in economic development and social welfare.

- However, many projects face **cost overruns and delays**: ₹4.82 lakh crore cost overruns (MoSPI, 2023). 36% of major projects delayed by **25 to 60 months**.

Why India's Infrastructure Is Weak

- **Inadequate Funding**: Massive investment needs: ₹70 lakh crore by 2036. Local bodies' finances remain stagnant at **1% of GDP**.
- **Heavy Dependence on Government**: Government funds **78% of infrastructure spending**. Private sector shows limited interest due to high risks and long returns.
- **Poor Governance & Coordination**: Multiple agencies work without coordination (e.g., DDA, PWD, MCD). This causes delays, blame games, and patchy maintenance.
- **Flawed Planning & Execution**: Projects lack proper design and feasibility checks. Infrastructure like underpasses often fails during monsoons.
- **High Disaster Risk**: 50% of public infrastructure is **not disaster-ready** (CBRE-CII 2024). Vulnerabilities include floods, cyclones, industrial mishaps, cyber threats, and health emergencies.

Pattern of Failures	
	Palanpur NH58 Bridge (2023) Girders collapsed, killing two.
	Varivav Bridge (2023) Developed cracks just 42 days after inauguration.
	Valsad Railway Overbridge (2023) Chunks of concrete fell off pre-inauguration
	Mindhola River Bridge (2023) Middle portion collapsed; no casualties
	Morbi Suspension Bridge (2022) 135 lives lost
	Ahmedabad Flyover (2021) Slab fell during stress test

Proposed Solutions

- **Governance Reforms**: Treat urban infrastructure as **national priority**. Use **digital tools** and create **single planning agencies**. Strengthen **State Finance Commissions**.
- **Better Financing**: Develop **municipal bond markets**. Use pooled funding methods and separate project planning from funding.
- **Smart Urban Growth**: Link city growth to **industrial zones** and capture land value. Use **climate-resilient planning** and adopt **circular economy** methods for waste.

Conclusion

The Gujarat bridge collapse is a wake-up call for India's crumbling infrastructure. To ensure public safety and economic growth, stronger planning, investment, and disaster preparedness are urgently needed.

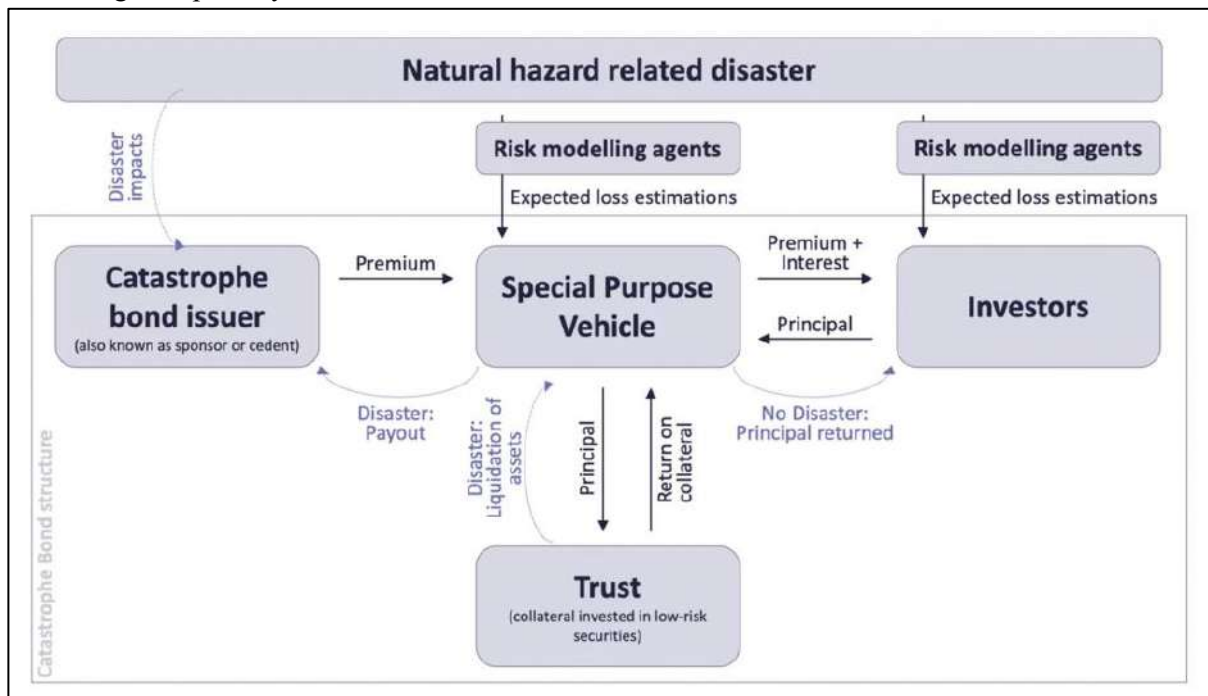
2. CATASTROPHE BONDS (CAT BONDS)

Why in news?

- Experts have recently recommended that **India should explore catastrophe bonds (Cat Bonds)** to manage the financial burden of natural disasters.

What Are Catastrophe Bonds (Cat Bonds)?

- Cat Bonds** are a mix of **insurance and investment instruments**, used to raise money for disaster recovery.
- A **government or organization** issues these bonds through agencies like the **World Bank or ADB**, and **investors buy them** for high returns.
- If a major disaster occurs (like an earthquake or flood), the **investor loses part or all of their money**, which is then used for **emergency response and rebuilding**.
- If no disaster happens, the **investor earns a good return** (called a coupon).
- A **Special Purpose Vehicle (SPV)** is created to manage the funds safely, keeping it separate from other finances and ensuring transparency.



Benefits of Cat Bonds

- Disaster Risk Sharing:** Investors take on the risk, reducing the financial load on governments.
- Quick Fund Access:** Funds are released immediately after a trigger event, unlike traditional insurance which is often delayed.
- Global Investor Participation:** Taps into **international capital markets**, beyond local or reinsurance options.
- Encourages Preparedness:** Governments with better **risk reduction plans** pay lower premiums, encouraging better planning.
- Portfolio Diversification:** Since disaster risks are not linked to market cycles, these bonds offer **stability** to investor portfolios.

Challenges of Cat Bonds

- Fixed Trigger Conditions:** A disaster must meet a set level (e.g., a 6.6M quake); a 6.5M quake may still cause damage but not qualify for payout.
- High Premium Costs:** Vulnerable regions often face **expensive premiums**.

- **Complex Design:** Poorly structured bonds may **miss out on real risks**, limiting usefulness.
- **Wasted Investment:** If no disaster occurs, the money spent may seem **unproductive**, especially in low-resource settings.

Relevance for India

- **High Disaster Risk:** India often faces cyclones, floods, quakes, and landslides.
- **Weak Insurance Coverage:** Most people and property are **not insured** against disasters.
- **Government Preparedness:** India has started **allocating funds** for disaster resilience, showing readiness to adopt Cat Bonds.

Conclusion

Cat Bonds offer a smart way for India to handle disaster costs efficiently. With growing climate threats, adopting such tools can strengthen financial resilience and disaster preparedness.

3. TELANGANA PHARMACEUTICAL BLAST

Why in News?

- A deadly blast at Sigachi Industries in Telangana killed 39 workers, raising concerns over industrial safety, weak regulations, and environmental violations in India's booming pharmaceutical sector.

Background of the Incident

- The explosion occurred on **June 30, 2025**, at **Sigachi Industries**, located in **Pashamylaram near Hyderabad**.
- The blast destroyed a three-storey structure and led to **39 deaths** among 143 workers.
- Preliminary investigations suggest a **dust explosion** caused by fine microcrystalline cellulose powder, not a reactor blast as earlier suspected.

What Caused the Explosion?

- Experts suspect a **dust cloud** created during processing caught fire.
- This type of explosion is common in **flour mills, grain silos, and chemical factories**.
- The firm was making **microcrystalline cellulose**, used in pharmaceutical tablets as a filler.

Regulatory and Safety Gaps

- **Lack of emergency data:** No environmental safety board was displayed outside the factory.
- Firefighters didn't know what materials were involved, delaying rescue and response.
- Reflects **poor enforcement** of environmental, fire, and industrial safety rules.
- This incident adds to a **series of similar factory accidents** in Telangana and Andhra Pradesh in recent years.

Challenges in the Pharma Sector

- **Smaller pharma companies** often lack safety protocols and proper audits.
- India's drug exports, especially to the **U.S.**, require strict compliance with global standards like those of **USFDA and USP**.
- Lax practices not only risk **lives and environment** but also hurt **industry reputation** and export credibility.

Pollution and Zoning Concerns

- Pharma hubs like Pashamylaram are now **surrounded by residential areas**, exposing people to harmful emissions.

- **Illegal dumping and poor wastewater treatment** have polluted nearby water bodies, including the **Musi River**, one of the most pharma-polluted rivers globally.
- Linked to rising **antimicrobial resistance** due to pharma waste in the environment.

Way Forward

- Strengthen **industrial safety laws** with regular inspections and compliance checks.
- Ensure clear **emergency signage and safety boards** at all manufacturing units.
- Separate **industrial and residential zones** strictly.
- Improve **effluent treatment systems** and enforce strict pollution norms.

Conclusion

The Telangana blast is a wake-up call. India must urgently tighten safety and pollution norms to ensure industrial growth doesn't come at the cost of human lives and environmental health.

D. SCIENCE AND TECHNOLOGY

I. Developments and their Applications and Effects in Everyday Life.

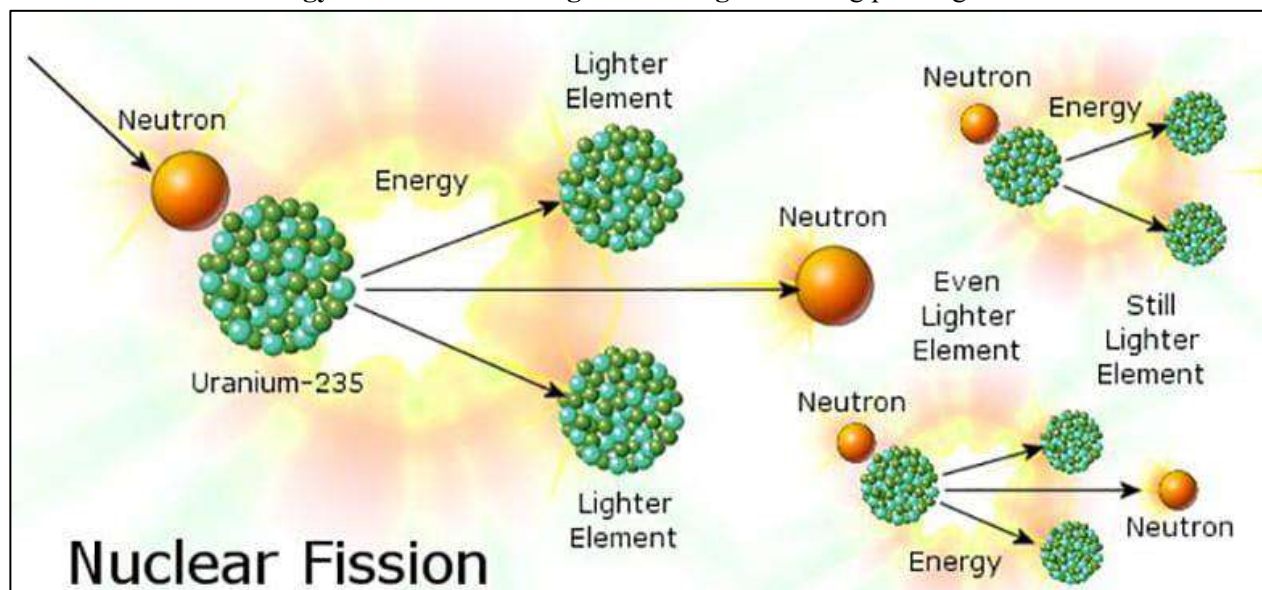
1. REDEEMING INDIA'S NUCLEAR POWER PROMISE

Why in news?

- India aims to significantly expand its nuclear power capacity to meet rising energy demands and clean energy targets, focusing on domestic reactor development and low-carbon growth.

What is Nuclear Energy?

- **Nuclear energy** is the energy released during **nuclear reactions**, especially **fission** (splitting atoms) or **fusion** (joining atoms).
- In most nuclear power plants, **uranium** atoms are split in a reactor to produce **heat**. This heat is used to convert **water into steam**, which spins a turbine to generate **electricity**.
- **Nuclear fission** is the most commonly used process in power plants worldwide. The fuel mostly used is **Uranium-235** or **Plutonium-239**.
- It is a form of **clean energy** as it does **not emit greenhouse gases** during power generation.



Importance of Nuclear Energy for India

- India currently has 8.18 GW of nuclear power capacity and aims to scale up to 100 GW by 2047 to meet clean energy targets, reduce carbon emissions, and strengthen energy security.
- **Continuous Power Supply:** Unlike solar/wind, nuclear power provides 24/7 base-load electricity, essential for industry and urban needs.
- **Supports Climate Goals:** Helps meet targets like net-zero by 2070 and 500 GW of non-fossil capacity by 2030.
- **Global Backing:** Over 20 nations, including India, supported tripling nuclear energy at COP28 (2023), boosting global cooperation and funding.

How India's Nuclear Policy Evolved

- **Early Start but Slow Growth:** Despite early vision (Apsara in 1956), progress slowed after 1974's nuclear test and refusal to sign NPT.
- **Focus on Indigenous Tech:** India developed its own PHWRs, scaling from 220 MW to 700 MW (Kakrapar, 2024).
- **Limited Global Partnerships:** Post-2008 NSG waiver, only Russia partnered at Kudankulam due to legal hurdles like CLNDA.

Key Barriers to Private Participation

- **Legal Limitations:** The Atomic Energy Act, 1962 restricts nuclear power operations to government entities only.
- **Supplier Liability Risks:** CLNDA (2010) makes suppliers liable for accidents, discouraging private/foreign investors.
- **Regulatory Gaps:** The AERB lacks statutory independence, and unclear power pricing limits green financing.

Why an Independent Regulator is Crucial

- **Safety and Public Trust:** An impartial authority is needed to oversee nuclear safety, especially as private firms join the sector.
- **Aligns with Global Norms:** IAEA recommends an autonomous regulator for credibility and better foreign cooperation.
- **Complex Expansion Needs:** With new tech like SMRs, a dedicated body is essential to handle regulation and dispute resolution.
- **Reviving Past Efforts:** A 2011 bill for a statutory regulator lapsed — it must be brought back for sectoral reform.

Reforms Required

- **Legal Reforms:** Amend the Atomic Energy Act and CLNDA to allow controlled private and foreign investment while keeping Indian control.
- **Set Up a Statutory Regulator:** Establish an independent Nuclear Safety Regulatory Authority to ensure transparency and trust.
- **Green Energy Classification:** Recognize nuclear as green energy for financing, tax breaks, and clean energy incentives.
- **Encourage Public-Private Partnerships:** Promote joint ventures (like NPCIL-NTPC) and ease land and tech approvals to speed up expansion.

Conclusion

India's nuclear power expansion is vital for achieving its clean energy and development goals. Timely legal, regulatory, and financial reforms are essential to unlock its full potential and ensure safe, sustainable growth.

II. Achievements of Indians in Science & Technology

1. AXIOM-4 MISSION AND INDIA'S PARTICIPATION IN SPACE TRAVEL

Why in news?

- Axiom Mission 4, a private flight to the International Space Station, was launched, which includes Indian Air Force officer Shubhanshu Shukla,

Axiom-4 Mission

- **Organised by:** Axiom Space, a U.S.-based private aerospace company.
- **Mission Duration:** 14 days aboard the ISS.
- **Launch Site:** Kennedy Space Centre, Florida.
- **Rocket Used:** SpaceX's **Falcon 9**.
- **Spacecraft:** SpaceX **Crew Dragon**, known for its cutting-edge safety and automation.

Crew Members

- **Peggy Whitson** – Former NASA astronaut, mission commander.
- **Slawosz Uznanski** – Polish astronaut, marking Poland's significant milestone.
- **Tibor Kapu** – Hungarian astronaut.
- **Group Captain Shubhanshu Shukla** – Represented India and ISRO.



Significance of Ax-4 for India

- **Science and Research Benefits:** Offers ISRO early access to space-based research before **Gaganyaan**, India's crewed mission. India tested multiple scientific experiments aboard the ISS under Ax-4.
- **International Collaboration:** Conducted in partnership with **NASA**, **SpaceX**, and Axiom Space. Reflects India's strengthening ties in global space programs and commercial ventures.
- **Supports Gaganyaan Mission:** Practical exposure to live space conditions and problem-solving helps build astronaut training modules.
- **Encourages development in space medicine** including diabetes care, muscle health, and cancer research in space conditions.

INTERNATIONAL SPACE STATION (ISS)

- **Altitude:** 400–430 km above Earth.
- **Speed:** Travels at 28,000 km/h, completing an orbit every **90 minutes**.
- **Operational Since:** First launched in 1998; permanently occupied since 2000.
- **Managed By:** NASA (US), Roscosmos (Russia), ESA (Europe), JAXA (Japan), and CSA (Canada).
- **Structure:** Has living quarters, gym, lab, and a panoramic viewing window.

Conclusion

The Axiom-4 mission marks a major step for India in global space participation. It strengthens ISRO's scientific abilities, supports human spaceflight readiness, and opens doors for deeper collaboration in the future.

2. 10 YEARS OF THE DIGITAL INDIA JOURNEY

Why in news?

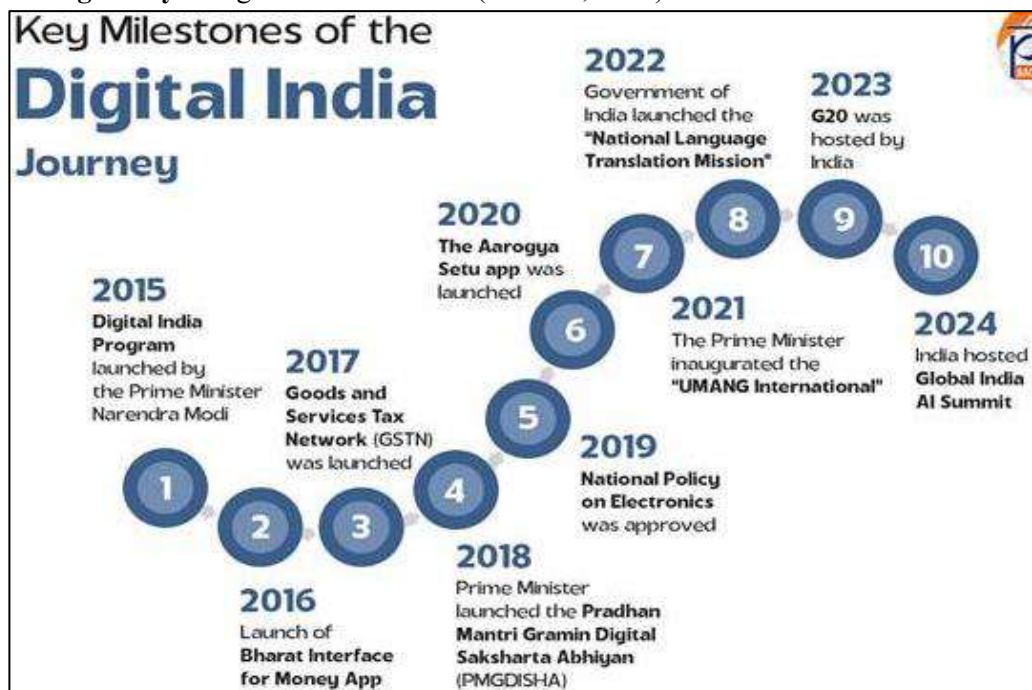
- India recently celebrated **10 years of the Digital India initiative**, which was launched on **July 1, 2015**. The program aims to build a digitally empowered society and transform India into a **knowledge-based digital economy**.

About Digital India

- Launched in **2015** by the Government of India.
- Focus: To provide **digital infrastructure**, promote **online services**, and ensure **digital empowerment**.
- The program has become a core part of India's development strategy in the last decade.

Growth of Digital Economy

- India's **digital economy contributed 11.74%** to GDP in 2022–23 and is expected to rise to **13.42% in 2024–25**.
- By **2030**, it is projected to form **~20% of the total economy**.
- India ranks **3rd globally** in digital transformation (ICRIER, 2024).



Major Achievements

- Connectivity Expansion:** Mobile and internet services have reached **nearly all villages**. Telephone connections grew from 93.3 crore (2014) to over 120 crore (2025).
- UPI and Digital Payments:** India processed **49% of global real-time transactions** in 2023. UPI is now operational in **7+ countries**, improving global payment connectivity.
- Aadhaar and DBT:** Aadhaar-based **e-KYC** has simplified banking and public services. **DBT system** has helped directly transfer welfare benefits and reduce leakage.
- ONDC for E-Commerce:** The **Open Network for Digital Commerce (ONDC)** launched in 2022. By 2025, it expanded to **616+ cities** with **7.64 lakh+ sellers**.

- **IndiaAI and Semiconductor Push:** **IndiaAI Mission** supports AI innovation and responsible AI development. National computing power crossed **34,000 GPUs** by May 2025.
- **E-Governance Reforms:** Citizen services like **DigiLocker**, **UMANG App**, and **Mission Karmayogi** made government access easier, quicker, and more transparent.

Challenges:

- **Low Share of Manufacturing in GDP:** Despite the campaign, **manufacturing contributes only ~16-17% to GDP** (target was 25% by 2022). Example: India still relies heavily on imports for electronics and machinery, especially from China.
- **Infrastructure and Logistics Bottlenecks:** Poor road, rail, port connectivity, and **high logistics costs (~13-14% of GDP)** reduce competitiveness. Example: India ranks 38th in the 2023 World Bank Logistics Performance Index, behind many manufacturing hubs.
- **Skilled Labour Shortage and Regulatory Delays:** Lack of adequately trained industrial workforce and **complex land/labour laws** deter investments. Example: According to NSDC, **only 20% of India's workforce is formally skilled**, affecting productivity.

Way Forward

- **Improve Infrastructure and Reduce Logistics Cost:** Invest in better roads, ports, railways, and logistics parks to bring down transport costs and boost efficiency.
- **Simplify Laws and Boost Ease of Doing Business:** Reform land, labour, and tax policies to make it easier for businesses to start, operate, and expand in India.
- **Focus on Skill Development and Technology:** Train youth in industry-relevant skills and support MSMEs in adopting modern technologies like automation and AI.

Conclusion

A decade of **Digital India** has laid the foundation for a **technology-driven, inclusive economy**. To reach the goal of a **\$5 trillion economy**, India must continue investing in **digital infrastructure, cybersecurity, and AI innovation**.

3. INDIA WITNESSES SURGE IN IP FILINGS

Why in news?

- India has recorded a rise in Intellectual Property (IP) filings over the past five years, marking a positive trend in innovation, startups, and technological development.

Trends in IP Filing (2020–2025)

- Total IP filings rose from **4.77 lakh** in 2020–21 to **6.89 lakh** in 2024–25 — a **44% growth**.
- **Geographical Indications (GI)** showed the highest increase: **380%**.
- **Designs** saw a **266%** rise.
- **Patent filings** increased by **180%**, indicating strong innovation.
- **Copyrights** went up by **83%**, while **trademark filings** grew by **28%**.
- **Semiconductor Integrated Circuits Layout-Designs (SICLD)** also rose by **20%**.

What Are Intellectual Property Rights (IPR)?

- **IPR** protects creations of the mind, such as inventions, designs, artistic works, and symbols.
- These rights give legal protection to the owner for a certain time.

- **Forms of IPR:**

- **Patents** – for inventions.
- **Copyrights** – for artistic and literary works.
- **Trademarks** – for brand identity.
- **Industrial Designs** – for visual design of objects.
- **Geographical Indications** – for location-based products.
- **Layout Designs for ICs, Plant Varieties, and Trade Secrets.**

Importance of IP Filings in India

- **Boosts Innovation and Economic Growth:** Higher IP filings reflect a **robust innovation ecosystem**, encouraging **research, startups, and entrepreneurship**, key drivers for India's **knowledge economy**.
- **Enhances Global Competitiveness:** Strong IPR protection makes India an attractive destination for **FDI**, aligns with **WTO-TRIPS commitments**, and helps Indian products gain global recognition (e.g., **GI tags** for local goods).
- **Supports Atmanirbhar Bharat:** Protecting indigenous inventions through IP promotes **self-reliance**, reduces import dependence on technologies, and enables **technology-led exports**.

Challenges in India's IPR Ecosystem

- **Lack of Awareness & Access:** Many small businesses, rural innovators, and students are **unaware of IPR benefits** or **lack access** to filing systems and legal help.
- **Delays in Patent Processing:** Despite reforms, **long approval times** due to limited manpower and backlog affect India's efficiency in granting patents.
- **Weak Enforcement of IPR Laws:** **Inadequate protection** against piracy and counterfeiting continues, especially in **digital content and local markets**, reducing the confidence of innovators.

Government Measures

- **National IPR Policy 2016:** Unified policy to streamline all IPR-related initiatives and enforcement.
- **AI-based Trademark Search System:** Improves speed and accuracy of trademark application reviews.
- **SIPP Scheme:** Helps startups get free professional assistance to file patents and trademarks.
- **CIPAM:** Coordinates efforts under IPR policy implementation.
- **NIPAM:** Raises awareness about IPR in schools, colleges, and institutions.
- **Atal Innovation Mission (AIM):** Supports innovation through Atal Tinkering Labs, Incubators, and Challenges.

Conclusion

The rapid growth in IP filings highlights India's evolving innovation ecosystem. With supportive policies, digital tools, and startup engagement, India is positioning itself as a global hub for innovation-led growth.

III. Medical science/vaccines/diseases

1. The Global Resurgence of Tuberculosis

Why in news?

- Tuberculosis (TB), once thought to be under control by the 1980s, made a strong comeback due to several global and regional challenges.

Issue in Brief

- By the late 20th century, TB had declined significantly in developed countries due to improved living standards and medicines.
- However, rising deaths in the 1980s and 1990s—especially in the U.S.—proved that the disease was far from over, prompting a global rethink of TB control efforts.

Reasons Behind TB Resurgence in the 1980s–90s**HIV/AIDS Epidemic**

- HIV weakens the immune system, increasing the risk of latent TB turning active.
- In the 1990s, over 80% of TB deaths in the U.S. occurred among HIV-positive individuals, even though they were just 0.5% of the population.
- The dual burden of HIV and TB made treatment and control more complex.

Rise of Drug-Resistant TB

- Earlier TB treatments used powerful antibiotics, but misuse led to resistance.
- Drug-resistant TB is harder and costlier to treat and has lower success rates.
- It continues to pose a major global threat even today.

Migration and Higher TB Rates Among Immigrants

- TB rates were 4 times higher in foreign-born individuals in the U.S. during the 1980s.
- Increased immigration from high TB-burden countries after the 1965 U.S. Immigration Act contributed to new cases.
- Many migrants arrived with latent infections that later became active.

Global Problem and Data Gaps

- In 1990, there were 8 million new TB cases globally and around 3 million deaths—twice the number officially reported.
- Many low-income countries lacked diagnostic tools and accurate data, leading to underestimation.
- In 1993, WHO declared TB a global health emergency.

Problems with TB

- **Infectious Spread:** TB spreads easily through air, especially in crowded areas.
- **Latent Infections:** People may carry TB without symptoms and later develop the disease.
- **Weak Health Systems:** In many countries, TB diagnosis and treatment are delayed.
- **Drug Resistance:** Incomplete or wrong treatments lead to multi-drug resistant TB.
- **HIV Link:** People with HIV are much more likely to fall ill and die from TB.

Way Forward

- **Better Surveillance:** Strong monitoring systems help detect TB trends early.
- **Targeted Intervention:** Focus on high-risk groups like HIV patients and migrants.
- **Stronger Treatment Access:** Scale up access to new drugs and diagnostics, especially in poorer countries.

Conclusion;

Tuberculosis, once seen as a fading threat, surged back due to HIV, drug resistance, and data gaps. Persistent monitoring and targeted health action are key to ending TB globally.

IV. Indigenization of Technology and Developing New Technology.

1. AMARAVATI QUANTUM VALLEY DECLARATION

Why in news?

- The Andhra Pradesh government recently approved the *Amaravati Quantum Valley Declaration (AQVD)* to turn Amaravati into India's first *Quantum Valley*.

What is Quantum Technology?

- Quantum technology uses the principles of **quantum physics** to build **powerful computers**, **secure communication**, and **precise sensors**.
- It is based on ideas like **superposition**, **entanglement**, and **quantum tunneling**.

Importance of Quantum Technology to India

- Cybersecurity & Communication:** Quantum communication offers **unbreakable encryption** of data from hackers through **Quantum Key Distribution (QKD)**. India launched **Quantum Communication Lab** and tested secure communication between Delhi and Prayagraj.
- Scientific and Technological Leadership:** Quantum computers can solve problems in **seconds** which may take classical computers **years**. Important in **drug discovery**, **weather prediction**, and **material science**.
- Economic Growth and Startups:** Quantum tech can boost sectors like **telecom**, **finance**, and **pharma**.
 - Example:** Indian startups like QNu Labs are working on quantum cybersecurity solutions.

What is the Amaravati Quantum Valley Declaration (AQVD)?

- A formal declaration to promote Amaravati as India's deep-tech capital in quantum innovation.
- Developed with support from tech firms like IBM, TCS, and L&T, academic institutions, and startups.
- Seeks to raise **\$1 billion by 2029**, with a **\$500 million milestone by 2027**.
- Focus areas include **quantum computing**, **chip development**, **quantum sensing**, and **communication**.

Significance of the Initiative

- Will boost Amaravati's global competitiveness in quantum research.
- Encourages public-private collaboration for innovation.
- Supports advanced research, skill development, and aligns with India's National Quantum Mission (NQM).
- Aims to strengthen India's technological self-reliance.

WHAT IS QUANTUM COMPUTING?

- Uses **quantum mechanics** to process data faster than classical computers.
- Useful in **cryptography**, **drug discovery**, **logistics**, and **national security**.

Core Concepts

- Qubit:** Unit of quantum data; can be both 0 and 1 at the same time (superposition).
- Superposition:** Qubits can exist in multiple states simultaneously.
- Entanglement:** Linked qubits share information instantly, even when far apart.
- Quantum Gates:** Operations to change qubit states, like logic gates in regular computers.

Recent Indian Initiatives

- National Quantum Mission (NQM):** ₹6,003 crore project to build quantum systems with 50–1000 qubits by 2031.

- **QpiAI-Indus:** India's first 25-qubit superconducting quantum computer (2025).
- **ISRO's Quantum Communications:** Developing ultra-secure data transmission via satellites.
- **Quantum Materials Research:** Exploring superconductors and advanced materials.

Challenges to Overcome

- **Fragile Qubits:** Prone to errors and need constant correction.
- **Scaling Up:** Hard to build large, stable systems.
- **High Cost:** Needs expensive cryogenic setups and precise shielding.

Conclusion

The AQVD is a big step towards placing India on the global quantum technology map. With strong partnerships and investment, Amaravati can lead India's deep-tech revolution.

E. SECURITY

I. Role of External State and Non-state Actors in creating challenges to Internal Security.

1. MAHARASHTRA'S 'URBAN MAOISM' BILL

Why in news?

- The **Maharashtra Legislative Assembly** has passed the **Maharashtra Special Public Security (MSPS) Bill, 2024**, also called the '**Urban Maoism**' Bill.

Background and Purpose

- The Bill was introduced as current laws like the **Unlawful Activities (Prevention) Act (UAPA)** are seen as **inadequate** in tackling **urban-based support** for Maoist violence.
- The law targets urban individuals and groups, including **NGOs, student groups, intellectuals, and media**, allegedly helping rural armed insurgents.
- Maharashtra joins other states such as **Telangana, Andhra Pradesh, Odisha, and Jharkhand**, which have similar public security laws.

Main Objectives of the Bill

- To **criminalize any form of support** for banned extremist organizations, especially those originating from urban networks.
- Focus on **urban Naxalism**, where support is not direct violence but through **logistical, ideological, financial, or symbolic** means.

Key Provisions of the Bill

- **Definition of Unlawful Activity:** Includes actions that threaten **public order**, promote **lawlessness**, or assist extremist groups through speeches, writings, funding, or legal aid.
- **Powers of the State:** The government can **declare any organization unlawful** and punish individuals for helping or being a part of it in any form.
- **Punishment and Penalties:** Offences are **cognizable and non-bailable**. Punishment ranges from **2 to 7 years in prison** and fines between **₹2 lakh and ₹5 lakh**.
- **Property Confiscation:** Property linked to unlawful activity can be seized **even before conviction**, after a **15-day notice**. Affected persons can **challenge it in the High Court** within **30 days**.

- **Legal Safeguards:** Only **senior police officers** are allowed to investigate such cases. An **Advisory Board** with **three legal experts** will review the status of banned organizations.

Importance of Maharashtra's Urban Maoism Bill

- **Fills Legal Gaps in Tackling Urban Extremism:** The Bill addresses **indirect and ideological support** to Maoists through **urban networks**, which existing laws like the UAPA don't adequately cover.
- **Strengthens Internal Security Framework:** It equips the State with **preventive powers**, including **property confiscation** and **cognizable offences**, enabling faster action against covert extremist collaborators.
- **Brings Focus on Urban-Rural Link in Insurgency:** Recognizes the **urban intellectual and logistical ecosystem** supporting rural Maoist violence, marking a shift in India's counter-insurgency approach.

Conclusion

The Urban Maoism Bill marks a stricter legal stance against indirect support for extremism. While it enhances state power, maintaining a balance with civil liberties and judicial oversight will be essential.

2. CHANGING DIMENSIONS OF WARFARE

Why in news?

- The May 2025 India-Pakistan conflict revealed defence gaps, stressing the need to modernize India's military for emerging tech-based threats.

How Warfare Has Transformed Since the Cold War

- **From Global to Regional Conflicts:** Large world wars have been replaced by shorter, focused regional battles.
 - *E.g.,* Gulf War 1991 used precision attacks rather than full-scale invasions.
- **Rise of Technology in Warfare:** AI, drones, and cyber tools are central to modern conflict.
 - *E.g.,* Ukraine's use of drones and cyber tools against Russia.
- **Multi-Domain Strategy:** Conflicts now occur across land, air, sea, cyber, and space together.
 - *E.g.,* Combined use of missile strikes and cyberattacks in Israel-Hamas clashes.

Why Traditional Military Strength Is No Longer Enough

- **Asymmetric Warfare Threats:** Conventional armies struggle against insurgents and non-state actors. *E.g.,* The Taliban's takeover despite U.S. military dominance.
- **Growth of Cyber & Info Wars:** Nations use disinformation and cyberattacks to destabilize opponents. *E.g.,* Cyberattacks in the Russia-Ukraine war disrupted communications and power.
- **Affordable Tech vs Expensive Arms:** Drones and AI systems are cost-effective yet powerful. *E.g.,* Bayraktar drones neutralized costly Russian tanks in Ukraine.

India's Key Challenges Against China

- **Poor Border Infrastructure:** China's better roads and bases enable faster troop movement than India. *E.g.,* India lagged behind in mobilizing troops during the 2020 Ladakh standoff.
- **Lower Defence Spending:** China's defence budget is over 3 times larger, allowing faster tech upgrades.
- **Two-Front War Risk:** Simultaneous threats from China and Pakistan stretch Indian forces. *E.g.,* China's military drills with Pakistan raise coordination concerns.

Challenges in Changing Dimensions of Warfare

- **Tech Gap with Rivals:** India lags behind China and others in adopting advanced military technologies like drones, AI, and cyber warfare tools.

- **Weak Border Infrastructure:** Poor roads and logistics near borders slow down troop movement, especially compared to China's rapid mobilization capabilities.
- **Budget Constraints:** Limited defence spending delays modernization and hinders development of advanced weapons and surveillance systems.

Way Forward:

- **Invest in Cyber and Space Warfare:** Expand capabilities through agencies like the Defence Cyber and Space Agencies.
- **Boost Domestic Defence Manufacturing:** Promote Make in India through DRDO, Tejas jets, and missile development.
- **Adopt Smart Technologies:** Use drones, AI, and robotics to improve surveillance and response. *E.g., Army drones at LAC help in real-time monitoring.*

Conclusion

India must shift from traditional defence planning to multi-domain, tech-driven strategies. Modernising its forces is essential to secure national interests in an evolving threat landscape.

II. Security Challenges and their Management in Border Areas

1. A BETTER TERROR FIGHT WITH J&K POLICE UNDER STATE REINS

Why in news?

- On June 16, 2025, J&K Lieutenant Governor Manoj Sinha stated that eliminating terrorism is the government's topmost priority, while addressing the passing-out parade at Sher-e-Kashmir Police Academy in Udhampur.

Importance of J&K Police in Counter-Terrorism

- **Local Knowledge:** They understand the geography and social fabric of the region, enabling accurate and swift action.
- **People's Trust:** Years of service have helped build relationships with residents who provide valuable human intelligence.
- **Operational Expertise:** Units like the Special Operations Group (SOG) have led numerous successful anti-terror raids.

Need for Democratic Involvement

- **Intelligence at Grassroots:** Elected leaders, especially in panchayats, serve as bridges between people and administration.
- **Reducing Alienation:** Their involvement addresses public concerns and helps deter youth from extremist ideologies.
- **Handling Local Issues:** Local disputes, if unresolved, can become breeding grounds for unrest and separatist sentiments.

Limitations of Central Forces in J&K

- **Lack of Ground-Level Intelligence:** Central paramilitary forces often lack familiarity with local language, terrain, and social dynamics.
- **Community Disconnect:** As outsiders, they face difficulty building trust with villagers, which affects cooperation during operations.

- **Dependence on Local Police:** Central teams rely heavily on J&K Police for leads, interpretation, and procedural support.

Government Initiatives

- **Article 370 Abrogation:** Removed J&K's special status to integrate it legally with the Indian Union.
- **Boosting Security:** Enhanced troop deployment, surveillance systems, and border fencing.
- **Development Focus:** Projects like the PMDP and village outreach campaigns aim to improve education, health, and jobs.

Way Forward

- **Empower Local Governance:** Provide real power and funds to panchayats for effective grassroots engagement.
- **Police Modernization:** Equip J&K Police with modern technology and training for better coordination with central forces.
- **Restore Elections:** Timely Assembly elections are essential to revive public participation and close governance gaps.

Conclusion

To achieve lasting peace in J&K, it is vital to strengthen the local police and restore democratic governance. Counter-terrorism becomes more effective when communities, elected representatives, and local law enforcement work in partnership.



GENERAL STUDIES – 4

ETHICS, INTEGRITY AND APTITUDE

I. Ethics and Human Interface

1. ETHICAL DIMENSIONS OF SOCIAL MEDIA VALIDATION CULTURE

- In the digital age, social media is central to self-expression and identity. However, overdependence on likes and shares has created a validation-seeking culture. This raises ethical concerns about mental health, self-worth, and the responsible use of technology.

Ethical Issues Related to Social Media Validation

- **Decline in Self-Esteem:** Relying on online validation for self-worth can cause emotional instability when expected responses aren't met.
- **Mental Health Struggles in Youth:** Constant need for approval online increases anxiety and depression, especially among young users.
- **Addictive Behaviour Patterns:** Social media exploits brain chemistry, leading to compulsive usage similar to addiction.
- **Distorted Reality Through Algorithms:** Algorithms promote unrealistic content, pushing users to present idealized, inauthentic versions of themselves.
- **Pressure to Fabricate Narratives:** Users may fake stories or achievements for attention, crossing ethical boundaries.

- **Identity as a Brand:** Turning identity into a product for fame or profit blurs the line between real and virtual self.

Ethical Perspectives

- **Utilitarianism:** When digital approval causes more harm than happiness, its **ethical value is questionable**.
- **Kantian Ethics:** Faking personas for attention violates the principle of **truthfulness and respect for others' autonomy**.
- **Existentialist View:** True freedom involves **creating meaning beyond public opinion**, which validation culture undermines.
- **Buddhist Thought:** Excessive attachment to praise is a source of **mental suffering and imbalance**.

Regulatory Mechanisms in India

- **Article 21 – Right to Privacy:** Oversharing for likes often **exposes users to data risks**, violating privacy.
- **IT Rules, 2021:** These offer a structure for content regulation, but **do not directly address psychological manipulation**.
- **Influencer Guidelines (ASCI, SEBI):** There are rules mandating disclosure of paid content, but **enforcement is limited**. Unregistered “finfluencers” are now barred from **unauthorised financial advice**.

Global Examples

- Countries like the **UK** have stronger laws, such as the **Online Safety Bill**, to protect vulnerable users online.

Way Forward

- **Ethical Digital Literacy:** Integrate values-based training on social media use in education systems.
- **Algorithmic Responsibility:** Encourage ethical tech design that prioritises user well-being over profit.
- **Promotion of Emotional Intelligence:** Civil society and institutions must nurture resilience, self-awareness, and authentic expression.
- **Stronger Regulation:** Develop laws to protect users from psychological manipulation and addictive content design.

Conclusion

The culture of digital validation reflects a deeper crisis of identity and belonging in modern life. While social media can empower expression, its misuse can undermine mental and ethical health. A balance is needed between digital visibility and real-world well-being. Promoting **authentic use, mental awareness, and strong safeguards** is the way forward.

2. LEGAL AND ETHICAL CHALLENGES OF GENERATIVE AI AND COPYRIGHT

- Generative AI marks a major breakthrough by enabling machines to create content like text, images, and art. However, it raises serious legal and ethical issues, especially around intellectual property, authorship, and balancing innovation with the rightful protection of original creators' works.

Legal Ambiguities Around Copyright

How Generative AI Works

- Generative AI models learn from vast datasets containing books, articles, images, and music—some of which are copyrighted.
- The AI then creates new content, which may resemble or be inspired by existing works, creating a **moral and legal dilemma**.

Legal Dilemmas

- **Fair Use vs Infringement:** If AI replicates existing content, does it breach copyright, or is it a fair transformation?
- **Human Authorship Principle:** Copyright law is based on the presence of a human author—leaving AI-generated content in a grey area.

Key International Legal Cases

- **Anthropic vs Bartz (USA, 2025):** The court viewed AI learning as transformative, akin to **human cognitive learning**. However, it cautioned against using pirated data, raising ethical concerns around **digital integrity and consent**.
- **Kadrey vs Meta:** The court upheld fair use but acknowledged the need for **equitable compensation** for creators. This resonates with **John Rawls' theory of justice**, ensuring fairness for all stakeholders.

India's Legal Landscape

- **Copyright Act, 1957:** Governs economic and moral rights. However, it lacks provisions specific to AI-generated content.
- **ANI vs OpenAI:** A pending case that may set a judicial precedent on AI authorship in India.
- The absence of clear guidelines creates uncertainty about **legal responsibility, moral ownership, and ethical innovation**.

Ethical Concerns Beyond the Law

- **Justice to Creators: Moral rights of authors**, including recognition and remuneration, must be protected. Deontological ethics (Kant) argue that creators must not be treated merely as means to AI development.
- **Transparency and Consent:** Data used to train AI should be ethically sourced with **informed consent**, respecting **digital dignity** of content creators.
- **Responsibility and Accountability:** Who is accountable when AI content violates copyright or spreads misinformation? Ethical governance demands assigning **clear responsibility**, as per the principle of **stewardship**.

Ethical Frameworks and Thinkers

Ethical View	Interpretation
Kantian Ethics	Using someone's work without consent violates their autonomy and dignity.
Utilitarianism	AI should maximize innovation, but not at the cost of harming creators.
Rawlsian Justice	The benefits of AI must be fairly distributed, ensuring justice for content owners.
Virtue Ethics	Developers and companies must act with honesty, fairness, and humility .

Way Forward

- **Develop AI-Specific IP Law:** India needs legislation that defines AI authorship, compensation norms, and data sourcing ethics.
- **Transparent Training Practices:** Mandate disclosure of training datasets and seek consent for using copyrighted material.
- **Ethics-by-Design Approach:** Embed ethical standards in AI model design—ensuring responsible innovation.
- **Global Cooperation:** Form international frameworks for AI-IPR issues, akin to **WTO TRIPS**, to handle cross-border legal concerns.

Conclusion

Generative AI brings immense potential but also ethical complexities. **Balancing innovation with moral responsibility** is vital to ensure that creators are not exploited in the name of progress. As Aristotle said, "Virtue lies in the golden mean"—the future of AI must lie in a just equilibrium between technological advancement and ethical respect for human creativity.

II. Ethics in Public Administration

1. ETHICAL CHALLENGES IN CIVIL SERVANTS' PROTEST: A CASE STUDY FROM ODISHA

Why in News?

- A violent attack on an Additional Commissioner in Odisha led to a mass strike by civil servants, halting public services. This incident has sparked debate about the ethical responsibilities of civil servants during crises. It highlights the tension between their right to safety and duty to serve citizens. The situation raises a key question, can officials ethically withdraw services to seek justice?

Why Are Civil Servants Being Targeted?

Erosion of Bureaucratic Neutrality

- Increasing **political interference** has forced some civil servants to align with ruling parties, undermining their **impartial role**.
- Officers who resist unethical orders are often branded as "anti-establishment" and become **targets of political retaliation**.

Impunity in Political Violence

- Attacks on officers during **elections and agitations** often go unpunished due to **weak law enforcement and political shielding**.
- The absence of swift convictions has **normalized violence** against public servants.

Lack of Legal Protection for State Officers

- Unlike IAS/IPS officers, **state cadre officers lack constitutional safeguards** (Articles 311/312).
- This makes them vulnerable to **arbitrary transfers, suspensions, or threats** without fair procedure.

Electoral Blame Game

- After electoral losses, **defeated candidates often accuse officers** of bias, turning them into **scapegoats** for political failure.

Structural Flaws in Bureaucratic Accountability

- Civil servants function under elected representatives who influence their **transfers, promotions, and postings**.
- There is **no independent mechanism** to protect them from undue political pressure or violence.

Ethical Dilemmas in Bureaucratic Strikes

- Right to Safety vs Duty to Public Welfare:** Officers face a dilemma between ensuring their **own safety and dignity** and **continuing public service**, especially in areas like health and disaster relief.
- Solidarity vs Institutional Stability:** Striking in solidarity may seem just, but it risks **damaging public trust** in governance systems.
- Service Rules vs Moral Responsibility:** Most service conduct rules **prohibit strikes**, yet moral arguments can be made when the **state fails to protect its employees**.
- Demanding Accountability vs Pursuing Reform:** A protest may secure quick arrests, but the ethical question remains whether it promotes **long-term structural reform** or merely addresses **immediate outrage**.
- Neutrality vs Resistance to Criminalization:** Officers must balance **non-partisan conduct** with their duty to **resist criminal elements** in the political system, which may include taking a public stand.

Ethical Frameworks to Assess the Situation

- **Weberian Model of Bureaucracy:** Emphasizes **strict adherence to rules and hierarchy**. According to this view, civil servants should **maintain administrative continuity**, even under threat.
- **Social Contract Theory:** The state must **ensure protection** to those who serve it. If this assurance breaks down, officers may be ethically justified in **withdrawing services temporarily**.
- **Utilitarian Ethics (Public Good):** A strike may be acceptable if the **temporary suffering** leads to **greater long-term protection** for civil servants and improved public service.
- **Kantian Duty Ethics:** Public servants should **never use citizens as a means** to achieve personal or collective ends. Denying essential services violates **citizens' intrinsic rights**.
- **Virtue Ethics of Guardianship:** Officers must show **courage, restraint, and integrity**, choosing methods that **defend their dignity without abandoning public duties**.
- **Indian Ethical Thought (Niti):** Niti stresses **moral leadership** and **ethical governance**. Civil servants are expected to perform with **fairness, justice, and balance**, even in adversity.

Ensuring Accountability Without Disrupting Services

- **Tiered Service Guarantees:** Define **minimum service obligations** during protests, ensuring that **essential sectors** like hospitals, food supply, and disaster relief remain functional.
- **Independent Crisis Panels:** Create **fast-track judicial bodies** to investigate such assaults within 72 hours and issue **interim protection orders**, ensuring **swift action and fairness**.
- **Political Party Accountability Laws:** Enact legislation that **holds political parties liable** for crimes committed by their workers, including **fines and electoral penalties**.
- **Digital Whistleblower Portals with Court Oversight:** Develop secure platforms for officers to report threats, triggering **automatic judicial review** if authorities fail to act within 24 hours.
- **Structured Protest Escalation:** Require unions to follow a **step-by-step protest mechanism**, starting with formal complaints, moving to symbolic protests, and only then to limited-service withdrawal.

Conclusion

The Odisha incident highlights the urgent need to protect civil servants without compromising public welfare. A balance must be struck between lawful protest and uninterrupted service delivery. Systemic reforms, legal accountability, and secure grievance mechanisms are key. Strengthening trust between state, citizens, and bureaucracy is the path forward.