



**R.C. REDDY
IAS STUDY CIRCLE**

40+ Years Institute's History

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CURRENT AFFAIRS

MAINS **UPSC CSE** **2026**
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Monthly Magazine



**Most Important
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**Topics Based on
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Questions**



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ASHOKNAGAR

Opp. Sub-Registrar Office,
Gandhinagar Road, Ashoknagar
Cross Road, Hyderabad-500020

HIMAYATHNAGAR

Opp. Telangana Tourism Development
Corporation, Near Telugu Academy,
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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. TRADEMARKING JAGANNATH HERITAGE

Why in News?

- The **Shree Jagannath Temple Administration (SJTA)** has obtained **Trademark** registration for the **wordmarks** "**Ananda Bazaar**" and "**Patitapabana**", along with the **Nilachakra logo**, under the **Trade Marks Act, 1999**.

About Shree Jagannath Temple

- The **Shree Jagannath Temple**, located in **Puri, Odisha**, is one of the **Char Dham** pilgrimage sites and a major centre of **Vaishnavism**.
- Dedicated to **Lord Jagannath**, regarded as a form of **Lord Vishnu/Krishna**, the temple represents the **religious, cultural, and architectural heritage** of India.
- It is also revered among the **108 Divya Desams (Abhimana Kshetrams)** in the **Sri Vaishnava tradition**.

Historical Background

- According to tradition, **King Indradyumna** established the earliest shrine of Lord Jagannath.
- The present temple was built in the **12th century CE** by **King Anantavarman Chodaganga Deva** of the **Eastern Ganga Dynasty**.
- The temple survived several invasions, including the attack by **Kalapahad (1568 CE)**, during which the sacred **Brahma Padartha** was preserved.
- After Independence, the **Shri Jagannath Temple Act, 1955** established the **Shree Jagannath Temple Administration (SJTA)** for its management.

Key Features

- Built in the **Kalinga style** of architecture with a towering **Shikhara** of about **65 metres**.
- The sanctum houses the **Holy Trinity-Lord Jagannath, Lord Balabhadra, Goddess Subhadra**-along with the **Sudarshana Chakra**.
- The idols are carved from **sacred Neem wood (Daru)**, making them unique among major Hindu temples.
- The **Nilachakra**, made of **Ashta Dhatu (eight-metal alloy)**, is installed at the top of the temple and is regarded as highly sacred.

Religious and Cultural Significance

- The **Nabakalebara** ritual involves replacing the wooden idols every **12-19 years**, symbolizing **renewal and continuity of life**.
- The world-famous **Ratha Yatra** sees the deities carried on giant wooden chariots to the **Gundicha Temple**, attracting millions of devotees.
- Temple traditions reflect the **integration of tribal (Sabar) customs with mainstream Hindu practices**. The **Daitapati servitors** trace their lineage to the Sabar community.
- Ananda Bazaar**, located inside the temple complex, is renowned for distributing **Mahaprasad**, prepared in one of the **world's largest temple kitchens**.

Conclusion

The **Shree Jagannath Temple** stands as a timeless symbol of **India's spiritual unity, architectural excellence, and living cultural heritage**, now further protected through legal recognition of its sacred identity.

B. INDIAN SOCIETY**I. Salient features of Indian Society, Diversity of India****1. UNFPA DEMOGRAPHIC FUTURES SURVEY 2026 AND GLOBAL YOUTH ASPIRATIONS****Why in News?**

- The **United Nations Population Fund (UNFPA)** released the **Demographic Futures Survey 2026**, one of the largest global surveys examining the aspirations of young adults regarding **marriage, parenthood, and family formation**.

UNFPA Demographic Futures Survey 2026

- The **Demographic Futures Survey 2026** is a global study conducted by the **United Nations Population Fund (UNFPA)** to understand how **economic, social, and institutional factors** influence the family choices of young adults aged **18-39 years**.
- The survey covered **over 1.08 lakh respondents across 73 countries and territories**, making it one of the most comprehensive studies on changing demographic trends.
- It provides valuable insights for countries facing **declining fertility, delayed marriages, and ageing populations**, including **India**.

Major Findings**1. Marriage and Family Aspirations**

- Around **70%** of young adults still prefer **marriage** as their ideal form of partnership.
- However, many are **unable to marry** due to financial and social constraints.

2. Economic Factors Drive Family Decisions

- Financial security (81%), stable employment (87%), and affordable housing** are the biggest prerequisites for marriage and parenthood.
- Rising living costs are delaying both **marriage** and **childbearing**.

3. Parenthood Remains a Priority

- Nearly **80%** said that the **joy of raising children** is their main motivation for becoming parents.
- Government incentives alone have limited influence on fertility decisions.

4. Gap Between Desired and Actual Fertility

- Across countries, the **actual number of children is lower than the desired family size**.
- India:** Women desire around **2.1 children**, while older women currently have an average of about **1 child**, reflecting a significant aspiration-reality gap.

5. Gender and Social Challenges

- Women continue to bear a **greater share of unpaid care work**, affecting career and family choices.
- Many respondents believe governments and employers provide **insufficient support** for work-life balance.

Challenges

- **High cost of living** and expensive housing.
- **Job insecurity** among young adults.
- Growing concerns over **conflict, climate change, inequality, and economic uncertainty**.
- Limited access to **childcare, parental leave, and reproductive healthcare**.
- Persistent **gender stereotypes** regarding caregiving responsibilities.

UNFPA Recommendations

- Promote **secure employment** and **affordable housing** for young people.
- Expand **quality childcare services** and **gender-neutral parental leave**.
- Encourage **equal sharing of household responsibilities**.
- Adopt a **rights-based population policy**, focusing on **individual choice and reproductive rights** rather than population targets.

About UNFPA

- **UNFPA (United Nations Population Fund)** is the UN agency for sexual and reproductive health.
- **Established: 1969.**
- **Headquarters: New York, USA.**
- It works to ensure **safe motherhood, family planning, gender equality, and population data** for informed policymaking.
- India has partnered with **UNFPA** for several programmes on **maternal health, adolescent development, and population policy**.

Conclusion

The **UNFPA Demographic Futures Survey 2026** shows that enabling **economic security, gender equality, and supportive public policies** is essential for helping young people achieve their family aspirations while ensuring sustainable demographic development.

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

1. WOMEN'S INCOMES AND HEALTHCARE

Why in news?

- Recent research (*oxford open economics*, 2026) shows **higher incomes earned by women improve household spending on nutrition, preventive healthcare, and healthy lifestyles**, leading to better long-term health outcomes.

India's Twin Transformations

1. Rising Women's Workforce Participation

- **Female Labour Force Participation Rate (FLFPR)** has increased in recent years due to:
 - **Greater formalisation** of employment.
 - Expansion of **digital payments**.
 - Government initiatives such as **Skill India, MUDRA, Stand-Up India, DAY-NRLM, and women-led Self-Help Groups (SHGs)**.
- Higher earnings strengthen **women's decision-making power** within households.

2. Growing Burden of NCDs

- **Non-Communicable Diseases (NCDs)** now account for **over 65% of deaths in India**.
- Rising healthcare costs place significant pressure on **households and public health systems**.
- Prevention has become as important as treatment.



How Women's Income Improves Healthcare

- Increased income enables women to spend more on:
 - **Nutritious food.**
 - **Regular health check-ups.**
 - **Physical fitness and healthy lifestyles.**
 - **Child healthcare and education.**
- Women generally prioritise **long-term family welfare**, resulting in healthier household decisions.

Evidence from the EPF Reform (2018)

- The **Employees' Provident Fund (EPF)** contribution for newly employed women was temporarily reduced from **12% to 8%**, increasing their **take-home salary**.
- Studies found that beneficiary households:
 - Reduced medical expenditure by nearly **12%**.
 - Increased spending on **nutrition and preventive health**.
 - Required fewer doctor visits and medicines due to better overall health.
- This demonstrates that **higher disposable income can reduce future healthcare costs** through prevention.

Policy Implications

- **Women's employment** should be viewed as both an **economic** and **public health** strategy.
- Promote:
 - **Quality employment opportunities** for women.
 - **Equal wages** and financial inclusion.
 - Affordable **preventive healthcare** and nutrition programmes.
 - Gender-sensitive workplace policies, including **maternity benefits and childcare support**.

- Strengthen schemes such as **Ayushman Bharat, Health and Wellness Centres, POSHAN Abhiyaan, Mission Shakti**, and **National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)**.

Challenges

- Low female labour force participation in several regions.
- Gender wage gap** and informal employment.
- Limited access to preventive healthcare in rural areas.
- Social norms restricting women's financial and household decision-making.
- Rising prices of nutritious food and healthcare services.

Conclusion

Empowering women economically not only strengthens household incomes but also promotes preventive healthcare, making it a key pillar for achieving a healthier and more inclusive India.

2. GLOBAL FOOD SECURITY AND NUTRITION CHALLENGES

Why in News?

- The **State of Food Security and Nutrition in the World (SOFI) 2026** report highlights a **decline in hunger and undernourishment in India**, while pointing out that a large population still cannot afford a **healthy and nutritious diet**.

Key Findings of SOFI 2026

Global Scenario

- Around **7.8%** of the global population experienced **hunger in 2025**, showing a gradual decline from previous years.
- Despite progress, food insecurity remains a major challenge due to **conflicts, climate change, and economic shocks**.

India's Performance

- Undernourishment** declined significantly from **21.1% (2004-06)** to **9.8% (2023-25)**, indicating improvement in food availability.
- However, nearly **35.5% of Indians (about 520 million people)** could not afford a **healthy diet** in 2025.
- The **cost of a healthy diet** increased to around **PPP \$4.11 per person per day**, making nutritious food less accessible.
- Child stunting** has declined, but **wasting, anaemia among women, and adult obesity** remain serious concerns.

Major Challenges

- Rising prices of **fruits, vegetables, pulses, milk, eggs, and protein-rich foods**.
- Dependence on **cereal-based diets** with inadequate proteins and micronutrients.
- High prevalence of **anaemia**, especially among women and adolescents.
- Regional disparities affecting **tribal, rural, and urban poor** populations.
- Increasing consumption of **ultra-processed and unhealthy foods**, leading to obesity and lifestyle diseases.

Government Initiatives

- National Food Security Act (NFSA), 2013** - Provides subsidised foodgrains to eligible households through the **Targeted Public Distribution System (TPDS)**.

- **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** - Ensures free foodgrain support to beneficiaries under NFSA.
- **PM POSHAN Scheme (formerly Mid-Day Meal Scheme)** - Improves nutrition among school children.
- **Saksham Anganwadi and POSHAN 2.0** - Focuses on maternal and child nutrition.
- **Poshan Tracker** - Digital platform for monitoring child growth and nutritional status.
- **Food Fortification** - Distribution of fortified **rice, wheat flour, edible oil, and salt** through government schemes.
- Promotion of **Shree Anna (Millets)** under the **National Food Security Mission (NFSM)** to improve dietary diversity.

About SOFI

SOFI (State of Food Security and Nutrition in the World) is the **official global report** monitoring progress towards **SDG-2 (Zero Hunger)**.

It is **jointly published** by:

- Food and Agriculture Organization (FAO)
- International Fund for Agricultural Development (IFAD)
- United Nations Children's Fund (UNICEF)
- World Food Programme (WFP)
- World Health Organization (WHO)

Way Forward

- Promote production and consumption of **nutritious foods** such as **millets, pulses, fruits, vegetables, dairy, and eggs**.
- Strengthen **maternal healthcare, iron-folic acid supplementation**, and nutrition awareness.
- Reduce **post-harvest losses** through better storage and supply chains.
- Encourage **healthy eating habits** and regulate excessive consumption of **ultra-processed foods**.
- Shift policy focus from **calorie security** to **balanced nutrition and food quality**.

Conclusion

The SOFI 2026 report highlights that achieving true food security requires not only adequate food availability but also universal access to affordable, safe, and nutritious diets for all.

3. INDIA'S DEFERRED FUTURE AND THE DEMOGRAPHIC WINDOW

Why in News?

- A recent analysis has warned that **India's demographic dividend** is at risk due to **delayed public recruitment, inadequate formal employment, skill gaps, and incomplete welfare delivery**.

India's Deferred Future and Demographic Window

- India is currently passing through a **demographic window**, where nearly **65% of its population belongs to the working-age group (15-64 years)**.
- This favourable age structure can accelerate **economic growth, productivity, and innovation** if supported by **quality education, employment, skill development, and effective governance**.
- However, delays in recruitment, unemployment, and weak institutional capacity threaten to convert this **demographic dividend into a demographic burden**.

What is the Demographic Dividend?

- A **demographic dividend** refers to the **economic growth potential** arising when the **working-age population exceeds the dependent population** (children and elderly).
- According to the **United Nations**, India's demographic advantage is expected to continue until **around 2045**, after which the ageing population will gradually increase.
- To fully utilize this opportunity, countries must invest in **education, healthcare, skill development, job creation, and women's workforce participation**.

Key Challenges

1. Delayed Public Recruitment

- Recruitment examinations and appointments are often delayed due to **administrative bottlenecks, litigation, and procedural inefficiencies**.
- Many aspirants spend **3-4 years** preparing, reducing their productive participation in the economy.

2. Skill Deficit

- Only a **small proportion of India's workforce has received formal vocational training**, limiting employability.
- There is a significant mismatch between **industry requirements and available skills**.

3. High Youth Unemployment

- Educated youth continue to face **limited formal employment opportunities**.
- **Urban women** experience particularly high unemployment, resulting in low **Female Labour Force Participation Rate (FLFPR)**.

4. Informal Employment

- A large share of workers remains in the **informal sector**, lacking **social security, stable wages, and career progression**.
- The growing use of **contractual employment** weakens long-term job security.

5. Delays in Welfare Delivery

- Beneficiaries of schemes such as **PMAY** and **PM-KISAN** often face delays in verification and benefit transfer, affecting economic security.

Government Initiatives

- **Skill India Mission** and **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)** for skill development.
- **National Apprenticeship Promotion Scheme (NAPS)** to promote industry-based training.
- **e-Shram Portal** for creating a national database of unorganised workers.
- **Make in India, Startup India, Digital India, and Production Linked Incentive (PLI) Scheme** to generate employment.
- **PM Vishwakarma Scheme** to support traditional artisans and skilled workers.

Way Forward

- Ensure **time-bound recruitment** by filling government vacancies within **one year**.
- Expand **industry-linked vocational education** and apprenticeship programmes.
- Promote **labour-intensive manufacturing** and **MSMEs** to create quality jobs.
- Increase **women's workforce participation** through childcare facilities, flexible work arrangements, and safe workplaces.
- Improve the efficiency of **welfare delivery** using digital governance and **Direct Benefit Transfer (DBT)**.

- Focus on **project completion**, rather than announcements, to enhance public trust and economic outcomes.

Conclusion

India can convert its demographic window into **sustainable economic growth only by creating quality jobs, strengthening skills, ensuring timely recruitment, and improving governance** before this opportunity closes.

C. GEOGRAPHY

I. Salient features of World's Physical Geography

1. Flood Management in India

Why in News?

- Assam recently experienced one of its **worst floods in over six decades**, affecting more than **8 lakh people** and causing significant loss of lives and property.

Flood Management in India

- **Floods** are among India's most frequent and destructive natural disasters, causing extensive damage to **lives, agriculture, infrastructure, and the economy**.
- Around **12% of India's geographical area (about 40 million hectares)** is **flood-prone**, making effective flood management a national priority.
- With **climate change**, rapid **urbanisation**, and **ecological degradation**, flood risks are becoming more frequent and severe.

Why is Assam Highly Flood-Prone?

- Located in the **Brahmaputra and Barak river basins**, receiving water from more than **50 tributaries**.
- The **Brahmaputra River** carries a **very high sediment load**, causing riverbeds to rise and increasing flood frequency.
- **Heavy monsoon rainfall** and runoff from **Arunachal Pradesh and Meghalaya** trigger flash floods.
- **Riverbank erosion**, channel shifting, and ageing embankments worsen flood impacts.
- Nearly **40% of Assam's geographical area** is vulnerable to floods.

Major Causes of Floods in India

Natural Causes

- **Intense monsoon rainfall** during June-September.
- **Silt deposition** reducing river carrying capacity.
- **Glacial Lake Outburst Floods (GLOFs)** in Himalayan regions.
- **Cyclones and storm surges** affecting coastal states.
- Climate change causing **extreme rainfall events**.

Human-Induced Causes

- **Deforestation** and degradation of catchment areas.
- **Encroachment of floodplains, wetlands, and lakes**.
- Poor **reservoir management** and sudden water releases.
- Excessive **sand mining** altering river channels.
- Rapid **urbanisation**, concretisation, and inadequate drainage leading to urban floods.

Government Measures

- **Disaster Management Act, 2005** - Institutional framework through NDMA, SDMA, DDMAs, NDRF, and SDRFs.
- **Flood Management and Border Areas Programme (FMBAP)** - Financial support for flood control and anti-erosion works.
- **Central Water Commission (CWC)** - Flood forecasting and real-time monitoring.
- **Dam Safety Act, 2021** - Improves dam safety and reservoir management.
- **National Water Policy, 2012** - Promotes **Integrated River Basin Management (IRBM)**.
- **India Meteorological Department (IMD)** - Provides weather forecasts and impact-based early warnings.

Key Challenges

- Weak **Centre-State coordination** due to constitutional division of powers over water.
- Delays in flood-control projects and poor maintenance of embankments.
- Limited **real-time hydrological data** and forecasting infrastructure.
- Inadequate cooperation with neighbouring countries on transboundary rivers.
- Poor enforcement of **floodplain zoning** and increasing encroachments.
- Low preparedness and capacity at the local level.

Way Forward

- Shift from **flood control** to **flood resilience** through **Integrated River Basin Management (IRBM)**.
- Implement **Flood Plain Zoning** to regulate construction in vulnerable areas.
- Modernise flood forecasting using **AI, GIS, satellite imagery, IoT sensors, and Decision Support Systems (DSS)**.
- Restore **wetlands, floodplains, forests, and urban water bodies** using **nature-based solutions** such as the **"Room for the River"** approach.
- Improve reservoir operations by strictly following **Rule Curves** and strengthening interstate coordination.
- Build **climate-resilient infrastructure** and promote community-based disaster preparedness.

Conclusion

India can minimise flood losses only through an integrated approach combining scientific river management, climate-resilient infrastructure, ecosystem restoration, and effective Centre-State coordination.

2. BUILDING WATER SECURITY IN A RAPIDLY DRYING INDIA

Why in news?

- India faces a worsening **water crisis** with an monsoon rainfall deficit needs **long-term structural reforms**.

India's Water Crisis

- India holds **4% of global freshwater** but supports **18% of the world's population**.
- **11 of 15 major river basins** face long-term stress.
- Per capita water availability has dropped below **1,000 m³** in Krishna and Cauvery basins.
- Delhi meets only **70% of its daily demand** of 1,250 MGD.
- Globally, **75% of people live in water-insecure countries** (UNU).
- Only **20% of irrigated farmland** in India uses micro-irrigation.
- Wastewater recycling could create a **₹3 lakh crore market** and **1 lakh green jobs by 2047** (CEEW).

Need for Strong Water Security

- **Urban resilience:** Cities like Bengaluru and Mussoorie face seasonal shortages.
- **Agricultural efficiency:** Flood irrigation wastes water through evaporation and seepage.
- **Aquifer protection:** Over-extraction has lowered groundwater beyond safe recharge levels.
- **Free-rider problem:** Lack of basin-level metrics encourages unchecked groundwater use.
- **Financial sustainability:** Municipalities struggle with utility costs and distribution losses.

Government Initiatives

- **Jal Jeevan Mission:** Expands rural tap water infrastructure.
- **PMKSY:** Promotes irrigation access and micro-irrigation adoption.
- **Urban Challenge Fund:** Provides targeted financing (e.g., ₹1,501 crore for Visakhapatnam).
- **Smart Metering Drive:** 4.93 crore smart electricity meters rolled out, offering a model for water metering.

Structural Challenges

- **Pipeline losses:** Poor maintenance leads to high conveyance losses.
- **Wastewater treatment gaps:** Most municipal waste discharged untreated.
- **Data shortage:** Cities lack granular climate risk mapping.
- **Smallholder exclusion:** Subsidy design excludes farmers with plots below 0.4 hectares.
- **Crop distortions:** Procurement policies encourage water-intensive crops like sugarcane and paddy.

Way Forward

- **AI-based monitoring:** Smart meters and leakage detection networks.
- **Circular water economy:** Mandate reuse of treated wastewater for non-potable purposes.
- **Inclusive irrigation subsidies:** Redesign schemes for marginal farmers (0.4 ha base unit).
- **Localized climate mapping:** Use UCF grants to protect schools, hospitals, and grids in flood-prone zones.
- **Crop diversification:** Promote pulses and oilseeds with faster insurance claims under PMFBY.

Conclusion:

India's water future depends not just on expanding supply but on **smart management, reuse, and equitable allocation**, making water security the cornerstone of sustainable development.

II. Key Natural Resources

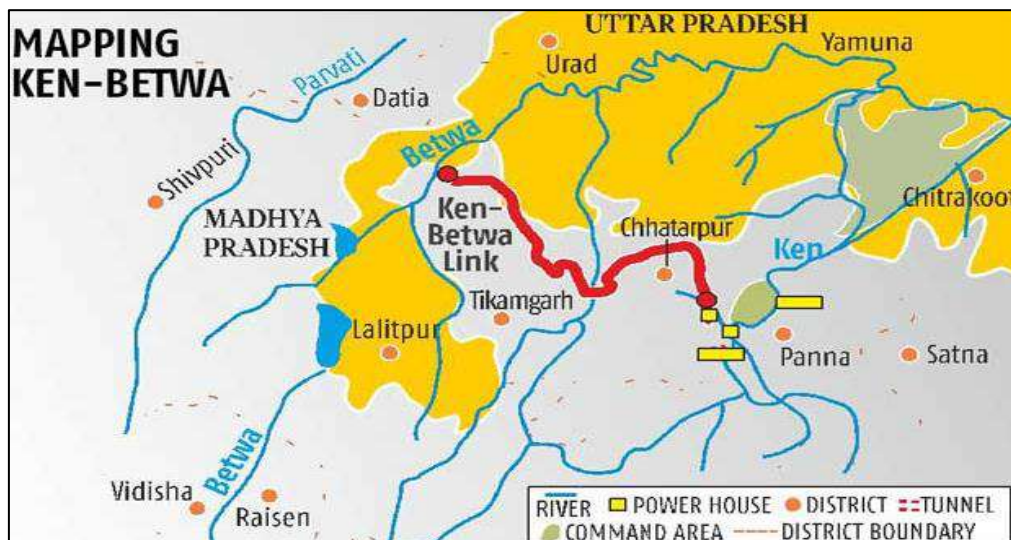
1. KEN-BETWA RIVER INTERLINKING PROJECT

Why in News?

- The **Ken-Betwa River Interlinking Project** has come under renewed focus as **tribal communities in Madhya Pradesh** intensified protests over **displacement, rehabilitation, forest rights, and environmental impacts**.

Ken-Betwa River Interlinking Project (KBLP)

- The **Ken-Betwa River Interlinking Project (KBLP)** is **India's first river interlinking project**.
- It aims to **transfer surplus water from the Ken River to the Betwa River** to address chronic water scarcity in the **Bundelkhand region of Madhya Pradesh and Uttar Pradesh**.



Key Features of the Project

- Implemented by the **National Water Development Agency (NWDA)** under the **Ministry of Jal Shakti** through the **Ken-Betwa Link Project Authority (KBLPA)**.
- Estimated project cost is **over ₹44,000 crore** (subject to revision during implementation).
- Major Components:**
 - Daudhan Dam** on the Ken River.
 - 221 km Link Canal** connecting Ken and Betwa rivers.
 - Tunnels, barrages, powerhouses, and irrigation infrastructure.
- Phase I:** Daudhan Dam, canal, tunnels, and hydropower facilities.
- Phase II:** Lower Orr Dam, Kotha Barrage, and Bina Complex.

Objectives and Expected Benefits

- Provide irrigation to about **10.6 lakh hectares** of agricultural land.
- Supply **drinking water** to nearly **62 lakh people** in Bundelkhand.
- Generate around **103 MW hydropower** and **27 MW solar power**.
- Reduce the impact of **recurring droughts** and improve **water security**.
- Boost **agricultural productivity, employment, and regional economic development**.
- Promote **efficient utilisation of river water** through inter-basin transfer.

Why are Tribals Protesting?

1. Displacement and Rehabilitation

- Several villages will be submerged due to the **Daudhan Dam**, displacing many **Scheduled Tribe (ST)** families.
- Communities fear losing their **ancestral land, culture, and traditional livelihoods**.

2. Forest Rights and Livelihoods

- Tribal households depend on forests for **minor forest produce, farming, fishing, and grazing**.
- They allege inadequate implementation of the **Forest Rights Act, 2006**.

3. Environmental Concerns

- A portion of the **Panna Tiger Reserve** is likely to be submerged, affecting **forests, wildlife habitats, and biodiversity**.
- Concerns also exist over ecological changes in the **Ken River ecosystem**.

4. Consultation Issues

- Protesters claim that **Gram Sabhas** were not meaningfully consulted as required under the **PESA Act, 1996** and **Forest Rights Act, 2006**.

Challenges

- Balancing **developmental needs** with **environmental sustainability**.
- Ensuring **fair compensation** and **land-for-land rehabilitation**.
- Protecting biodiversity while meeting irrigation demands.
- Maintaining transparency and public participation during implementation.

Way Forward

- Ensure **time-bound and fair rehabilitation** before displacement.
- Strictly implement the **Forest Rights Act, 2006** and **PESA Act, 1996**.
- Strengthen **Gram Sabha participation** in decision-making.
- Minimise ecological damage through **scientific planning, afforestation, and wildlife conservation**.
- Complement river linking with **rainwater harvesting, watershed development, groundwater recharge, and micro-irrigation** for sustainable water management.

Conclusion

The success of the Ken-Betwa Project depends on achieving water security while ensuring environmental protection and safeguarding the rights and livelihoods of tribal communities.

2. GLOBAL MINING AND METALS WATER DATASET 2026

Why in news?

- The **International Council on Mining and Metals (ICMM)** released the **Global Mining and Metals Water Dataset 2026**, the first cross-commodity analysis of mining's exposure to water risks.

About the Report

- Covers **12,000 mining and metals facilities** across **148 countries**.
- Uses global water risk datasets to assess exposure to **stress, drought, floods, and variability**.
- Focuses on how water scarcity impacts **critical energy transition minerals** like copper, lithium, and manganese.
- The report shows that nearly **two-thirds of global mining facilities face high physical water risk**, threatening both industry and communities.

Key Findings

- Baseline Water Stress:** 38% of facilities in high or extremely high stress zones; 27% face depletion risks.
- Drought Exposure:** 27% of sites globally; Africa & Middle East worst (81%). Countries like Zambia, Ghana, Uzbekistan face **100% drought risk**.
- Flood Hazards:** Refining stages highly exposed - steel (27%), alumina (27%), molybdenum (25%), aluminium (24%).
- Variability in Oceania:** 74% of facilities (79% in Australia) face severe year-to-year water supply fluctuations.
- Compound Risk Hotspots:** 5% of sites face three or more risks simultaneously - Chile, Peru, Western US, Southern Africa, Northern China, Central India, Western Australia.
- Energy Transition Minerals:** Platinum group (74% drought risk), manganese (21% compound risk), copper (9% compound risk).

- **Chile's Dual Pressure:** 86% of facilities face both high stress and variability.

Mining's Impact on Water

- **High Withdrawals:** Large volumes used for processing, cooling, dust suppression.
- **Aquifer Depletion:** Groundwater pumping lowers water tables.
- **Contamination Risks:** Tailings and effluents pollute rivers with heavy metals.
- **Hydrological Changes:** Excavation and land clearing alter runoff, increasing erosion and flood risks.

Implications

- **Constraint on Clean Energy Transition:** Water shortages threaten supply of copper, lithium, nickel, rare earths.
- **Supply Chain Disruptions:** Droughts and floods halt operations, causing global price volatility.
- **Social Conflict:** Competition with farmers and communities sparks unrest.
- **Financial Risks:** Regulatory fines, higher costs for alternative water sourcing, stranded assets.

Recommendations

- Adopt **catchment-based water stewardship** involving communities and agriculture.
- Integrate **long-term water risk** into energy and mineral supply planning.
- Invest in **alternative water technologies** - recycling, closed-loop systems, seawater use (e.g., Chile's Minera Centinela).
- Implement **forward-looking land and water planning** before new concessions.
- Strengthen **data transparency** on withdrawals, consumption, and discharge.

Conclusion:

The ICMC report highlights that **water scarcity is an immediate operational threat to mining and the clean energy transition**. Sustainable mineral supply chains demand integrated water stewardship and resilient infrastructure.



**R.C.REDDY
IAS STUDY CIRCLE**

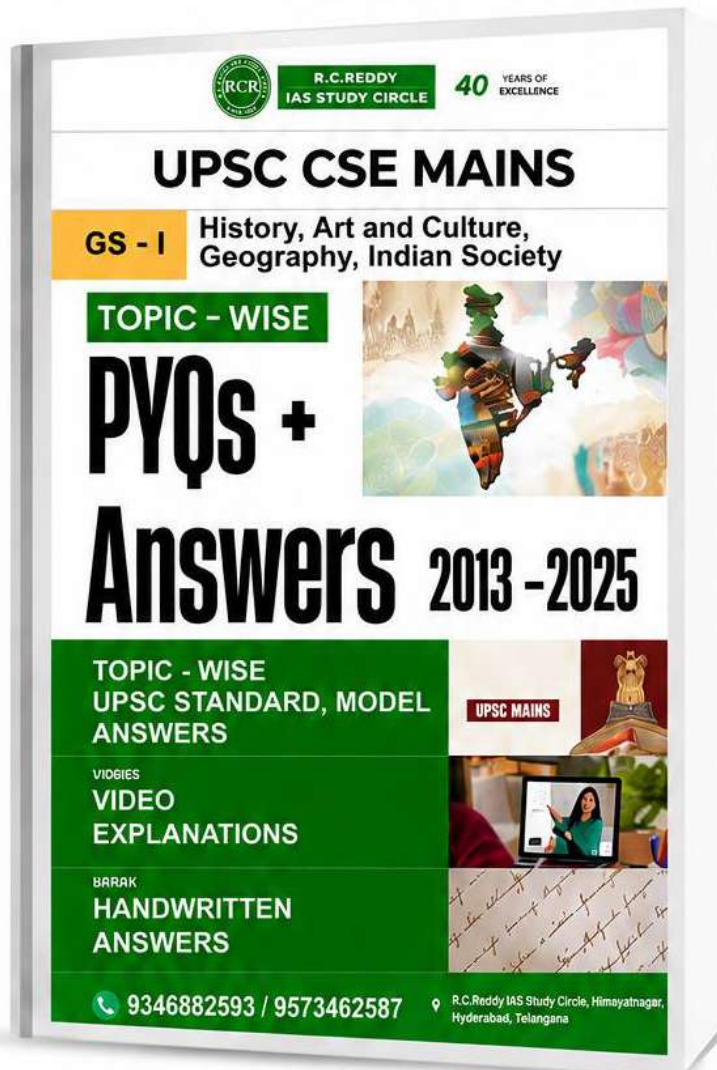
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**R.C.Reddy IAS Study Circle,
Himayatnagar,
Hyderabad, Telangana**

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

A. POLITY

I. Fundamental Rights, DPSPs and Fundamental Duties

1. Voting as a Fundamental Right

Why in the news?

- A renewed debate over recognising the right to vote as a Fundamental Right has revived discussions on its constitutional status and significance in strengthening India's democratic framework.

Judicial Evolution of the Right to Vote

- **N.P. Ponnuswami v. Returning Officer (1952):** The Supreme Court held that the right to vote and contest elections are statutory rights created by legislation, not common law or fundamental rights.
- **Jyoti Basu v. Debi Ghosal (1982):** The Court reaffirmed that although voting is fundamental to democracy, it remains a statutory right governed by election laws.
- **Kuldip Nayar v. Union of India (2006):** The Constitution Bench held that democracy is part of the Constitution's Basic Structure, but the individual right to vote originates from statutory law.
- **Current Legal Position:** The Supreme Court has consistently held that the right to vote is a statutory right derived from the Representation of the People Acts, not a Fundamental Right under Part III of the Constitution.

Constitutional Provisions

- **Article 326:** Provides for elections to the Lok Sabha and State Legislative Assemblies based on Universal Adult Suffrage for citizens aged 18 years and above, subject to specified disqualifications.
- **Representation of the People Acts:** Operationalise the constitutional mandate by prescribing electoral procedures, qualifications, disqualifications, and conduct of elections.

Basic Structure Doctrine

- **Kesavananda Bharati v. State of Kerala (1973):** Established that democracy forms part of the Basic Structure of the Constitution and cannot be abrogated by constitutional amendments.
- **Indira Nehru Gandhi v. Raj Narain (1975):** Declared free and fair elections as an essential component of the Basic Structure.

Significance of Recognising Voting as a Fundamental Right

- **Strengthening Democracy:** Constitutional recognition would reinforce popular sovereignty and democratic participation.
- **Enhanced Judicial Protection:** Citizens could directly invoke constitutional remedies against arbitrary denial of voting rights.
- **Improved Electoral Integrity:** It would strengthen accountability of electoral authorities and safeguard electoral inclusion.
- **Protection Against Arbitrary Exclusion:** Wrongful exclusion from electoral rolls could receive stronger constitutional scrutiny.

Concerns

- **Legislative Flexibility:** Parliament requires authority to regulate voter eligibility, electoral rolls, and election procedures for effective electoral management.
- **Administrative Challenges:** Treating voting as a Fundamental Right may increase litigation relating to electoral processes.
- **Federal Implications:** Election administration involves both the Union and States, requiring balanced constitutional interpretation.

Way Forward

- **Judicial Reconsideration:** The Supreme Court may revisit earlier precedents in light of evolving constitutional jurisprudence on democracy and electoral participation.
- **Strengthen Electoral Inclusion:** Ensure accurate electoral rolls, simplified voter registration, and timely grievance redressal.
- **Preserve Regulatory Powers:** Continue permitting Parliament to regulate electoral procedures while recognising the core right of eligible citizens to participate in elections.
- **Deepen Constitutional Democracy:** Balance constitutional protection of voting rights with effective electoral administration to uphold free, fair, and inclusive elections.

II. Parliament and State legislatures

1. 130th Constitution Amendment Bill

Why in the news?

- The Joint Parliamentary Committee is expected to adopt its report on the Constitution (130th Amendment) Bill, 2025, proposing the removal of ministers detained for 30 consecutive days in serious criminal cases.

Constitution (130th Amendment) Bill, 2025

- **About:** The Bill seeks to amend the Constitution to remove the Prime Minister, Chief Ministers and other ministers from office if they remain in judicial custody for 30 consecutive days in serious criminal cases.
- **Objective:** To strengthen public accountability, uphold probity in governance and prevent individuals facing serious criminal charges from continuing in executive office.

Key Provisions

- **Grounds for Removal:** Applies to ministers accused of offences punishable with imprisonment of **five years or more**.
- **Custody Requirement:** Removal is triggered if the minister remains arrested and detained for **30 consecutive days**.
- **Removal Mechanism:** Removal may be ordered by the President or Governor on the advice of the Prime Minister or Chief Minister, or automatically on the 31st day of detention.
- **Persons Covered:** The Prime Minister, Chief Ministers, Union Ministers and State Ministers.

Arguments in Favour

- **Public Accountability:** Prevents persons facing serious criminal allegations from holding executive office.
- **Integrity in Governance:** Enhances public confidence in constitutional offices and democratic institutions.
- **Time for Judicial Review:** Supporters argue that 30 days provides sufficient opportunity for an accused to seek bail through judicial remedies.
- **Ethical Governance:** Reinforces standards of transparency and accountability in public administration.

Concerns

- **Violation of Natural Justice:** Removal is based on detention rather than conviction, potentially undermining the principle of "innocent until proven guilty."
- **Scope for Political Misuse:** Possibility of motivated arrests to remove political opponents from executive office.
- **Federal Concerns:** Automatic removal of elected Chief Ministers may affect the federal balance between the Union and the States.
- **Executive Instability:** Frequent changes in leadership could affect policy continuity and governance.

Recommendations Under Consideration

- **Safeguards Against Misuse:** Introduce provisions to prevent politically motivated arrests and misuse of the law.
- **Threshold for Serious Offences:** Clearly define the nature and gravity of offences to which the provisions should apply.
- **Judicial Oversight:** Consider procedural safeguards before removal becomes effective.
- **Balanced Implementation:** Ensure accountability without compromising constitutional principles and democratic values.

Constitutional Principles Involved

- **Rule of Law:** Public officials are subject to the law like every other citizen.
- **Natural Justice:** No person should suffer adverse consequences without due legal process and fair hearing.
- **Presumption of Innocence:** Criminal liability generally arises only after conviction by a competent court.
- **Responsible Government:** Ministers remain collectively and individually accountable under the parliamentary system.

Way Forward

- **Comprehensive Safeguards:** Incorporate strong legal safeguards to prevent misuse of the proposed provisions.
- **Judicial Review:** Ensure that removal decisions remain subject to effective judicial scrutiny.
- **Consensus-Based Reform:** Build broad political consensus to preserve constitutional values and federal principles.
- **Electoral Reforms:** Complement legal reforms with broader measures to curb the criminalisation of politics and strengthen democratic governance.

III. The Executive (of the Union and the States/UTs)

1. Ladakh Autonomous Hill Development Council (LAHDC) Act

Why in the news?

- The Ladakh administration announced 17 new tehsils, extended the Ladakh Autonomous Hill Development Council framework to all seven districts, and continued consultations on constitutional safeguards.

About Ladakh Autonomous Hill Development Council (LAHDC)

- **Establishment:** The Ladakh Autonomous Hill Development Council was established under the Ladakh Autonomous Hill Development Council Act, 1995, to provide local self-governance in Leh and later extended to Kargil.
- **Functions:** The Councils oversee planning, implementation of development programmes, local infrastructure, education, healthcare, agriculture, and other district-level developmental activities.
- **Composition:** Members are directly elected, with additional nominated members as provided under the Act.

Constitutional Safeguards

- **Ongoing Consultations:** The administration is holding discussions with civil society organisations and religious representatives on constitutional safeguards for Ladakh.
- **Proposed Framework:** The Union Government is reportedly examining a **sui generis** (unique) constitutional model under **Article 371** to protect Ladakh's land, culture, identity, and local interests.
- **Article 371:** It provides special provisions for certain States to address their unique historical, cultural, and administrative requirements through constitutional safeguards.

Significance

- **Decentralised Governance:** Additional administrative units can improve accessibility, responsiveness, and efficient implementation of government schemes.
- **Inclusive Development:** Strengthening local institutions can promote balanced regional development across geographically challenging areas.
- **Border Area Administration:** Improved governance enhances administrative presence in strategically important border regions.
- **Preservation of Local Identity:** Proposed constitutional safeguards seek to balance developmental needs with protection of Ladakh's unique cultural, ecological, and demographic characteristics.

Way Forward

- **Ensure Equitable Administrative Planning:** Adopt transparent and objective criteria while creating administrative units based on population, geography, and accessibility.
- **Strengthen Local Self-Governance:** Extend effective powers, financial resources, and administrative autonomy to the Ladakh Autonomous Hill Development Councils.
- **Build Administrative Capacity:** Recruit adequate personnel, strengthen infrastructure, and improve digital governance in remote regions.
- **Achieve Consensus on Constitutional Safeguards:** Continue consultations with all stakeholders to evolve a balanced framework protecting Ladakh's land, culture, identity, and developmental aspirations.

IV. The Judiciary

1. Denying Legal Representation to Accused Person

Why in the news?

- A Bar Association's resolution refusing to represent the accused in the Ayodhya Ram Temple embezzlement case has reignited debate on an accused person's constitutional right to legal representation.

Constitutional Provisions

- **Article 21:** The Supreme Court has interpreted the Right to Life and Personal Liberty to include the right to a fair, just, and reasonable trial.
- **Article 22(1):** Guarantees every arrested person the right to consult and be defended by a legal practitioner of their choice.
- **Article 14:** Ensures equality before the law and equal protection of laws, requiring equal access to justice for every accused.
- **Article 39A:** Directs the State to ensure equal justice and free legal aid so that no citizen is denied access to justice due to economic or other disabilities.

Professional Obligations of Advocates

- **Bar Council of India Rules:** Advocates are generally bound to accept briefs consistent with their professional standing, though individual advocates may refuse a case under special circumstances.
- **Individual Choice:** The discretion to refuse a brief belongs to an individual advocate and cannot be exercised collectively through a Bar Association.
- **Judicial Clarification:** The Uttarakhand High Court held that "special circumstances" permitting refusal apply only to individual advocates and not to Bar Associations.

Significance

- **Rule of Law:** Every accused is presumed innocent until proven guilty and must receive a fair opportunity to defend themselves.
- **Independence of the Legal Profession:** Lawyers are officers of the court and cannot be prevented from discharging their professional duties.
- **Access to Justice:** Denial of legal representation undermines constitutional guarantees and weakens public confidence in the justice delivery system.

Way Forward

- **Strict Enforcement of Judicial Directions:** Courts should promptly declare unconstitutional any Bar Association resolutions restricting legal representation.
- **Strengthen Professional Ethics:** Bar Councils should ensure compliance with professional conduct rules and initiate disciplinary proceedings against unlawful collective actions.
- **Promote Constitutional Values:** Legal institutions should reinforce the principles of fair trial, access to justice, and the Rule of Law through continuous legal education.
- **Ensure Independent Legal Representation:** Every accused should have unhindered access to legal counsel regardless of the nature or gravity of the alleged offence.

2. Rethinking Judicial Vacations in India

Why in the news?

- The annual summer vacations of the Supreme Court and High Courts have reignited debate over judicial efficiency, court functioning, and the growing backlog of pending cases in India.

Judicial Vacations in India

- **Background:** The Supreme Court and several High Courts observe annual summer vacations, during which only vacation Benches hear urgent matters while regular judicial functioning remains limited.
- **Origin:** The system originated during the colonial period when British judges suspended court proceedings to escape the Indian summer.
- **Present Practice:** The Supreme Court functions for around 190 working days annually, with reduced Benches operating during vacation periods.

Status of Pending Cases

- **Case Backlog:** As of the end of 2025, more than 5.39 crore cases were pending across Indian courts, including over 4.76 crore in District Courts, 63.6 lakh in High Courts, and over 92,000 in the Supreme Court.
- **Impact on Justice Delivery:** Large pendency delays disposal of civil and criminal cases, increasing costs and undermining timely access to justice.
- **Undertrial Prisoners:** Nearly three-fourths of India's prison population comprises undertrial prisoners, many of whom remain incarcerated for prolonged periods despite being presumed innocent.

Concerns with Judicial Vacations

- **Reduced Judicial Capacity:** Simultaneous vacations reduce the number of functioning Benches, slowing disposal of pending cases.
- **Delay in Justice:** Extended court recesses prolong litigation and increase waiting time for litigants.
- **Access to Justice:** Limited functioning affects ordinary litigants whose cases do not qualify as urgent matters.
- **Public Confidence:** Persistent delays weaken public trust in the judicial system and the Rule of Law.

Arguments Supporting Judicial Vacations

- **Judgment Writing:** Judges utilise vacation periods to write reserved judgments, conduct legal research, and prepare pending orders.
- **Heavy Workload:** Indian judges handle one of the world's highest judicial workloads due to high case inflow and inadequate judge strength.
- **Institutional Efficiency:** Judicial vacations provide time for administrative work, training, and court maintenance.

Committee Recommendations

- **Parliamentary Standing Committee (2023):** Recommended staggering judicial vacations instead of closing courts simultaneously to ensure continuous functioning.
- **Law Commission of India:** Suggested rationalising court vacations and improving judicial productivity to address pendency.
- **Justice Malimath Committee:** Recommended continuous court functioning and strengthening institutional efficiency.

Alternative Dispute Resolution Mechanisms

- **Lok Adalats:** Lok Adalats have disposed of crores of cases through consensual settlement, reducing pressure on regular courts.
- **Mediation Act, 2023:** Encourages pre-litigation mediation to resolve disputes before they enter the formal judicial system.
- **Arbitration:** Provides an effective mechanism for resolving commercial disputes outside conventional courts.

Way Forward

- **Stagger Judicial Vacations:** Introduce rotational leave so that courts function throughout the year without complete institutional slowdown.
- **Fill Judicial Vacancies:** Expedite appointments to sanctioned judicial posts through coordinated action by the Judiciary and the Executive.
- **Strengthen Alternative Dispute Resolution:** Expand mediation, arbitration, and Lok Adalats to reduce litigation burden.
- **Modernise Court Administration:** Increase digitalisation, improve case management systems, strengthen infrastructure, and adopt technology-driven judicial reforms.
- **Promote Institutional Accountability:** Establish measurable targets for case disposal and regularly monitor judicial performance to reduce pendency.

3. What is Meant by 'Trial in Absentia'?

Why in the News:

- A Special National Investigation Agency Court issued a non-bailable warrant against Hafiz Saeed in the Pahalgam terror attack case, paving the way for possible trial **in absentia** under the Bharatiya Nagarik Suraksha Sanhita.

Trial in Absentia

- **Definition:** Trial in **absentia** refers to the conduct of a criminal trial in the absence of the accused when the law permits such proceedings under specified circumstances.
- **Legal Basis:** Section 356 of the **Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023** provides for trial in absentia of proclaimed offenders who deliberately evade trial.

Who Can Be Tried in Absentia?

- **Proclaimed Offender:** Trial in absentia applies only to a person declared a proclaimed offender under Section 84 of the Bharatiya Nagarik Suraksha Sanhita.
- **Nature of Offences:** It applies only to offences punishable with imprisonment of ten years or more, life imprisonment, or death.
- **Conditions:** The accused must have absconded to evade trial, and there should be no immediate prospect of arrest.

Significance

- **Expeditious Justice:** Prevents serious criminal cases from remaining pending indefinitely due to absconding accused.
- **Counter-Terrorism:** Strengthens India's legal response against terrorists and fugitives operating from foreign jurisdictions.
- **Judicial Efficiency:** Reduces delays and enables courts to conclude proceedings despite deliberate evasion by accused persons.
- **Victim-Centric Justice:** Ensures victims and society are not denied justice merely because the accused remains absconding.

Challenges

- **Enforcement Abroad:** Convictions in absentia may face practical difficulties in securing extradition or execution of sentences.
- **International Acceptance:** Recognition of such proceedings may vary across jurisdictions depending on their domestic laws.
- **Balancing Rights:** Courts must ensure that speedy justice does not compromise principles of natural justice and fair trial.

Way Forward

- **Strict Procedural Compliance:** Courts should ensure rigorous adherence to safeguards under Section 356 to maintain fairness and legitimacy.
- **Strengthen International Cooperation:** Enhance extradition arrangements and mutual legal assistance with foreign countries to bring fugitives to justice.
- **Leverage Technology:** Expand audiovisual recording and digital case management to improve transparency and preserve evidence.
- **Capacity Building:** Train investigators, prosecutors, and judicial officers for effective implementation of trial in absentia provisions under the Bharatiya Nagarik Suraksha Sanhita.

4. Digitisation and Efficiency in Criminal Justice System

Why in the news?

- The Union Government announced that India will achieve full digital rollout of its criminal justice system by **July 1, 2027**, enabling end-to-end digital investigation, prosecution, and trial under the new criminal laws.

Digital Criminal Justice System

- **Definition:** The Digital Criminal Justice System integrates police, courts, prosecution, prisons, and forensic institutions through technology to ensure seamless, transparent, and efficient criminal justice delivery.
- **Interoperable Criminal Justice System (ICJS):** It is a national digital platform that electronically connects police, courts, prisons, prosecution, forensic laboratories, and other criminal justice institutions for real-time information sharing.
- **Objective:** To create a paperless, transparent, and citizen-centric criminal justice system by digitising every stage from registration of the First Information Report (FIR) to the final disposal of cases.

Key Features of Digital Rollout

- **End-to-End Digitisation:** All stages of criminal proceedings, including investigation, prosecution, trial, and judgments, will be digitally recorded.
- **Cloud-Based Data Storage:** Criminal justice records will be securely stored on the Government Cloud Platform, MeghRaj.
- **Integrated Information Sharing:** Digital connectivity among all criminal justice agencies will improve coordination and reduce procedural delays.
- **Electronic Transmission:** First Information Reports, charge sheets, evidence, and judicial records will be electronically transmitted between institutions.

Challenges

- **Incomplete Digital Integration:** Only about 46% of First Information Reports are digitally transmitted to courts, indicating gaps in end-to-end digitisation.
- **Uneven State-Level Implementation:** Progress in adopting digital criminal justice systems varies significantly across States.
- **Capacity Constraints:** Adequate digital infrastructure, trained personnel, cybersecurity, and interoperability remain key challenges.
- **Data Privacy:** Secure storage, access control, and protection of sensitive criminal justice data require robust safeguards.

Way Forward

- **Achieve Nationwide Integration:** Ensure uniform implementation of the Interoperable Criminal Justice System across all States and Union Territories.
- **Strengthen Digital Infrastructure:** Upgrade connectivity, cloud services, cybersecurity, and digital case management systems.
- **Enhance Capacity Building:** Train police personnel, prosecutors, judges, and forensic experts in digital investigation and evidence management.
- **Protect Data Security:** Establish robust legal and technological safeguards to ensure privacy, integrity, and secure use of criminal justice data.

B. GOVERNANCE

I. Government policies and Interventions

1. Which Document Proves Indian Citizenship?

Why in the news?

- The Ministry of External Affairs clarified that an Indian passport is not conclusive proof of citizenship, reigniting debate on citizenship documentation amid the Special Intensive Revision of electoral rolls.

Passport and Citizenship

- **Legal Status of Passport:** An Indian passport is a travel document issued under the Passports Act, 1967, and serves as strong evidence of Indian nationality but not conclusive proof of citizenship in legal disputes.
- **Evidence, Not Definitive Proof:** A passport establishes that its holder was verified as an Indian citizen during issuance, but courts may examine additional evidence if citizenship is challenged.
- **Exception under Law:** Under Section 20 of the Passports Act, 1967, the Union government may issue a passport to a non-citizen if considered necessary in the public interest.

Aadhaar and Citizenship

- **Purpose of Aadhaar:** Aadhaar serves as proof of identity and address and is available to all eligible residents, including legally residing non-citizens.
- **Supreme Court Position:** The Supreme Court has held that Aadhaar cannot be relied upon as proof of citizenship, though it may establish the identity of an individual.

Voter Identity Card and Citizenship

- **Presumption of Citizenship:** Inclusion in the electoral roll creates a legal presumption of citizenship for electoral purposes unless displaced through due legal procedure.
- **Limited Scope:** The Election Commission of India determines eligibility for electoral rolls but has no authority to adjudicate citizenship under the Citizenship Act, 1955.
- **Passport in Electoral Verification:** The Election Commission of India included passports among indicative documents for citizenship verification during the Special Intensive Revision, though possession of a passport alone may not resolve disputes.

Documents Proving Citizenship

- **Citizenship Certificate:** Individuals acquiring citizenship through registration or naturalisation receive citizenship certificates, which constitute conclusive proof of citizenship.
- **Citizenship by Birth:** Persons born in India between January 26, 1950 and July 1, 1987 establish citizenship primarily through proof of date and place of birth.
- **Citizenship by Parentage:** Persons born between July 1, 1987 and December 3, 2004 must additionally establish that at least one parent was an Indian citizen.
- **Citizenship After December 3, 2004:** Individuals born on or after December 3, 2004 must prove that one parent is an Indian citizen and the other is not an illegal migrant.

Challenges

- **Absence of Universal Citizenship Document:** India does not prescribe a single document applicable to all citizens for conclusively establishing citizenship.

- **Documentation Gaps:** Many citizens born before universal birth registration depend on educational certificates, Aadhaar and other records to establish citizenship.
- **Administrative Complexity:** Different legal requirements based on date of birth and parentage make citizenship verification complex in disputed cases.

Way Forward

- **Strengthen Civil Registration:** Universal birth registration and comprehensive archival records should be ensured to simplify citizenship verification.
- **Improve Record Management:** Digitisation and integration of civil records can reduce documentary disputes and improve administrative efficiency.
- **Ensure Legal Clarity:** Clear guidelines on documentary evidence can enhance transparency and reduce uncertainty in citizenship determination.
- **Balanced Citizenship Framework:** While citizenship is determined under the Citizenship Act, 1955, strengthening civil registration and documentation systems is essential to ensure that genuine citizens are not disadvantaged due to incomplete or inconsistent records.

2. Interoperable Criminal Justice System (ICJS)

Why in the news?

- The Union Ministry of Home Affairs announced that from **January 1, 2027**, all investigations and trials under the new criminal laws will be digitally recorded through the Interoperable Criminal Justice System.

Digital Criminal Justice System

- **About:** The Interoperable Criminal Justice System (ICJS) is a unified digital platform integrating police, courts, prisons, forensic laboratories and prosecution for seamless criminal justice administration.
- **Objective:** To ensure end-to-end digital workflow, improve efficiency, enhance transparency and enable faster delivery of justice under the new criminal laws.
- **Data Storage:** All investigation and trial records will be digitally stored on the Government-owned MeghRaj cloud platform.

Key Features of the Digital System

- **Integrated Platform:** Links police, judiciary, prosecution, prisons and forensic science institutions through a common digital ecosystem.
- **Digital Workflow:** Enables electronic filing, transmission and processing of criminal cases from registration to trial.
- **Electronic Records:** Facilitates digital generation of evidence records, e-summons and case documentation.
- **Cloud-Based Storage:** Ensures secure and centralised storage of criminal justice data through MeghRaj.

Interoperable Criminal Justice System (ICJS)

- **Components:** Integrates Crime and Criminal Tracking Network and Systems (CCTNS), e-Courts, e-Prisons, e-Prosecution and forensic platforms.
- **Benefits:** Improves coordination among agencies, reduces delays and enhances accountability.
- **Present Status:** Nationwide rollout is nearing completion with emphasis on interoperability across all institutions.
- **Crime and Criminal Tracking Network and Systems (CCTNS)**
- **Purpose:** Digital platform connecting more than 16,000 police stations across the country.
- **Multilingual Facility:** Supports registration of First Information Reports (FIRs) in 23 languages.

- **Bhashini Integration:** Enables automatic translation of Zero First Information Reports (Zero FIRs) into the language of the receiving jurisdiction.

Implementation Progress

- **First Information Report (FIR) Registration:** Around 74.66 lakh First Information Reports have been registered under the Bharatiya Nyaya Sanhita.
- **Zero FIRs:** More than 63,500 Zero FIRs have been registered, including significant intra-State transfers.
- **Digital Evidence:** Around 46.5 lakh digital evidence (Sakshya) IDs have been generated.
- **Electronic Summons:** More than 56.7 lakh e-summons have been served digitally.
- **National Implementation Score:** Increased from 46.47% in January 2025 to 70.06% in June 2026.

Forensic Reforms

- **Mandatory Forensics:** Forensic examination of crime scenes is compulsory for offences punishable with imprisonment of seven years or more.
- **Expansion of Laboratories:** The number of Forensic Science Laboratories increased from 129 in 2023 to 154 in 2025.
- **Mobile Forensic Units:** More than 700 mobile forensic units have been deployed to strengthen evidence collection.
- **Reduced Pendency:** Pending forensic cases declined despite a significant rise in case volume.
- **Achievements**
- **Improved Charge Sheet Compliance:** Sixty-day and ninety-day charge sheet filing compliance has improved significantly.
- **Digital Database:** The National Crime Records Bureau database contains over 37 crore police records, including nearly 10 crore First Information Reports and over 7 crore charge sheets.
- **Better Coordination:** Digital integration enhances communication among criminal justice institutions and improves case management.

Challenges

- **Internet Connectivity:** Remote and northeastern regions continue to face digital infrastructure limitations.
- **Low Court Integration:** Only about 46% of First Information Reports are electronically consumed by courts.
- **Interoperability Issues:** Full integration among all criminal justice platforms remains a work in progress.
- **Capacity Building:** Continuous training of police, prosecutors and judicial personnel is essential for effective implementation.

Significance

- **Speedy Justice:** Digital processes reduce procedural delays and improve efficiency in investigation and trial.
- **Transparency and Accountability:** Electronic documentation minimises manipulation and strengthens institutional accountability.
- **Citizen-Centric Governance:** Facilitates easier complaint registration, better access to justice and improved service delivery.
- **Criminal Justice Reforms:** Represents a major step towards a technology-driven, integrated and modern criminal justice system in India.

3. Sovereign AI For India's Strategic Future

Why in the news?

- The United States has restricted foreign access to advanced Artificial Intelligence models, highlighting growing AI geopolitics and prompting India to reassess its strategy for technological sovereignty and global competitiveness.

Recent Global Developments

- **United States Restrictions:** The United States directed Anthropic to suspend access to its advanced AI models for foreign nationals citing national security concerns.
- **European Union Approach:** Europe is shifting from strict regulation towards investments in AI computing infrastructure and promoting domestic AI procurement.
- **Argentina's Strategy:** Argentina is adopting a regulatory safe harbour approach to attract Artificial Intelligence investments.

Challenges for India

- **Absence of Frontier Models:** India does not possess indigenous frontier Artificial Intelligence models capable of competing with global leaders.
- **Technological Dependence:** Heavy reliance on foreign AI models exposes India to geopolitical risks and policy uncertainties.
- **Limited Research Investment:** India spends only about 0.6% of Gross Domestic Product (GDP) on Research and Development (R&D), limiting innovation capacity.
- **Private Sector Constraints:** Indian private investment in Artificial Intelligence remains significantly lower than global frontier investments.

Strategic Dilemma

- **Need for AI Adoption:** Indian businesses require access to the best global Artificial Intelligence models to remain competitive.
- **Dependence Risks:** Excessive reliance on foreign technologies creates vulnerabilities arising from export controls and geopolitical tensions.
- **Balancing Objectives:** India must simultaneously promote global integration and strengthen domestic technological capabilities.

Significance

- **Economic Growth:** Artificial Intelligence can significantly enhance productivity, industrial competitiveness and digital transformation.
- **Technological Sovereignty:** Reduces strategic vulnerabilities arising from excessive dependence on foreign technologies.
- **National Security:** Strengthens resilience against technology restrictions and geopolitical disruptions.
- **Global Leadership:** Positions India as a trusted Artificial Intelligence innovation and services hub.

Way Forward

- **Balanced Strategy:** Combine global integration with sustained domestic capability building.
- **Long-Term Investment:** Increase investments in research, computing infrastructure and Artificial Intelligence ecosystems.
- **Strategic Industrial Policy:** Support frontier technology development while maintaining access to global innovation networks.

- **Collaborative Governance:** Foster close coordination between government, academia and industry to ensure India's leadership in the evolving Artificial Intelligence landscape.

4. VB-G RAM G

Why in the news?

- The Centre has notified a minimum wage of **₹300 per day** under the **Viksit Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin) (VB-G RAM G) Act, 2025**, replacing the Mahatma Gandhi National Rural Employment Guarantee Act.

Key Features

- **Minimum Wage Floor:** A national floor wage of **₹300 per day** has been prescribed for all beneficiaries.
- **Employment Guarantee:** Guarantees **125 days** of wage employment to eligible rural households.
- **Normative Allocation:** The Union Government determines annual State-wise budget allocation based on prescribed objective parameters.
- **Supply-Driven Model:** Shifts from the demand-driven approach of MGNREGA to a government-determined allocation model.

Major Changes from Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

- **Rights-Based to Allocation-Based:** MGNREGA guaranteed employment on demand, whereas VB-G RAM G allocates work within the budget fixed by the Centre.
- **Increased State Liability:** States bear greater financial responsibility for additional employment and delayed payments.
- **Budget Determination:** Annual expenditure is guided by centrally determined normative allocations rather than actual demand.

Potential Advantages

- **Uniform Wage Floor:** Ensures a minimum daily wage of ₹300 across the country.
- **Better Fiscal Planning:** Normative allocation may improve predictability in expenditure management.
- **Administrative Efficiency:** Central allocation could facilitate structured planning and monitoring.
- **Enhanced Livelihood Support:** Aims to strengthen rural employment and livelihood opportunities.

Concerns

- **Reduced Rights-Based Approach:** Demand-driven employment guarantee has been replaced by budget-based allocation.
- **Higher Financial Burden on States:** State expenditure is expected to increase substantially under the revised funding pattern.
- **Risk of Employment Shortfall:** Fixed allocations may restrict employment if demand exceeds the sanctioned budget.
- **Pending Liabilities:** Outstanding dues under the previous scheme raise concerns regarding timely wage payments.

Challenges

- **Fiscal Stress on States:** Increased expenditure may constrain State finances, particularly for fiscally weaker States.
- **Ensuring Guaranteed Employment:** Providing 125 days of employment requires adequate financial and administrative capacity.

- **Timely Wage Payments:** Preventing delays in wage disbursement remains critical.
- **Balancing Equity and Fiscal Prudence:** Ensuring sufficient employment while maintaining fiscal sustainability will be challenging.

Significance

- **Rural Livelihood Security:** Continues the objective of providing employment and income support to rural households.
- **Inclusive Development:** Seeks to reduce rural poverty and strengthen rural infrastructure through public works.
- **Cooperative Federalism:** Success depends on effective financial and administrative coordination between the Centre and States.
- **Economic Growth:** Higher rural incomes can stimulate consumption, strengthen local economies and contribute to inclusive economic development.

5. UNCTAD's Ninth Session of Intergovernmental Group of Experts on Consumer Protection

Why in the news?

- India chaired the Ninth Session of the Intergovernmental Group of Experts on Consumer Protection Law and Policy at the United Nations Trade and Development in Geneva.

India's Role in the Ninth Session

- **Chairmanship:** India chaired the Ninth Session, with Secretary, Department of Consumer Affairs, Smt. Nidhi Khare, presiding over deliberations among Member States.
- **Global Recognition:** India's selection reflects international recognition of its achievements in consumer protection and dispute resolution mechanisms.
- **Leadership Role:** India will guide discussions on global consumer protection priorities and facilitate consensus among participating countries.

India's Consumer Protection Initiatives

- **National Consumer Helpline (NCH):** The National Consumer Helpline has resolved over 1.47 lakh refund-related grievances across 36 sectors, facilitating refunds exceeding ₹91.77 crore through pre-litigation dispute resolution.
- **Pre-Litigation Convergence Model:** Encourages early settlement of consumer disputes, reducing litigation burden and ensuring faster grievance redressal.
- **e-Jagruti Platform:** An Artificial Intelligence-enabled digital platform providing online complaint filing, virtual hearings, electronic case management and digital access to proceedings.
- **Support for Non-Resident Indians (NRIs):** Enables Non-Resident Indians and overseas consumers to pursue consumer complaints digitally, strengthening cross-border consumer dispute resolution.

Significance for India

- **Global Leadership:** Reinforces India's role as an emerging leader in shaping international consumer protection policies.
- **Digital Governance:** Demonstrates India's success in leveraging digital technologies and Artificial Intelligence for efficient consumer grievance redressal.
- **Consumer Empowerment:** Enhances consumer confidence by ensuring accessible, transparent and time-bound dispute resolution mechanisms.
- **International Cooperation:** Strengthens collaboration with other countries to address challenges arising from global trade and digital commerce.

Challenges

- **Cross-Border Enforcement:** Differences in legal systems make enforcement of consumer rights across jurisdictions difficult.
- **Digital Fraud:** Rapid growth of e-commerce and digital transactions has increased cyber fraud and deceptive online practices.
- **Consumer Awareness:** Limited awareness among consumers about their rights and available grievance redressal mechanisms.
- **Capacity Constraints:** Need for continuous strengthening of consumer protection institutions and digital infrastructure.

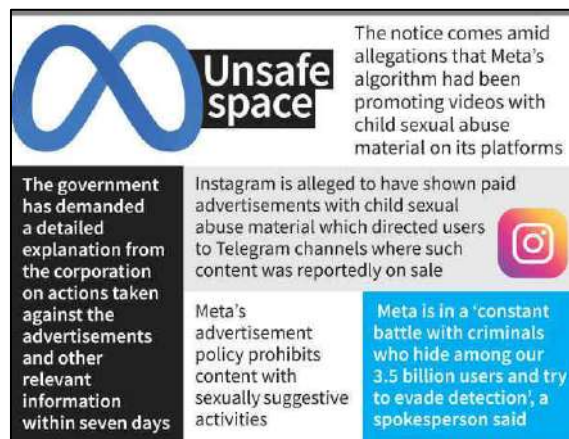
Way Forward

- **Strengthen International Cooperation:** Expand collaboration among countries for effective cross-border consumer protection and information sharing.
- **Promote Digital Consumer Protection:** Develop robust regulatory frameworks to address challenges arising from digital markets and Artificial Intelligence.
- **Enhance Consumer Awareness:** Increase consumer education through targeted campaigns and digital literacy initiatives.
- **Improve Institutional Capacity:** Strengthen consumer commissions, grievance redressal systems and technological infrastructure for timely justice.

6. Disabling Child Sexual Exploitative and Abuse Material (CSEAM) In Social Media

Why in the news?

- The Ministry of Electronics and Information Technology directed Meta to disable Instagram advertisements promoting Child Sexual Exploitative and Abuse Material, citing violations under the Information Technology Act, 2000 and Information Technology Rules, 2021.



Legal Framework

- **Information Technology Act, 2000:** The Act prescribes punishment for publishing or transmitting obscene material, sexually explicit content, and material depicting children in sexually explicit acts in electronic form.
- **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:** The Rules require intermediaries to exercise due diligence, promptly remove unlawful content, and comply with government directions.
- **Safe Harbour Protection:** Social media intermediaries failing to comply with due diligence obligations may lose legal immunity from liability for third-party information hosted on their platforms.

- **Content Removal Timeline:** Intermediaries are required to remove child sexual abuse-related content within 24 hours of receiving valid information or government direction.

Institutional Mechanisms

- **National Cyber Crime Reporting Portal:** The Ministry of Home Affairs operates the portal to receive complaints related to cybercrime, with special emphasis on crimes against children.
- **Indian Cyber Crime Coordination Centre:** The Indian Cyber Crime Coordination Centre (I4C) coordinates efforts for prevention, investigation, and capacity building to combat cybercrimes, including online child exploitation.
- **Website Blocking:** The Government blocks websites hosting Child Sexual Abuse Material based on intelligence and lists received from Interpol through the Central Bureau of Investigation and directs Internet Service Providers to restrict access.

Significance

- **Child Protection:** Strict enforcement safeguards children's rights, prevents online exploitation, and strengthens India's commitment to child safety in the digital ecosystem.
- **Platform Accountability:** The action reinforces the responsibility of digital intermediaries to proactively monitor, detect, and remove illegal content while ensuring compliance with Indian law.
- **International Cooperation:** Coordination with agencies such as Interpol highlights the importance of global collaboration in tackling transnational cyber-enabled crimes against children.

Way Forward

- **Strengthen Artificial Intelligence-Based Detection:** Enhance proactive identification and removal of Child Sexual Exploitative and Abuse Material through advanced technological tools.
- **Improve Regulatory Compliance:** Ensure timely reporting, greater transparency, and periodic audits of social media platforms regarding content moderation.
- **Enhance Public Awareness:** Promote digital literacy and awareness campaigns encouraging citizens to report online child exploitation through official grievance mechanisms.
- **Boost Inter-Agency Coordination:** Strengthen collaboration among law enforcement agencies, technology companies, and international organizations for effective prevention and prosecution of offenders.

7. Civil Registration System (CRS)

Why in the news?

- India recorded over 99% registration of estimated births and deaths in 2024 under the Civil Registration System, marking a major milestone in strengthening population data and public administration.



Civil Registration System (CRS)

- **About CRS:** The Civil Registration System (CRS) is a continuous, compulsory, and permanent system for recording births, deaths, and stillbirths in India.
- **Legal Framework:** It operates under the **Registration of Births and Deaths Act, 1969**, amended in 2023 to improve digital registration and accessibility.
- **Nodal Authority:** The Office of the Registrar General and Census Commissioner of India under the Ministry of Home Affairs administers the system.
- **Purpose:** CRS provides reliable data on fertility, mortality, sex ratio at birth, and population trends for policymaking and governance.

Key Highlights of CRS Report 2024

- **Near Universal Registration:** Birth registration reached **99.1%**, while death registration reached **99.4%**, compared to 86.6% and 72.5%, respectively, in 2014.
- **State Performance:** Eighteen States and Union Territories achieved 100% birth registration, while twenty-one States and Union Territories achieved 100% death registration.
- **Significant Improvement:** India has transitioned from relying primarily on surveys to developing a comprehensive civil registration database.

Importance of Civil Registration System

- **Evidence-Based Policymaking:** Reliable demographic data support planning in health, education, social welfare, and infrastructure.
- **Public Health Monitoring:** Timely registration helps monitor mortality trends, disease outbreaks, pandemics, heatwaves, and environmental health risks.
- **Local Governance:** District-level data enable decentralised planning and effective implementation of government schemes.
- **Legal Identity:** Birth and death certificates provide legal proof of identity, age, inheritance, citizenship, and eligibility for welfare benefits.
- **Reduced Dependence on Surveys:** A robust CRS complements and gradually reduces dependence on the Census, Sample Registration System (SRS), and household surveys.

Reasons for Improvement

- **Institutional Deliveries:** Increased childbirths in healthcare institutions have improved reporting and registration of births.
- **Government Welfare Schemes:** Expansion of health insurance and welfare programmes has encouraged registration for accessing benefits.
- **Administrative Requirements:** Birth certificates are essential for school admission, Aadhaar enrolment, passports, voter identity cards, and other official documents.
- **Death Certification Needs:** Death certificates are necessary for pensions, insurance claims, property transfers, inheritance, and banking procedures.
- **Digitisation:** The Registration of Births and Deaths (Amendment) Act, 2023 strengthened online registration, integration of databases, and digital accessibility.

8. New Pension Scheme for All

Why in the news?

- The Employees' Provident Fund Organisation (EPFO) is developing a new contributory pension scheme under EPFO 3.0 to expand social security coverage for organised, unorganised, and gig workers.

Proposed EPFO Pension Scheme

- **Background:** The Government is designing a new contributory pension scheme under the Employees' Provident Fund Organisation (EPFO) to provide flexible, sustainable, and inclusive retirement security.
- **Objective:** To create a defined contribution pension system that expands social security coverage while providing flexibility in retirement planning and pension payouts.

Key Features

- **Defined Contribution Model:** Pension benefits will depend on accumulated contributions and investment returns rather than a predefined pension amount.
- **Individual Pension Account:** Every member will have a separate pension account to track contributions, investment growth, and retirement savings.
- **Target Retirement Sum (TRS):** Members can set a Target Retirement Sum (TRS), and the system will estimate the contributions required to achieve the desired retirement corpus.
- **Flexible Retirement Options:** At the age of 55 years, members can decide how to utilise their retirement corpus through annuity or systematic withdrawal options.
- **Systematic Withdrawal Plan:** Members may periodically withdraw from the accumulated corpus while the remaining balance continues to earn interest.
- **Annuity Option:** Members may convert the retirement corpus into regular pension payments based on prevailing annuity rates.

Coverage

- **Organised Sector:** Existing Employees' Provident Fund (EPF) members and workers excluded from the Employees' Pension Scheme (EPS).
- **Unorganised Sector:** Workers outside formal employment will be brought under contributory pension coverage.
- **Gig and Platform Workers:** Delivery partners, drivers, and other platform workers will receive social security benefits for the first time under the proposed framework.

Family Benefits

- **Survivor Pension:** The proposal includes pension benefits for spouses, children, and orphans through a pooled Family Benefit Fund.
- **Actuarial Management:** The Family Benefit Fund will be managed using actuarial principles to ensure long-term financial sustainability.

Technology Features under EPFO 3.0

- **Personal Dashboard:** Members can monitor contributions, retirement corpus, and progress towards the Target Retirement Sum.
- **Pension Calculator:** Users can simulate pension outcomes based on retirement age, contributions, corpus size, and expected interest rates.
- **Inflation Projections:** The system proposes to provide optional inflation-adjusted retirement projections.
- **One Universal Account Number (UAN):** Gig workers with multiple employers or aggregators can receive contributions into a single Universal Account Number while maintaining employer-wise records.

Challenges

- **Implementation Complexity:** Integrating multiple contributors and employment arrangements requires robust digital infrastructure.
- **Financial Sustainability:** Long-term viability depends on actuarial soundness and prudent investment management.

- **Coverage of Informal Workers:** Ensuring regular contributions from unorganised sector workers remains challenging.
- **Digital Literacy:** Successful implementation requires widespread awareness and digital accessibility among beneficiaries.

Way Forward

- **Strengthen Digital Infrastructure:** Ensure seamless integration of pension accounts, contribution tracking, and online services under EPFO 3.0.
- **Promote Financial Awareness:** Conduct large-scale awareness campaigns on retirement planning and pension literacy.
- **Ensure Actuarial Sustainability:** Periodically review contribution rates, investment strategies, and benefit structures to maintain financial stability.
- **Expand Social Security Coverage:** Effectively implement the Code on Social Security, 2020 to provide comprehensive retirement protection for organised, unorganised, and gig workers.

9. Fast-Track Courts (FTCs)

Why in the news?

- Prime Minister Narendra Modi's proposal to establish Fast-Track Courts (FTCs) for paper leak cases has revived debate on their constitutional validity, effectiveness, and role in reducing judicial delays.

Fast-Track Courts (FTCs)

- **Meaning:** Fast-Track Courts (FTCs) are special courts established to ensure speedy disposal of specific categories of cases. They are created through executive schemes and judicial directions, without any comprehensive central legislation.
- **Legal Basis:** FTCs derive legitimacy from constitutional principles, judicial precedents, Finance Commission recommendations, and centrally sponsored schemes rather than a standalone law.
- **Need for FTCs:** Rising judicial pendency, increasing crimes against vulnerable groups, economic offences, and public demand for timely justice necessitate dedicated courts for expeditious trials.

Evolution of Fast-Track Courts

- **Fourteenth Finance Commission (2015-2020):** Recommended establishment of 1,800 FTCs to expedite trials relating to heinous crimes, long-pending property disputes, and cases involving vulnerable sections.
- **Fast-Track Special Courts (FTSCs):** Introduced in 2019 under a Centrally Sponsored Scheme to exclusively try rape cases and offences under the Protection of Children from Sexual Offences (POCSO) Act, supported partly by the Nirbhaya Fund.

Challenges Before FTCs

- **Lack of Statutory Framework:** Absence of a comprehensive legislation results in inconsistent functioning across States.
- **Judicial Vacancies:** Shortage of judges reduces the effectiveness of dedicated courts.
- **Infrastructure Deficit:** Inadequate courtrooms, staff, digital facilities, and forensic support impede timely disposal.
- **Poor Investigation:** Weak evidence collection and delayed investigations prolong criminal trials.
- **High Case Volume:** Large number of fresh cases offsets gains achieved through faster disposal.
- **Procedural Delays:** Frequent adjournments, witness non-cooperation, and delays in legal representation affect efficiency.

Significance of FTCs

- **Timely Justice:** Reinforces the constitutional objective of speedy justice under Article 21.
- **Protection of Vulnerable Sections:** Ensures priority for victims requiring urgent legal intervention.
- **Public Confidence:** Strengthens trust in the criminal justice system through prompt adjudication.
- **Economic Stability:** Faster resolution of financial and corruption cases improves investor confidence and governance.

Way Forward

- **Enact Comprehensive Legislation:** Provide a uniform statutory framework governing establishment, jurisdiction, and functioning of FTCs.
- **Fill Judicial Vacancies:** Ensure timely appointment of judges and adequate supporting staff.
- **Strengthen Infrastructure:** Improve court infrastructure, digitalisation, forensic laboratories, and witness protection mechanisms.
- **Improve Investigation Quality:** Enhance police training, scientific evidence collection, and prosecution capacity.
- **Balanced Expansion:** Establish FTCs based on objective criteria while safeguarding constitutional guarantees under Article 14.
- **Periodic Performance Evaluation:** Regular monitoring of disposal rates, pendency, and quality of judgments should guide policy reforms.

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

1. Corruption in India

Why in the news?

- The NEET paper leak has revived the national debate on corruption, transparency, institutional accountability, and whether corruption remains the greatest obstacle to India's development.

Is Corruption the Biggest Threat to India's Future?

- **Corruption in India:** Corruption ranges from petty bribery in public service delivery to high-level policy capture and cronyism, affecting governance, economic growth, public trust, and social justice.
- **Why corruption remains a major concern:** Incidents such as the National Eligibility cum Entrance Test (NEET) paper leak, recruitment scams, financial frauds, and procurement irregularities highlight persistent governance deficits despite reforms.
- **Human cost of corruption:** Corruption deprives citizens of essential services such as healthcare, education, food security, pensions, and welfare benefits, disproportionately affecting the poor and marginalized.

Has Digitalisation Reduced Corruption?

- **Positive contributions:** Online service delivery, Direct Benefit Transfer (DBT), Unified Payments Interface (UPI), e-procurement, Government e-Marketplace (GeM), and digitised records have reduced discretionary powers and opportunities for petty corruption.
- **Limitations of digitalisation:** Digital platforms alone cannot eliminate corruption if officials manipulate systems, delay approvals, or misuse discretion.
- **Digital divide:** Poor digital literacy, inadequate internet access, and dependence on intermediaries create new opportunities for exploitation and increase transaction costs for vulnerable sections.
- **Need for grievance redressal:** Effective, time-bound grievance redressal mechanisms and accountability laws are essential to complement digital governance.

Role of the Right to Information Act in Fighting Corruption

- **Transparency as a governance tool:** The Right to Information (RTI) Act, 2005 empowers citizens to access government information, promoting transparency and accountability.
- **Exposure of major scams:** The Act has played an important role in uncovering corruption in recruitment, housing, public procurement, and electoral financing.
- **Citizen participation:** Millions of applications filed annually demonstrate the continued relevance of the Act in strengthening participatory democracy.

Challenges Facing the Right to Information Regime

- **Impact of the Digital Personal Data Protection Act, 2023:** Concerns have emerged that broader privacy exemptions may restrict disclosure of information related to public accountability.
- **Judicial interpretation:** Expanding privacy protections without balancing the public interest may reduce access to information concerning public officials.
- **Vacancies in Information Commissions:** Delayed appointments and inadequate staffing lead to growing pendency and weaken citizens' access to information.
- **Reduced transparency:** Weak implementation dilutes the effectiveness of transparency institutions despite a robust legislative framework.

Institutional Weaknesses Promoting Corruption

- **Weak enforcement:** Slow investigations and prolonged judicial delays reduce deterrence and increase the perception that corruption carries minimal risk.
- **Reduced independence of institutions:** Concerns regarding the functioning of agencies such as the Central Bureau of Investigation (CBI), Enforcement Directorate (ED), Lokpal, and vigilance bodies affect public confidence.
- **Judicial delays:** Corruption trials extending over several years weaken accountability and reduce conviction effectiveness.
- **Poor implementation of laws:** Strong legislation without effective enforcement fails to produce meaningful governance outcomes.

Measures to Strengthen Anti-Corruption Framework

- **Strengthen transparency laws:** Preserve the effectiveness of the Right to Information (RTI) Act while ensuring a balanced approach between transparency and privacy.
- **Judicial reforms:** Establish fast-track courts and ensure time-bound disposal of corruption cases to improve deterrence.
- **Independent oversight institutions:** Ensure transparent appointments, operational autonomy, and adequate resources for the Lokpal, Information Commissions, Central Vigilance Commission (CVC), and investigative agencies.
- **Comprehensive grievance redressal:** Enact a robust grievance redressal law with statutory timelines and accountability for public officials.
- **Technology with accountability:** Combine digital governance with social audits, independent monitoring, proactive disclosures, and citizen feedback mechanisms.
- **Ethical governance:** Promote integrity, transparency, whistleblower protection, and ethical leadership across public institutions.

C. SOCIAL JUSTICE

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

1. Anaemia Mukht Bharat Abhiyaan

Why in the news?

- The Union Health Ministry has launched revised operational guidelines for the Anaemia Mukht Bharat Abhiyaan, expanding beneficiary coverage, strengthening nutrition interventions and introducing digital monitoring.

Anaemia Mukht Bharat Abhiyaan (AMB)

- Anaemia Mukht Bharat Abhiyaan is the Government of India's flagship programme to reduce the prevalence of anaemia through preventive, promotive and curative interventions across vulnerable population groups.

Key Features of the Revised Guidelines

- **Expanded Beneficiary Coverage:** The programme includes low birth weight infants (0-6 months) as the seventh beneficiary group, recognising the importance of early intervention.
- **Dietary Intervention:** A new "Eating Right" component promotes regular consumption of iron-rich and diversified diets to address nutritional deficiencies.
- **Digital Monitoring:** An integrated digital ecosystem has been introduced to strengthen beneficiary tracking, monitoring, referral and follow-up.
- **Revised T4 Strategy:** The programme replaces the earlier Test, Treat and Talk (T3) approach with Test, Treat, Talk and Track (T4), emphasising routine haemoglobin testing, treatment, counselling and systematic monitoring.
- **Strengthened Institutional Mechanism:** Greater focus has been placed on monitoring and evaluation through digital tracking to improve programme implementation and accountability.

Objectives

- **Early Detection:** Promote routine haemoglobin testing for timely identification of anaemia among vulnerable groups.
- **Effective Treatment:** Ensure treatment according to national anaemia management protocols.
- **Behavioural Change:** Encourage healthy dietary practices through nutrition counselling and community participation.
- **Continuum of Care:** Strengthen referral systems and follow-up mechanisms for sustained health outcomes.

Need for the Programme

- **High Burden of Anaemia:** According to the National Family Health Survey-5, anaemia affects 67.1% of children (6-59 months), 57% of women (15-49 years), 52.2% of pregnant women and 59.1% of adolescent girls (15-19 years).
- **Maternal and Child Health:** Anaemia contributes to maternal mortality, adverse pregnancy outcomes, low birth weight and impaired child development.
- **Human Capital Development:** Anaemia reduces cognitive ability, educational performance and workforce productivity, affecting socio-economic development.

Significance

- **Improved Nutrition:** Promotion of iron-rich diets addresses one of the major causes of nutritional anaemia.

- **Technology-Driven Governance:** Digital tracking enhances transparency, monitoring and evidence-based decision-making.
- **Preventive Healthcare:** Early diagnosis and regular follow-up reduce complications associated with anaemia.
- **Community Participation:** Nutrition awareness and counselling strengthen behavioural change and improve programme effectiveness.

Challenges

- **Dietary Deficiencies:** Poor dietary diversity and inadequate intake of iron-rich foods continue to contribute to anaemia.
- **Implementation Gaps:** Effective digital monitoring requires adequate infrastructure and trained healthcare personnel.
- **Behavioural Barriers:** Limited awareness regarding nutrition and adherence to treatment may affect programme outcomes.

Way Forward

- **Strengthen Nutrition Education:** Promote awareness on balanced diets and iron-rich food consumption through community-based campaigns.
- **Improve Digital Infrastructure:** Ensure seamless implementation of digital monitoring systems across all healthcare levels.
- **Enhance Convergence:** Strengthen coordination among health, nutrition and women and child development programmes.
- **Regular Monitoring:** Use digital data for timely evaluation, corrective interventions and improved service delivery.

2. 'SUMAN Roadmap 2030'

Why in the news?

- The Union Ministry of Health and Family Welfare launched the **SUMAN Roadmap 2030** to strengthen maternal and newborn healthcare and accelerate India's progress towards achieving the Sustainable Development Goals by 2030.

Need for the Roadmap

- **Persistent Maternal and Newborn Mortality:** Despite significant progress, maternal and newborn deaths remain high in several high-focus States and underserved regions.
- **Regional Disparities:** Tribal, remote and difficult-to-reach areas continue to face inadequate healthcare infrastructure and limited emergency obstetric services.
- **Need for Targeted Interventions:** A differentiated strategy is required to address State-specific and district-specific healthcare challenges.

Key Features

- **Life-Cycle Approach:** Integrates care from pre-pregnancy, pregnancy, childbirth and postnatal period with child health, adolescent health, family planning and nutrition programmes.
- **High-Risk Pregnancy Management:** Tracks high-risk pregnancies through antenatal care, third trimester, intrapartum care and postnatal care for timely intervention.
- **Evidence-Based Strategy:** Combines national priorities with local healthcare needs using programme implementation experience and field evidence.

- **Community Participation:** Promotes community ownership through SUMAN Panchayats and Mothers' Picnic initiatives.
- **Climate-Responsive Healthcare:** Incorporates planning to reduce the impact of climate change on maternal and newborn health.

Focus Areas

- **High-Burden Districts:** Introduces focused interventions across 130 districts in 13 high-focus States with poor maternal and newborn health indicators.
- **Special Focus States:** Assam, Bihar, Chhattisgarh, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Odisha, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand and West Bengal.

Targets by 2030

- **Maternal Mortality Ratio (MMR):** Reduce to below 70 per 100,000 live births.
- **Neonatal Mortality Rate (NMR):** Achieve substantial reduction in neonatal deaths.
- **Infant Mortality Rate (IMR):** Further lower infant mortality across the country.
- **Universal Healthcare Coverage:** Ensure universal access to quality maternal and newborn healthcare services across all States and Union Territories.
- **Zero Preventable Deaths:** Achieve the goal of eliminating preventable maternal and newborn deaths.

Significance

- **Strengthened Healthcare System:** Improves quality, accessibility and equity in maternal and newborn healthcare.
- **Digital Transformation:** Leverages technology for efficient monitoring, service delivery and accountability.
- **Community-Centred Governance:** Encourages people's participation in improving maternal and child health outcomes.
- **Sustainable Development Goals:** Accelerates India's progress towards achieving Sustainable Development Goal targets related to maternal and child health by 2030.

3. Unified District Information System for Education Plus (UDISE+)

Why in the news?

- The Union Education Ministry released the Unified District Information System for Education Plus (UDISE+) 2025-26 report, highlighting improvements in enrolment, retention, digital infrastructure, and reduction in school dropout rates.

Key Highlights of UDISE+ Report 2025-26

- **Declining Dropout Rates:** Preparatory level (Classes 3-5) dropout rate declined from 2.3% to 1.8%, while secondary level (Classes 9-12) dropout rate fell from 8.2% to 7.0%.
- **Improved Student Retention:** Retention at the middle level (Classes 6-8) increased from 82.8% to 83.7%, while secondary level retention rose significantly from 47.2% to 51.9%.
- **Higher Gross Enrolment Ratio:** Gross Enrolment Ratio (GER) at the secondary level increased from 68.5% to 71.7%, indicating greater participation in secondary education.
- **Better Transition Between Stages:** Transition from middle to secondary education improved from 86.6% to 88.3%, reflecting reduced discontinuation after middle school.

Women in Higher Education

- **Higher Female Enrolment:** Female enrolment increased from 1.57 crore in 2014-15 to 2.24 crore in 2023-24, recording a 42.2% increase.
- **Gender Parity Index:** The Gender Parity Index (GPI) stood at 1.08, remaining above 1.0 for seven consecutive years, indicating higher female participation than male participation.
- **Female Gross Enrolment Ratio:** Female Gross Enrolment Ratio (GER) reached 31.2, exceeding the overall national GER of 30.
- **Women Teachers in Majority:** Women constitute 54.9% of the total teaching workforce, up from 54.2%, indicating improved gender representation in teaching.
- **Girl Student Enrolment:** Girls' enrolment increased marginally from 48.3% to 48.4%, reflecting continued progress towards gender parity.

Teacher Availability

- **Increase in Teachers:** The total number of teachers has increased by 8.3% compared to 2022-23.
- **Reduction in Single-Teacher Schools:** Strategic teacher rationalisation led to a 3% decline in single-teacher schools, improving teaching capacity.
- **Decline in Zero-Enrolment Schools:** Schools reporting zero enrolment declined by 29%, indicating better utilisation of educational infrastructure.

Digital Infrastructure

- **Computer Availability:** Schools with computer facilities increased from 64.7% to 69.9%, strengthening digital learning capacity.
- **Internet Connectivity:** Internet-enabled schools increased from 63.5% to 67.4%, supporting technology-enabled education.

Science, Technology, Engineering and Mathematics (STEM) Education

- **Growth in STEM Enrolment:** Student enrolment in Science, Technology, Engineering and Mathematics programmes increased to 1.02 crore in 2023-24.
- **Higher Female Participation:** Women's share in STEM programmes increased from 38.4% in 2014-15 to 44% in 2023-24.

School Infrastructure

- **Electricity Access:** About 95% of schools are electrified, improving the learning environment.
- **Sanitation Facilities:** Girls' toilets are available in 98.5% of schools, while boys' toilets exist in 97.2%, promoting hygiene and reducing gender-related barriers.

Challenges

- **Secondary Education Retention:** Despite improvements, nearly half of eligible students still do not continue through secondary education.
- **Digital Divide:** Around one-third of schools still lack computers and internet connectivity.
- **Quality of Learning:** Improved enrolment and retention must be complemented by better learning outcomes and foundational literacy.
- **Regional Disparities:** Educational infrastructure and access continue to vary significantly across States and districts.

Way Forward

- **Strengthen Secondary Education:** Expand scholarships, counselling, and vocational education to further reduce dropout rates.
- **Bridge the Digital Gap:** Ensure universal access to computers, internet connectivity, and digital learning resources.
- **Improve Teacher Capacity:** Continue teacher recruitment, rational deployment, and regular professional development.
- **Enhance Learning Outcomes:** Focus on foundational literacy, numeracy, and competency-based education through continuous assessment and targeted interventions.

4. Undergraduate Enrolments Decline in India

Why in the news?

- The latest All India Survey on Higher Education (AISHE) 2022-23 and 2023-24 reports reveal the first-ever decline in undergraduate enrolments in India since the survey began in 2011.

All India Survey on Higher Education (AISHE)

- **About:** The All India Survey on Higher Education (AISHE) is the official annual survey conducted by the Ministry of Education to collect comprehensive data on higher education institutions across India.
- **Objective:** It provides reliable statistics for policy formulation, planning, monitoring, and evaluation of the higher education sector.
- **Coverage:** The survey collects data from universities, colleges, standalone institutions, and other Higher Education Institutions (HEIs).

Key Findings of AISHE 2023-24

- **First-Ever Decline in Undergraduate Enrolment:** Undergraduate enrolment declined by about 93,000 (0.27%) compared to 2022-23, marking the first decline since AISHE was launched in 2011.
- **Overall Higher Education Enrolment:** Total enrolment increased marginally by 3.7 lakh (0.8%), the slowest growth recorded under AISHE.
- **Female Participation:** Female undergraduate enrolment increased by 1.8%, while male enrolment declined by 2.2%, indicating improved gender parity.
- **Gross Enrolment Ratio (GER):** The Gross Enrolment Ratio increased marginally from 29.5 to 30, reflecting continued expansion in access to higher education.

State-wise Trends

- **States Recording Major Decline:** Maharashtra, Uttar Pradesh, Delhi, Jammu and Kashmir, and West Bengal witnessed significant declines in undergraduate enrolment.
- **States Recording Increase:** Tamil Nadu, Bihar, Karnataka, and Odisha registered increases, partly offsetting the national decline.
- **Tamil Nadu's Performance:** Tamil Nadu recorded the highest increase in undergraduate enrolment, compensating for declines in several other States.

Course-wise Trends

- **Traditional Courses Decline:** Undergraduate enrolment declined mainly in Arts, Science, and Commerce programmes.
- **Diploma Courses:** Uttar Pradesh witnessed a simultaneous rise in diploma enrolments, suggesting a shift towards vocational and skill-based education.

Possible Reasons for Decline

- **Shift Towards Skill Education:** Growing preference for diploma, vocational, and employment-oriented courses.
- **Changing Employment Aspirations:** Students increasingly favour skill-based qualifications aligned with industry demand.
- **Regional Variations:** Differences in demographic trends, migration, and State-level education policies influence enrolment patterns.
- **Delayed Data Publication:** Delay in release of AISHE reports limited timely policy interventions to address emerging trends.

Concerns

- **Impact on Human Capital:** Declining undergraduate enrolment may affect the availability of a skilled workforce for knowledge-intensive sectors.
- **Regional Imbalances:** Significant interstate disparities could widen educational and economic inequalities.
- **Decline in Traditional Disciplines:** Reduced enrolment in Arts, Science, and Commerce may impact research, teaching, and public sector recruitment.
- **Policy Uncertainty:** Lack of official explanation for the decline raises concerns regarding evidence-based educational planning.

Way Forward

- **Analyse Causes:** Conduct detailed studies to identify demographic, economic, and institutional factors behind declining undergraduate enrolment.
- **Strengthen Undergraduate Education:** Improve curriculum relevance, employability, research opportunities, and industry linkages.
- **Promote Regional Equity:** Provide targeted support to States experiencing significant declines in enrolment.
- **Timely Data Release:** Ensure regular publication of AISHE reports for evidence-based policymaking and effective monitoring of higher education reforms.

II. Issues relating to Poverty and Hunger

1. Hamburg Sustainability Conference 2026

Why in the news?

- The Global Report on Food Crises (GRFC) 2026 highlighted that over 266 million people across 47 countries faced acute food insecurity in 2025, raising concerns over achieving Sustainable Development Goal 2 (Zero Hunger).

Key Findings

- **Acute Food Insecurity:** Around **266 million people** across **47 countries** experienced high levels of acute food insecurity in 2025.
- **Persistent Hunger:** More than **22.9%** of the assessed population faced acute hunger, with the proportion remaining above **20%** since 2020.
- **Growing Crisis:** Global acute hunger has nearly doubled compared to 2016 despite international efforts.
- **Famine Declaration:** Famines were declared in **Gaza** and parts of **Sudan**, marking the first instance of simultaneous famines in multiple countries.

Worst-Affected Countries

- **High Burden Nations:** Afghanistan, Bangladesh, Democratic Republic of the Congo, Myanmar, Nigeria, Pakistan, South Sudan, Sudan, Syrian Arab Republic and Yemen accounted for nearly two-thirds of the affected population.
- **Most Severe Crises:** Afghanistan, South Sudan, Sudan and Yemen experienced the highest levels of food insecurity.

Food Insecurity Classification

- **Catastrophe (IPC/CH Phase 5):** Around **1.4 million people** across six countries faced catastrophic food insecurity, involving starvation, destitution and extremely critical acute malnutrition.
- **Emergency (IPC/CH Phase 4):** Nearly **39 million people** across 32 countries faced emergency levels of food insecurity requiring urgent humanitarian assistance.
- **Integrated Food Security Phase Classification (IPC):** An internationally recognised framework for analysing and classifying the severity of food insecurity.

Major Drivers of Food Crisis

- **Conflict and Insecurity:** Conflict became the leading driver of acute food insecurity, affecting **147.4 million people** across 19 countries.
- **Extreme Weather Events:** Droughts, floods and climate-related disasters affected **87.5 million people** across 16 countries.
- **Forced Displacement:** Population displacement due to conflict and disasters further disrupted livelihoods and food access.
- **Economic Shocks:** Inflation, supply chain disruptions and declining purchasing power aggravated food insecurity.
- **Child Malnutrition:** Around **35.5 million children** suffered from acute malnutrition in 2025.
- **Severe Acute Malnutrition:** Nearly **10 million children** experienced severe acute malnutrition requiring immediate therapeutic intervention.
- **Multiple Vulnerabilities:** Food insecurity was compounded by disease, poor healthcare access and inadequate nutrition services.

Challenges

- **Prolonged Conflicts:** Continuing wars disrupt agricultural production, food supply chains and humanitarian access.
- **Climate Change:** Increasing frequency of extreme weather events threatens food production systems.
- **Resource Constraints:** Declining international financial assistance limits humanitarian response capacity.
- **Weak Monitoring Systems:** Reduced survey coverage hampers timely identification and management of food crises.

Way Forward

- **Strengthen Humanitarian Financing:** Increase predictable and sustained funding for emergency food assistance and nutrition programmes.
- **Conflict Resolution:** Promote peacebuilding and humanitarian access in conflict-affected regions.
- **Climate-Resilient Agriculture:** Invest in sustainable farming practices, irrigation and climate adaptation measures.
- **Improve Food Systems:** Enhance agricultural productivity, storage, transportation and market access.
- **Strengthen Data Systems:** Improve food security monitoring, early warning systems and international data-sharing mechanisms.

- **Promote Global Cooperation:** Foster coordinated action among governments, international organisations and development partners to achieve Sustainable Development Goal 2 (Zero Hunger).

D. INTERNATIONAL RELATIONS

I. India & World

1. PM Visit to Seychelles

Why in the news?

- Prime Minister Narendra Modi's visit to the Seychelles strengthened India-Seychelles ties through 19 agreements, reinforcing maritime security, Blue Economy cooperation, climate action and India's Indian Ocean vision.



Significance of Seychelles for India

- **Strategic Location:** The Seychelles occupies a crucial position in the western Indian Ocean, making it vital for maritime security, sea lane protection and regional stability.
- **Indian Ocean Vision:** India views the Indian Ocean as a shared space where security, sustainability and economic prosperity are collective responsibilities.
- **Gateway to the Region:** Enhanced connectivity with the Seychelles strengthens India's engagement with East Africa and the wider Indian Ocean Region.

Key Outcomes of the Visit

- **Defence and Maritime Security:** India gifted a fast patrol vessel, utility vehicles and Laser Radial class boats, completed the refit of PS Zoroaster and upgraded a Dornier aircraft to strengthen the Seychelles' maritime capabilities.

- **Digital Cooperation:** Both countries agreed to introduce Unified Payments Interface (UPI)-based digital payments to enhance financial connectivity.
- **Space Cooperation:** An agreement was signed to promote cooperation in the peaceful uses of outer space.
- **Healthcare:** Both sides agreed on preliminary preparations for establishing a new Seychelles National Hospital.
- **Economic Cooperation:** An umbrella Line of Credit agreement was concluded with the Export-Import Bank of India to support development projects.
- **Legal Cooperation:** India and the Seychelles signed an extradition treaty to strengthen legal and judicial cooperation.
- **Emerging Areas:** Cooperation was expanded in technology, agriculture, education, connectivity and digital infrastructure.
- **Blue Economy Cooperation**
 - **Sustainable Ocean Resources:** The Blue Economy was identified as a natural and strategic pillar of bilateral relations, promoting sustainable utilisation of marine resources.
 - **Clean Energy Partnership:** Both countries agreed to strengthen cooperation in emerging clean energy sectors, including green hydrogen.
- **Climate Change**
 - **Support for Island Nations:** India reiterated that island nations are disproportionately affected by climate change despite contributing the least to global emissions.
 - **Climate Justice:** India emphasised that climate action should be guided by fairness, responsibility and equity.
- **People-to-People Relations**
 - **Cultural Links:** The popularity of Yoga and Indian cinema reflects the strong cultural ties between India and the Seychelles.
 - **Youth Exchanges:** Both countries agreed to strengthen people-to-people interactions, particularly among the youth.

Significance for India

- **Maritime Security:** Enhanced cooperation strengthens maritime domain awareness and contributes to a safer and more secure Indian Ocean Region.
- **Neighbourhood and Global South:** The partnership reinforces India's commitment to the Global South and its vision of inclusive regional development.
- **Regional Connectivity:** Improved connectivity supports trade, investment and India's strategic engagement in the Indian Ocean.

2. 16th India-Japan Annual Summit

Why in the news?

- India and Japan held the **16th India-Japan Annual Summit**, adopting multiple agreements to deepen their Special Strategic and Global Partnership across defence, economic security, technology and Indo-Pacific cooperation.

Key Pillars of Cooperation

- **Defence Cooperation**
 - **Maritime Security:** Expansion of maritime domain awareness, naval exercises and maintenance, repair and overhaul (MRO) cooperation.
 - **Defence Manufacturing:** Promotion of defence equipment production under the "Make in India" initiative.

- **Technology Transfer:** Progress on the Unified Complex Radio Antenna (UNICORN) project and exploration of additional defence technology projects.
- **Strategic Dialogue:** Fourth India-Japan 2+2 Ministerial Meeting to be held in Tokyo.
- **Economic Security**
 - **Supply Chain Resilience:** Commitment to diversify supply chains and reduce dependence on a single country for critical sectors.
 - **Critical Technologies:** Joint Declaration on Economic Security covering semiconductors, critical minerals, information and communication technology, clean energy and pharmaceuticals.
 - **Trade Facilitation:** Commitment to improve export controls, investment climate and review the Comprehensive Economic Partnership Agreement (CEPA).
 - **Investment Promotion:** Progress towards the target of **10 trillion Yen** in Japanese investment in India.
- **Energy Cooperation**
 - **Energy Security:** Cooperation on resilient energy supply chains and uninterrupted maritime energy transportation.
 - **Clean Energy:** Launch of the India-Japan Cooperative Biogas for Growth Initiative.
 - **Hydrogen and Ammonia:** Promotion of clean ammonia and green hydrogen projects.
 - **Strategic Petroleum Reserves:** Technical collaboration and exchange of best practices.
 - **International Energy Agency (IEA):** Japan reaffirmed support for India's membership.
- **Technology Cooperation**
 - **Artificial Intelligence (AI):** Adoption of the Joint Statement on Artificial Intelligence cooperation and launch of the India-Japan Artificial Intelligence Strategic Dialogue.
 - **Quantum Technologies:** Signing of a Letter of Intent for cooperation in quantum technologies.
 - **Digital Infrastructure:** Development of trusted, resilient and secure digital infrastructure.
 - **Innovation Ecosystem:** Promotion of research collaboration, startups and advanced technology partnerships.
- **Infrastructure and Connectivity**
 - **Mumbai-Ahmedabad High-Speed Rail:** Reaffirmed commitment to operationalise priority sections and cooperate on future high-speed rail corridors.
 - **Metro Projects:** Continued Japanese support for metro rail projects in Mumbai and Bengaluru.
 - **Industrial Corridors:** Strengthening logistics, mobility and infrastructure partnerships.
 - **North-East Development:** Continued cooperation in connectivity, healthcare, disaster management and industrial development in India's North-Eastern Region.
- **Regional and Global Cooperation**
 - **Free and Open Indo-Pacific (FOIP):** Reaffirmed commitment to a free, open, inclusive and rules-based Indo-Pacific.
 - **Quad Cooperation:** Strengthening cooperation under the Quad in maritime security, critical technologies, critical minerals and humanitarian assistance.
 - **Association of Southeast Asian Nations (ASEAN):** Reiterated support for ASEAN Centrality and the ASEAN Outlook on the Indo-Pacific.
 - **United Nations Security Council (UNSC) Reform:** Reaffirmed mutual support for permanent membership in a reformed United Nations Security Council.
 - **Africa Partnership:** Expanded cooperation in Africa through sustainable development and investment initiatives.
 - **Ukraine and Middle East:** Supported peaceful resolution of conflicts through diplomacy and international law.
- **Counter-Terrorism**
 - **Condemnation of Terrorism:** Strongly condemned terrorism, including cross-border terrorism.
 - **International Cooperation:** Called for action against United Nations-listed terrorist organisations and elimination of terrorist financing.

- **Rule-Based Order:** Emphasised adherence to international law and accountability for terrorist acts.

Way Forward

- **Deepen Strategic Cooperation:** Expand defence, maritime and technology partnerships.
- **Strengthen Economic Integration:** Accelerate implementation of investment commitments and Comprehensive Economic Partnership Agreement (CEPA) review.
- **Promote Emerging Technologies:** Enhance collaboration in Artificial Intelligence (AI), semiconductors, quantum technologies and clean energy.
- **Expand People-to-People Ties:** Strengthen educational, cultural, tourism and skill-development exchanges to reinforce long-term bilateral relations.

3. India-Australia Relations

Why in the news?

- India and Australia adopted a Joint Declaration on Defence and Security Cooperation, signed agreements on civil nuclear energy and critical minerals, and announced the repatriation of three ancient Indian antiquities.

Key Features of the Declaration

- **Defence Cooperation:** Both countries agreed to deepen military engagement through regular strategic consultations, enhanced interoperability, expanded defence cooperation, and greater information sharing.
- **Military Exercises:** The two sides will increase the frequency, complexity, and scope of bilateral and multilateral military exercises.
- **Personnel Exchanges:** The agreement promotes greater exchanges through military education, training programmes, liaison appointments, and cooperation in defence workforce development.
- **Defence Industry Collaboration:** India and Australia will strengthen defence manufacturing, resilient supply chains, defence innovation, science, and technology collaboration.

Maritime Security Cooperation

- **Maritime Security Road Map:** Both countries will implement the India-Australia Maritime Security Collaboration Road Map to strengthen coordination across the Indian Ocean and the wider Indo-Pacific.
- **Indo-Pacific Vision:** The partnership supports a free, open, stable, inclusive, and rules-based Indo-Pacific region based on international law and freedom of navigation.
- **Regional Cooperation:** The two countries reaffirmed support for the Indian Ocean Rim Association (IORA), Association of Southeast Asian Nations (ASEAN)-led regional mechanisms, and the Pacific Islands Forum.

Energy and Economic Cooperation

- **Civil Nuclear Energy Agreement:** India and Australia signed an agreement facilitating the commercial supply of Australian uranium for India's civilian nuclear energy programme.
- **Critical Minerals Partnership:** Both countries agreed to establish a critical minerals corridor to strengthen resilient supply chains for strategic minerals essential for clean energy technologies.
- **Energy Security Framework:** India and Australia committed to ensuring reliable supplies of coal, diesel, natural gas, and other energy resources to strengthen energy security.
- **Cyber and Critical Technologies:** The Australia-India Partnership on Cyber, Critical Technologies, and Supply Chains was launched to enhance technological cooperation.

Institutional Mechanisms

- **2+2 Ministerial Dialogue:** A dialogue involving the Foreign and Defence Ministers of both countries to strengthen strategic and defence cooperation.
- **Foreign Ministers' Framework Dialogue:** A mechanism to review bilateral relations and coordinate foreign policy priorities.
- **Defence Ministers' Dialogue:** A platform for advancing defence collaboration, military cooperation, and security initiatives.

Strategic Significance

- **Indo-Pacific Stability:** Enhanced cooperation contributes to regional peace, maritime security, and rules-based international order.
- **Countering Geostrategic Challenges:** The partnership strengthens collective capacity to address emerging strategic, economic, and security challenges.
- **Supply Chain Resilience:** Cooperation in critical minerals and defence manufacturing reduces dependence on concentrated global supply chains.
- **Clean Energy Transition:** Uranium supply supports India's low-carbon energy transition and long-term energy security.

Repatriation of Indian Antiquities



- **Returned Artefacts:** Australia will repatriate three ancient artefacts—a Chola-era bronze trident of Goddess Bhadrakali, a granite Nandi idol, and a basalt sculpture of Lord Karthikeya (Shanmukha).
- **Origin:** The artefacts belong to the 11th-12th centuries and originated from temples in Tamil Nadu.
- **Legal Framework:** The repatriation is being carried out under the Mutual Legal Assistance Treaty (MLAT) following investigations establishing that the artefacts had been illegally trafficked from India.
- **Importance:** The return of the antiquities strengthens cultural diplomacy, protects India's heritage, and promotes international cooperation against illicit trafficking of cultural property.

Way Forward

- **Expand Defence Partnership:** Accelerate joint military exercises, defence technology cooperation, and industrial collaboration.
- **Strengthen Indo-Pacific Cooperation:** Enhance maritime domain awareness, disaster response, and regional security partnerships.

- **Deepen Economic Integration:** Promote cooperation in critical minerals, renewable energy, cyber security, and emerging technologies.
- **Protect Cultural Heritage:** Strengthen international collaboration for the identification, recovery, and repatriation of stolen cultural artefacts through legal and diplomatic mechanisms.

4. India-New Zealand Relations

Why in the news?

- Prime Minister Narendra Modi's visit to New Zealand marks the first visit by an Indian Prime Minister in nearly 40 years and reflects the growing strategic importance of bilateral relations.

Key Areas of Cooperation

- **Trade and Economic Relations:** Both countries aim to expand trade, investment, and economic engagement while exploring new opportunities in agriculture, technology, education, and services.
- **Defence and Security:** Cooperation is expected to deepen in maritime security, defence dialogue, Indo-Pacific stability, and regional security challenges.
- **People-to-People Ties:** Strong Indian diaspora, educational exchanges, tourism, and cultural interactions continue to strengthen bilateral relations.

Indo-Pacific Cooperation

- **Shared Vision:** India and New Zealand support a free, open, inclusive, and rules-based Indo-Pacific that respects international law, sovereignty, and freedom of navigation.
- **Rules-Based International Order:** Both countries emphasise strengthening the international rules-based order amid growing geopolitical competition.
- **Strategic Importance:** Enhanced cooperation contributes to regional peace, maritime security, and stability in the Indo-Pacific.

Global Geopolitical Context

- **Changing Global Order:** New Zealand highlighted the transition from a rules-based international system towards a more power-based and multipolar global order.
- **Need for Like-Minded Partnerships:** Both countries recognise the importance of closer cooperation among democratic nations to uphold international norms and multilateral institutions.
- **Global South Representation:** New Zealand supported greater representation and reforms in global governance institutions to reflect the aspirations of developing countries.

Immigration and Education

- **Opportunities for Skilled Migration:** New Zealand views skilled Indian professionals and students as valuable contributors to its economy and workforce.
- **Education Cooperation:** New Zealand's English-language education system, research institutions, and safe environment offer opportunities for greater educational collaboration.
- **Migration Policy:** The country emphasises legal, skill-based, and economically aligned immigration to address workforce shortages.

Significance for India

- **Diversification of Partnerships:** Stronger engagement with New Zealand supports India's Act East Policy and Indo-Pacific strategy by expanding partnerships in the Pacific region.

- **Economic Opportunities:** Enhanced trade, investment, education, and technology cooperation can strengthen economic growth and innovation.
- **Strategic Collaboration:** Defence, maritime security, and regional cooperation reinforce India's role as a key Indo-Pacific stakeholder.
- **Indian Diaspora:** A vibrant Indian community in New Zealand serves as a bridge for strengthening cultural, educational, and economic relations.

Challenges

- **Limited Trade Volume:** Bilateral trade remains below its potential despite complementary economic strengths.
- **Geographical Distance:** Physical distance increases logistics costs and limits economic integration.
- **Need for Institutional Mechanisms:** Greater cooperation requires stronger frameworks for trade, investment, mobility, and strategic dialogue.

Way Forward

- **Expand Economic Engagement:** Accelerate negotiations on trade and investment, promote business partnerships, and strengthen cooperation in agriculture, renewable energy, and digital technologies.
- **Deepen Strategic Partnership:** Enhance defence cooperation, maritime domain awareness, cybersecurity, and Indo-Pacific coordination.
- **Strengthen Educational Collaboration:** Increase academic exchanges, research partnerships, and student mobility programmes.
- **Promote Multilateral Cooperation:** Work together to support reforms in global governance institutions and strengthen the rules-based international order.

5. Protecting Indian Seafarers

Why in the news?

- Deaths and risks faced by Indian seafarers amid the West Asia conflict have highlighted gaps in maritime labour protection
- **Growing importance of Indian seafarers:** India has around 3.2 lakh seafarers (June 2025) and is the world's second-largest supplier of maritime workforce, making their welfare a strategic national priority.

Challenges Faced by Indian Seafarers

- **Jurisdictional ambiguity:** Multiple stakeholders including flag states, shipowners, insurers, port authorities, and coastal states create uncertainty regarding legal and humanitarian responsibility.
- **Conflict-zone risks:** Indian seafarers face missile attacks, drone strikes, naval conflicts, piracy, hostage situations, and detention in regions such as West Asia, the Red Sea, the Black Sea, and the Gulf of Aden.
- **Abandonment by shipowners:** Many seafarers are left without wages, food, medical care, or repatriation when shipping companies abandon vessels or become insolvent.
- **Weak consular visibility:** Indian diplomatic missions often remain unaware of the presence of Indian seafarers until emergencies occur.
- **Mental and social distress:** Long periods at sea, uncertainty, communication gaps, and risks to life adversely affect the mental health of seafarers and their families.

Recent Government Initiatives

- **Seafarer First response:** The Government has initiated a mechanism to account for Indian seafarers in conflict-affected regions irrespective of the vessel's flag.

- **Digital monitoring dashboard:** A dedicated dashboard tracks ships, emerging threats, crew welfare, and enables coordinated emergency response.
- **Family liaison officers:** Designated officers maintain regular communication with affected families and facilitate information sharing during crises.
- **Deployment advisory:** The Directorate General of Shipping has advised shipping companies to avoid deploying Indian seafarers through high-risk regions such as the Strait of Hormuz.

Limitations of Existing Mechanisms

- **Technology cannot replace accountability:** Ship tracking systems identify vessel locations but cannot compel shipowners or flag states to rescue or repatriate crew.
- **Weak enforcement of international obligations:** Some flag states inadequately implement provisions relating to wages, welfare, abandonment, and repatriation.
- **Limited bilateral safeguards:** Existing maritime agreements primarily focus on certification recognition and employment opportunities rather than legal protection and emergency assistance.
- **Lack of standard operating procedures:** India lacks a comprehensive maritime consular protocol defining responsibilities during emergencies involving Indian seafarers.

International Legal Framework

- **Maritime Labour Convention (MLC), 2006:** Establishes minimum global standards for seafarers' working conditions, welfare, wages, medical care, and repatriation.
- **International Maritime Organization (IMO):** Promotes maritime safety, secure navigation, and international cooperation for shipping governance.
- **International Labour Organization (ILO):** Protects labour rights, including occupational safety and welfare of maritime workers.
- **United Nations Convention on the Law of the Sea (UNCLOS):** Provides the legal framework governing maritime navigation, responsibilities of states, and freedom of navigation.

Way Forward

- **Strengthen maritime diplomacy:** Integrate seafarer welfare into India's maritime foreign policy and bilateral shipping agreements.
- **Improve emergency preparedness:** Institutionalise digital monitoring, family liaison mechanisms, and maritime crisis response systems beyond conflict situations.
- **Enhance legal protection:** Strengthen domestic regulations governing recruitment agencies, employer accountability, and emergency repatriation.
- **Adopt a human-centric maritime strategy:** India's maritime vision should place the safety, dignity, welfare, and rights of its seafarers alongside ports, shipping infrastructure, and maritime trade.



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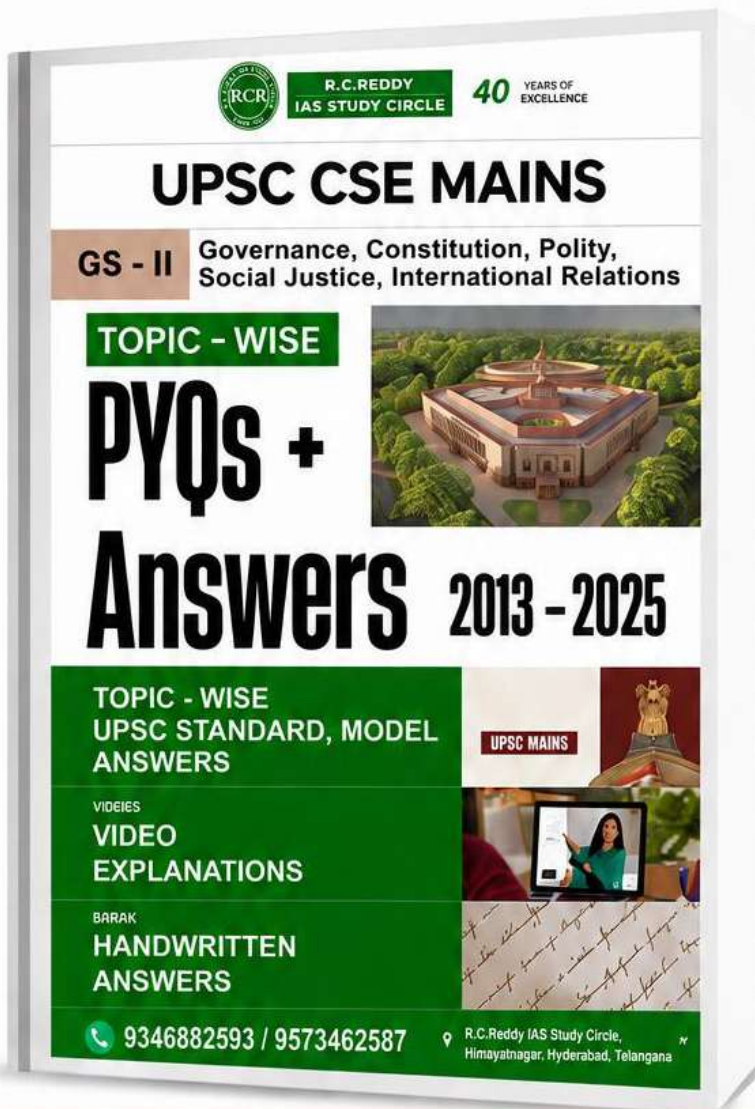
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**R.C.Reddy IAS Study Circle,
Himayatnagar,
Hyderabad, Telangana**

GENERAL STUDIES - 3

A. INDIAN ECONOMY

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

1. STATE GOVERNMENT FINANCES AND FISCAL TIGHTROPE

Why in news?

- **Kerala and Tamil Nadu** released White Papers highlighting their **alarming debt levels**, of State finances.

State Current Fiscal Deficit Levels

- **Consolidated Deficit:** States' combined gross fiscal deficit rose to **3.3% of GDP in 2024-25**, budgeted at the same level for 2025-26.
- **Outstanding Liabilities:** Estimated at **29.2% of GDP** by March 2026, reflecting post-pandemic borrowing pressures.
- **High-Debt States:** Punjab - liabilities at **45.1% of GSDP**. Himachal Pradesh - **40.5% of GSDP**. Rajasthan - **36.8% of GSDP**. Andhra Pradesh - **36% of GSDP**.
- **Low-Debt States:** Odisha - **14.1% of GSDP**. Gujarat - **14.7% of GSDP**.

Funding Sources of states

1. Own Revenues (State GST & Sales Tax):

- States generate income mainly through **State GST (SGST)** and **sales tax**.
- These are important but limited, as many major taxes (like income tax, customs, excise) are controlled by the Union government.

2. Union Transfers (Devolution, Grants, Loans):

- A large share of State finances comes from the **Centre's tax devolution, grants, and loans**.
- This makes States dependent on Union allocations, which may not always match their population or needs.

Kerala's Imbalance:

- Kerala collects **1.5 times the national average in per-capita tax revenue**, showing strong fiscal effort.
- Yet, its share in Union tax devolution was only **1.92%**, lower than its **2.6% population share** in 2023-24. This means even efficient States receive proportionally less support from the Centre.
- To bridge the gap between **high expenditure needs** and **limited receipts**, States turn to **market borrowings**.
- These borrowings come at **high interest rates (6.5-7.5%)**, further tightening fiscal space.
- Over time, this adds to debt burdens and reduces funds available for development projects.

Spending Patterns - Kerala

Capital Expenditure: Only ~10% of budget goes to long-term investments.

Revenue Expenditure:

- ~20% on salaries (teachers, doctors, police).
- 15.3% on pensions.
- 16.5% on interest payments.

Outcome: Limited fiscal space for infrastructure, higher education, or public transport.

Balancing Welfare and Growth

- **Revenue Expenditure:** States allocate large shares to **salaries, pensions, and welfare schemes**. Cutting these costs risks weakening **health, education, and social protection systems**, which are crucial for long-term progress.
- **Low Capital Investment & Competitiveness:** Only about **10% of state budgets** go to capital expenditure. Limited funds for **infrastructure** restrict competitiveness in knowledge-intensive sectors.
- **China Comparison:** Chinese provinces **borrow at ~2%** from domestic savings under central planning. **Indian States borrow via SDLs at 6.5-7.5%**, higher than Union government rates, creating a **double squeeze of borrowing limits and high costs**.

Way Forward

- **Enable Cheaper Access to Domestic Savings:** Create mechanisms for States to borrow at **lower interest rates** from domestic institutions like banks and insurance companies.
- **Link Borrowing to Productive Investment:** Ensure that debt is used for **capital expenditure** (infrastructure, education, transport) rather than routine salaries and pensions.
- **Strengthen Fiscal Federalism:** Revise **tax devolution formulas** to better reflect population, fiscal effort, and social needs.
- **Promote Innovative Financing Models:** Encourage States to explore **municipal bonds, pooled financing, and PPPs** for infrastructure.

Conclusion

Reforming borrowing frameworks and enabling cheaper access to savings is vital to sustain development without undermining fiscal stability.

2. INDIA'S 8TH WTO TRADE POLICY REVIEW

Why in news?

- India's **8th Trade Policy Review (TPR)** began at the **WTO in Geneva on 21 July 2026**, covering the period 2021-2025.

India's Economic & Trade Performance (2021-2025)

- **GDP Growth:** Averaged **8% annually**, showing resilience despite supply chain shocks and global protectionism.
- **Exports:** Achieved record levels of **USD 863.1 billion in 2025-26**.
- **Vision:** Pursued **Viksit Bharat @2047**, balancing growth with developmental needs of nearly **20% of the world's population**.
- **Resilience:** Maintained stability despite **geopolitical tensions and rising trade barriers**.

Recognition from WTO Members

- **WTO TPR Body:** Praised India's fast growth, digital services exports, and **Digital Public Infrastructure (DPI) reforms**.
- **Fisheries Subsidies Agreement:** Welcomed India's acceptance of the pact.
- **Brazil's Observations:** Highlighted GST success, digital trade reforms, regional trade agreements, and India's **Duty-Free Tariff Preference (DFTP) scheme** for LDCs.
- **Global Model:** India's DPI cited as a **replicable framework for developing nations**.

E-Commerce Agreement

- India opposed the **66-nation plurilateral E-Commerce Agreement (ECA)**.

- **Arguments:**
 - WTO consensus rule requires approval of all members for new plurilateral pacts under Annex 4.
 - Interim arrangement by 66 countries seen as **institutional overreach**.
 - India warned this undermines the **multilateral character** of WTO.
- Broader divide: Proponents argue plurilateral deals prevent paralysis; India insists they weaken inclusivity.

Significance of TPR for India

- Reinforces India's image as a **responsible multilateral stakeholder**.
- Balances **self-reliance with global integration**.
- Strengthens credibility in WTO negotiations and reform debates.
- Highlights India's leadership in **digital trade, services exports, and South-South cooperation**.
- Showcases India's **soft power diplomacy** through cultural exhibitions.

Major Reforms

- **Aatmanirbhar Bharat:** Boosting domestic manufacturing while integrating with global value chains.
- **Jan Vishwas Initiative:** Simplifying regulations and improving ease of doing business.
- **Digital Customs & Trade Facilitation:** Faster clearances, paperless trade.
- **Logistics Modernisation:** Quality infrastructure for competitiveness.
- **Digital Public Infrastructure (DPI):** Aadhaar, UPI, MyGov, eSanjeevani - enabling inclusion and efficiency.
- **Innovation & Startups:** Promotion of AI, R&D, and entrepreneurship.
- **Sustainability:** Agricultural resilience, green growth, and inclusive development.
- **Regional Trade Agreements (RTAs):** Expanding India's integration with partner economies.
- **South-South Cooperation:** Continued support via ITEC and DFTP schemes for LDCs.

Conclusion:

India's 8th WTO Trade Policy Review underscores its role as a **transparent, reform-driven, and inclusive voice in global trade**, while firmly defending multilateralism against fragmented plurilateral approaches.

II. Growth and Development, employment

1. UNLOCKING GROWTH IN INDIA'S TOURISM AND HOSPITALITY SECTOR

Why in news?

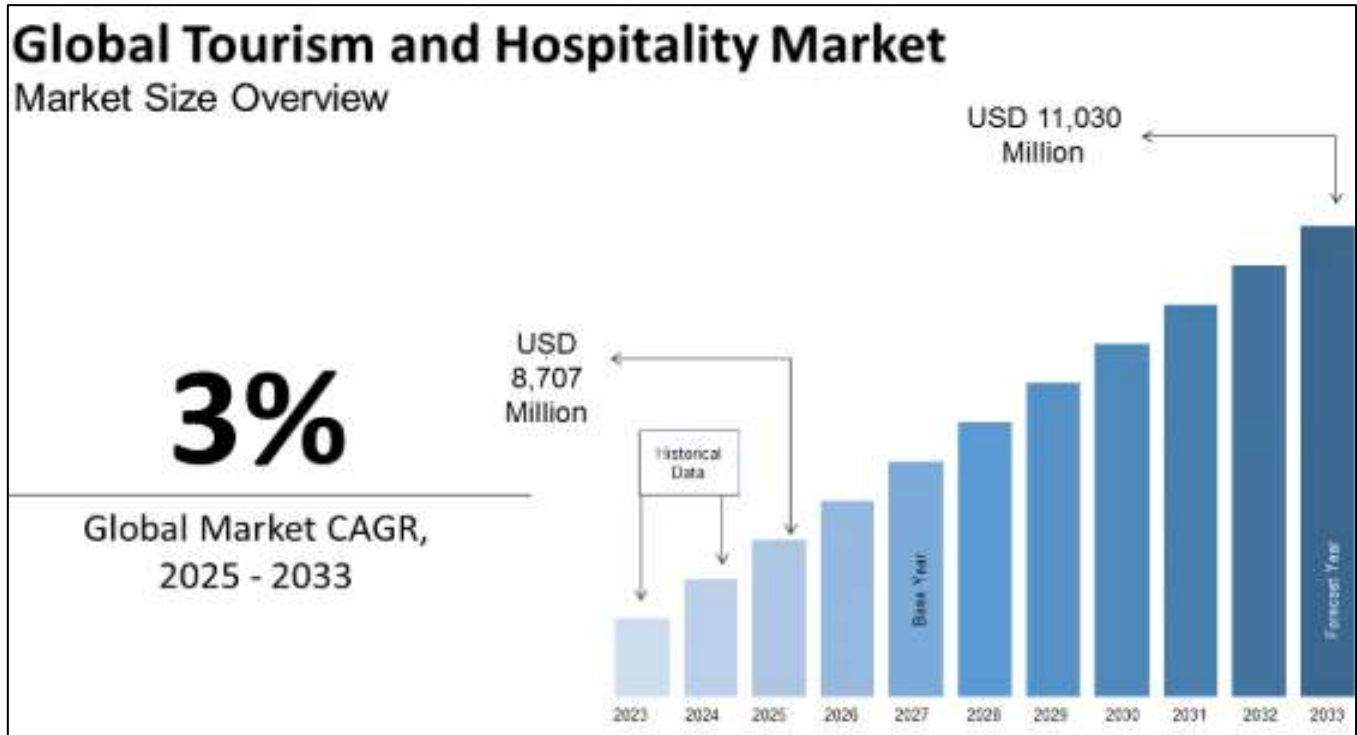
- The **Ministry of Tourism**, along with **NITI Aayog**, released a report titled **"Unlocking Growth in Tourism and Hospitality Sector"** at a national workshop in New Delhi.

Tourism and Hospitality Sector in India

- **Domestic Tourism Surge:** India recorded **2.9 billion domestic tourist visits in 2024**, surpassing the pre-pandemic peak of 2.3 billion in 2019.
- **Foreign Arrivals:** India welcomed **9.95 million foreign tourists in 2024**, generating nearly **USD 35 billion** in tourism receipts.
- **Global Ranking:** India ranks **6th in natural resources** and **9th in cultural resources** in the **Travel & Tourism Development Index (TTDI)**.
- However, overall competitiveness is lower at **39th position**, showing scope for improvement in infrastructure and ease of doing business.
- **Project Delays:** Hotel projects in India require nearly **60 approvals** and take **36-48 months** to complete.

Opportunities

- **Employment Generation:** Tourism is highly job-intensive, creating work across skill levels.
- **Balanced Regional Growth:** Promotes investment in rural, coastal, and heritage areas.
- **Foreign Exchange Earnings:** Spending by international tourists strengthens India's external sector.
- **High-Value Tourism:** Focus on wellness, Ayurveda, luxury heritage, and spiritual tourism to attract premium visitors.
- **Homestays Expansion:** Affordable infrastructure with direct rural income; generated **₹4,722 crore in 2024**.



Challenges

- **Restrictive Building Norms:** Hotel projects in India require **around 60 clearances** and take **3-4 years** to complete (NITI Aayog, 2026).
- **Fragmented Licensing & Compliance Burden:** Frequent renewals add costs; businesses spend **15-20% of operational time** on compliance paperwork (PIB, 2025).
- **Transport Barriers:** Interstate tourist vehicles face **separate state taxes** despite valid All India Tourist Permits. This raises transport costs by **10-15%**, discouraging seamless tourism circuits.
- **Complex Visa Procedures:** India's e-Visa forms have **70+ fields**; payment failures deter visitors. India received **9.95 million foreign tourists in 2024**, far lower than Thailand's **28 million**.

Recommendations of NITI Aayog

- **Liberalize Building Rules:** Relax **Floor Area Ratio (FAR)** and ground coverage restrictions to reduce construction costs. Faster approvals will encourage **private investment in hotels and tourism infrastructure**.
- **Simplify Licensing:** Merge multiple permits into a **single approval system**. Removing duplicate licenses will improve **ease of doing business** in hospitality.
- **Promote Homestays:** Increase the permissible **room limit for registered homestays**. Remove unnecessary **No Objection Certificates (NOCs)** to boost **community-based rural tourism**.
- **Reform Tourist Transport:** Extend validity of **All India Tourist Permits (AITP)**. Remove overlapping state taxes to ensure **seamless interstate travel**.

Conclusion:

By easing regulations, improving infrastructure, and promoting high-value tourism, India can transform tourism into a **major driver of inclusive growth and global competitiveness** under the Viksit Bharat 2047 vision.

2. PLFS SURVEY AND INFORMAL ENTERPRISE TRENDS**Why in news?**

- The **National Statistics Office (NSO)** released two reports *Labour Market Dynamics in Million-plus Cities (PLFS 2025)* and *Urban Unincorporated Enterprise Landscape (ASUSE 2025)* the **first detailed statistical profile** of employment and informal enterprises.

Periodic Labour Force Survey (PLFS)

- Introduced in **2017** by NSO under MoSPI, replacing older Employment-Unemployment Surveys.
- Objectives:**
 - Estimate employment and unemployment indicators.
 - Measure **Labour Force Participation Rate (LFPR)**, **Worker Population Ratio (WPR)**, and **Unemployment Rate (UR)**.
 - Provide annual and quarterly labour market statistics.
- Key Findings (2025):**
 - LFPR in million-plus cities: **52.4%** (slightly higher than other urban areas at 52.1%).
 - WPR: **49.8%** (vs 49.6% in other urban centres).
 - UR (Usual Status): **4.9%**, close to national urban average (4.8%).
 - Female Participation:** WPR for women rose from **17.9% (2017-18)** → **25.5% (2025)**.
 - Nature of Employment:**
 - 58.5% in regular wage/salaried jobs (higher formalisation).
 - Casual labour only **6.3%**, showing stability.
 - Longer average working hours in large cities.

Annual Survey of Unincorporated Sector Enterprises insights**Scale of Informal Enterprises**

- Survey covered **39 lakh establishments** employing **1.98 crore informal workers**.
- Accounts for **13% of national informal establishments** and **16% of informal employment**.
- Contributes **21% of Gross Value Added (GVA)** from the non-agricultural informal sector.

City-Level Distribution

- Hyderabad:** Highest informal workforce (**15.7 lakh workers**).
- Kolkata:** Largest number of enterprises (**8.84 lakh units**).
- Delhi, Bengaluru, Surat, Jaipur, Mumbai:** Together host **~40% of informal workers** across 46 surveyed cities.

Women in Informal Sector

- 52 lakh women workers**, forming **26% of the workforce**.
- Highest female participation: **Visakhapatnam (42.5%)** and **Surat (41.4%)**.
- Lowest participation: **Srinagar (10.5%)** and **Varanasi (12.1%)**.

Productivity & Wage Patterns

- Highest **GVA per worker:** **Pimpri-Chinchwad, Hyderabad, Delhi**.
- Highest **annual emoluments:** **Jaipur (₹2.33 lakh)** and **Hyderabad (₹2.14 lakh)**.

- **Average earnings across 46 cities: ₹1.51 lakh per worker.**

Way forward

- **Promote Quality Employment:** Focus on creating **stable, formal jobs** in urban centres. Encourage industries that can absorb large labour forces with decent wages.
- **Strengthen MSMEs & Informal Enterprises:** Provide easier access to **credit, digital platforms, and formal finance**. Support productivity growth in small businesses through technology adoption.
- **Increase Women's Participation:** Expand **skill development programmes** tailored for women. Ensure **safe workplaces** and supportive policies to boost female labour force participation.
- **Expand Urban Skill Development:** Strengthen initiatives under **Skill India Mission**. Focus on reskilling youth for emerging sectors like IT, EVs, and green jobs.
- **Improve Social Security Coverage:** Extend **healthcare, pensions, and insurance schemes** to informal workers. Build mechanisms for portable benefits across states and sectors.
- **Support Productivity Growth:** Encourage adoption of **digital tools, automation, and modern practices**. Facilitate access to **formal finance and innovation support** for enterprises.

Conclusion

PLFS and ASUSE 2025 highlight India's **urban labour market formalisation and informal sector diversity**, offering crucial inputs for **inclusive urban employment policies under Viksit Bharat 2047**.

3. NITI AAYOG'S PUSH FOR INDIA'S DIGITAL ECONOMY

Why in news?

- NITI Aayog has initiated consultations with major tech firms and start-ups on simplifying India's **online content blocking rules**.

What NITI Aayog Asked

- **Feasibility of Timelines:** Platforms were asked whether the **2-3 hour takedown window** (shortest globally) and grievance redressal timelines are **practically workable** across small, medium, and large intermediaries.
 - **Concern:** Smaller start-ups may lack resources to comply compared to global giants.
- **Compliance Burden of Due Diligence: obligations under IT Rules, 2021** (e.g., appointing grievance officers, publishing compliance reports, proactive monitoring) impose the **highest recurring costs**.
- **Operational Simplification Suggestions:** Stakeholders asked to propose **specific reforms** that would reduce friction in day-to-day operations.
 - **Examples:**
 - Standardised formats for transparency reports.
 - Longer compliance windows for smaller firms.
 - Use of automated tools for faster takedown responses.
- **Policy Process:** NITI Aayog will compile industry inputs into a **recommendation note** for the **IT Ministry**.

India's Tightening Content Blocking Regime

- **Doubling of Orders:** Blocking orders rose sharply from **12,000 in 2024 → 24,000 in 2025**, showing increased state intervention.
- **Shortened Timelines:** Platforms must now remove flagged content within **2-3 hours**, compared to the earlier **24-36 hours**.
- **Industry Concerns:** Global firms like Meta termed these timelines "challenging," noting they are the **strictest globally**.

- **Expanding Powers:** Proposal to extend blocking authority under **Section 69(A) of IT Act, 2000** beyond the IT Ministry to **Home, Defence, I&B, and External Affairs Ministries** - currently stalled.

Jan Vishwas Siddhant Initiative

- **Reducing Regulatory Burden:** Aims to cut “regulatory cholesterol” by simplifying laws and compliance requirements.
- **Trust-Based Governance:** Promotes a framework built on **trust and rationalisation** rather than excessive control.
- **Wide Coverage:** Consultations span multiple domains - **social media regulation, cybersecurity, data protection, and online gaming.**

Connectivity and Inclusion

- **Third-largest digital economy:** India ranks globally behind only the US and China.
- **Broadband penetration:** 101.7 crore subscribers (Sept 2025), reflecting near-universal access.
- **High usage:** Citizens spend ~1,000 minutes online per user, showing deep integration of digital platforms.
- **Affordable data:** At \$0.10 per GB, India offers the cheapest mobile data worldwide, enabling mass adoption.
- **Digital platforms as backbone:** Central to identity verification (Aadhaar), payments (UPI), healthcare (eSanjeevani), education, grievance redressal, and citizen participation.

Significance

- **Enforcement vs Compliance:** Highlights the tension between strict regulatory timelines and operational feasibility for platforms.
- **Industry perspective:** Firms seek longer takedown windows and simplified obligations to reduce compliance burden.
- **Government approach:** Aims to balance **security, privacy, and innovation** while safeguarding citizens.
- **Future reforms:** Sets precedent for rationalising India’s digital governance framework, aligning with **Jan Vishwas Siddhant** and global best practices.

Conclusion:

NITI Aayog’s consultation signals India’s effort to balance **digital enforcement with regulatory trust**, shaping the next phase of its fast-growing digital economy.

III. Inclusive growth and issues

1. WOMEN WORKFORCE IN TAMIL NADU AND INCLUSIVE GROWTH

Why in news?

- Recent **MoSPI data (2023-24)** shows Tamil Nadu leading India in **female labour force participation**, particularly in **electronics manufacturing**.

Female labour force

- Tamil Nadu contributes **43% of women employed in electronics manufacturing**.
- Female participation rose from **20.1% (2013-14) → 42.9% (2021-24)**.
- Coimbatore (41.3%) and Madurai (37%) exceed the national average of 27.7%.
- Major initiatives: **Foxconn expansion**, women-only residential complex at Vallam Vadagal, and **MoU with Vikram Solar** for energy storage facility.

Drivers of Success

- **Policy Support:** Proactive labour and industrial policies by the state government.
- **Infrastructure:** Establishment of **Thozhil hostels** (19 hostels, 87% occupancy) for women workers.
- **Global Inspiration:** Modelled on China's women-led manufacturing workforce.
- **Corporate Practices:** Electronics and optical industries prefer women for precision-based work.

Socio-Economic Dimensions

- **Employment Scale:** Karnataka's Devanahalli iPhone plant employs **2.4 lakh workers, mostly women**.
- **Wages:**
 - National average wage for women (2025): ₹22,919 vs all-India average ₹23,707.
 - Regional wages: Coimbatore (₹19,149), Madurai (₹18,427), Telangana (₹24,500).
- **Empowerment:** Enhances household income, education access, and social mobility.
- **Challenges:** Persistent wage gaps, occupational safety concerns, and need for gender-sensitive labour reforms.

Comparative Perspective

- **China & South Korea:** Women's participation in manufacturing linked to rapid industrial growth.
- **India's Context:** Southern states like Tamil Nadu and Kerala show higher female participation compared to northern states.
- **Policy Lesson:** Inclusive labour policies foster both **industrial competitiveness and social equity**.

Challenges

- **Occupational Safety:** Industrial accidents remain frequent; ~4,000 workplace fatalities annually (construction & mining).
- **Skill Gaps:** NSDC (2024) - only **4.7% of India's workforce has formal skill training** vs 75% in Germany, 96% in South Korea.
- **Informal Employment:** Over **80% of India's workforce** in informal sector (ILO, 2023), lacking social security and pension benefits.

Way Forward

- **Expand Housing Facilities:** Establish more **women-friendly hostels and residential complexes** across industrial clusters to ensure safe accommodation and reduce attrition.
- **Equal Wages & Social Security:** Guarantee **parity in wages** with male counterparts and extend **social security benefits** like health insurance, pensions, and maternity support.
- **Skill Development:** Promote targeted training in **electronics, renewable energy, and IT sectors**, integrating women into high-growth industries.
- **Public-Private Partnerships:** Encourage collaboration between government and industry to create **women-centric industrial zones** with inclusive infrastructure and safety standards.
- **Gender Equity in National Missions:** Embed **gender equity principles** into the **National Skill Development Mission** and *Make in India*, ensuring women's participation in strategic industrial growth.

Conclusion

Tamil Nadu's experience shows that **inclusive industrial growth driven by women's participation is a powerful engine of social transformation**.

IV. Agriculture and allied

1. INDIA'S ROADMAP FOR GREEN UREA PRODUCTION AND SUSTAINABLE AGRICULTURE

Why in news?

- The **Department of Fertilizers (DoF)** held a high-level meeting at PDIL Noida to chart India's **first commercial roadmap for Green Urea production**.

What is Green Urea

- Green Urea is an **eco-friendly fertilizer** produced using **green hydrogen and green ammonia** instead of fossil fuels.
- It combines **renewable energy-based hydrogen** with atmospheric nitrogen and captured **industrial CO₂** to manufacture sustainable urea.
- This reduces dependence on imported natural gas and lowers carbon emissions.
- This initiative aligns with the **National Green Hydrogen Mission** and India's **Net Zero 2070 pledge**.

Key Data and Statistics

- National Green Hydrogen Mission (NGHM):** ₹19,744 crore allocated to build India's green hydrogen ecosystem.
- Green Ammonia Procurement:** SECI to procure **7.24 lakh MT annually** via e-reverse auctions.
- Urea Imports:** India imports nearly **10 million tonnes of conventional urea** every year.
- CO₂ Requirement:** A **12.7 lakh MT Green Urea plant** needs about **10 lakh MT of captured CO₂ annually**.
- Example:* India's fertilizer subsidy bill crossed **₹2 lakh crore in FY24**, highlighting the need for sustainable alternatives.

Need for a Roadmap

- Net Zero 2070:** Fertilizer plants are carbon-intensive; green hydrogen is vital for climate commitments.
- Aging Plants:** Many chemical units are **30+ years old**, requiring modernization or replacement.
- Carbon Capture Utilization:** Provides industries like **steel and cement** a reliable market for captured CO₂.
- Import Substitution:** Shields farmers from volatile **global gas prices and supply shocks**.

Initiatives Taken

- Pudimadaka Pilot Plant:** NTPC's NETRA developed a **150 TPD facility** in Andhra Pradesh as a benchmark.
- Differential Subsidy:** SECI will buy green ammonia and supply it at grey ammonia prices, with DoF covering the gap.
- 10-Year Contract Certainty:** Binding **Green Ammonia Procurement Agreements (GAPA)** ensure investor confidence.
- Digital Registries:** Launch of **Srijan and Srijan DEEP** to integrate electrolyzer makers and renewable vendors.

Issues with Import Dependence

- Volatility:** Reliance on Gulf countries for LNG and urea exposes India to geopolitical risks.
- Subsidy Burden:** Fertilizer subsidy crossed **₹2 lakh crore in FY24**, largely due to import costs.
- Supply Risks:** West Asia crises have disrupted supply chains, forcing India to float emergency tenders.
- Environmental Concerns:** Imported fossil fuel-based urea adds to India's carbon footprint.

Government Measures to Reduce Dependence

- **New Investment Policy (NIP) 2012:** Revived closed fertilizer plants (e.g., Gorakhpur, Sindri, Barauni, Ramagundam).
- **Green Urea Roadmap:** Promotes eco-friendly urea using green hydrogen and captured CO₂.
- **Financial Support:** Subsidies and long-term contracts to encourage domestic production.
- **Digital Monitoring:** Fertilizer movement tracked via **iFMS** for timely supply.

Challenges

- **High Costs:** Renewable electricity and electrolyzers make green ammonia costlier than grey ammonia.
- **Carbon Logistics:** Transporting **10 lakh MT CO₂** annually requires specialized pipelines.
- **Power Supply Issues:** Continuous plant operation demands **battery storage or hydrogen reservoirs**.
- **Infrastructure Upgrades:** Retrofitting old fertilizer units for green hydrogen is capital-intensive.

Way Forward

- **Accelerate SECI Auctions:** Lock in feedstock supply for investor confidence.
- **Carbon Capture Hubs:** Establish integrated CCUS near **thermal and steel clusters**.
- **Low-Cost Financing:** Use **Sagarmala Finance Corporation Limited** to provide long-term credit.
- **Grid Modernization:** Build **green energy corridors** for uninterrupted renewable power.
- **Skill Development:** Train workforce in **green hydrogen and advanced chemical engineering**.

What is Urea?

Urea is a **synthetic nitrogen fertilizer** (chemical formula: CO(NH₂)₂). Supplies nitrogen, a critical nutrient for plant growth, boosting yields of cereals like wheat, rice, and maize.

- **Advantages** - High nitrogen content (46%), easy to transport and apply, cost-effective compared to alternatives.
- **Limitations** - Overuse can cause soil degradation, water pollution, and greenhouse gas emissions.

India's Urea Production vs Import Dependence (Latest Data)

Year	Demand (LMT)	Domestic Production (LMT)	% Met Domestically	Imports (LMT)
2024-25	364.01	306.67	84.25%	~57.34
2025-26 (up to Feb)	366.50	275.75	75.24%	~90.75
Kharif 2026 (Mar-Apr)	-	37.49 (produced)	-	37 (secured imports)

Conclusion

By combining **₹19,744 crore clean energy funding, carbon capture networks, and green hydrogen hubs**, India can cut imports, secure farmers, and move towards a **climate-resilient agricultural future by 2070**.

2. INDIA'S FISHERIES CRISIS AND INSHORE ECOSYSTEMS

Why in news?

- In **February 2026**, the Government of India claimed that **91.1% of marine fish stocks are sustainable**.
Government's Claim

- Based on **CMFRI (Central Marine Fisheries Research Institute)** data, **91.1% of 135 fish stocks (2022)** were reported as “sustainable.”

FAO's Perspective

- FAO country profile** notes India's marine fisheries have **plateaued** since the mid-2010s.
- Most major stocks are **fully exploited**, leaving little scope for expansion.
- Unregulated access** → overcrowding of trawlers; India has one of the **largest mechanised fleets in Asia**.
- FAO stresses need for **scientific stock assessment** and **better governance frameworks**.

The Real Problem - Inshore Waters

- India's **continental shelf** is narrow along most coasts (avg. width: 12-22 km), except Gujarat & Maharashtra.
- This **territorial sea zone (12 nautical miles)** is the **most fertile breeding ground** for shrimp, anchovies, and small pelagic fish.
- Severe degradation due to:
 - Dams** blocking nutrient flow (e.g., Godavari, Krishna).
 - Mangrove loss** - India lost ~40% of mangrove cover in some coastal belts since 1950s.
 - Pollution**: Industrial effluents, untreated sewage, and agricultural runoff entering coastal waters.
- Result**: Declining catches and disappearance of species once common in nearshore waters.

Mechanised Trawling Issue

- Introduced in **1960s**, now expanded to **64,414 mechanised vessels (Govt report, 2026)**.
- Many upgraded with **high-horsepower Chinese engines**, increasing catch intensity.
- Continuous **bottom trawling** scrapes seabed, destroying benthic ecosystems and juvenile breeding grounds.
- Creates **conflict with traditional fishers**:
 - Small-scale fishers (~4 million households) depend on inshore waters.
 - Mechanised trawlers reduce their catch, threatening livelihoods.

Weak Enforcement of Rules

- Rule: No mechanised trawling within **5 nautical miles** of coast.
- Poorly enforced due to:
 - Lack of patrol boats & manpower.
 - Exclusion of fishers from management decisions.
- Result: Both mechanised and small fishers pushed into **deep-sea waters**.

Deep-Sea Fishing

- Government Promotion**: Authorities encourage fishers to shift towards **deep-sea fishing** as an alternative to stressed inshore waters.
- FAO's Warning**: The **Food and Agriculture Organization (FAO)** notes this strategy offers only **marginal gains**, not a sustainable fix.
- Added Burden**: Deep-sea fishing requires **higher fuel costs, advanced vessels, and longer travel times**, increasing economic pressure on fishers.
- Core Issue Unresolved**: The **real crisis lies in mismanaged inshore ecosystems**, which remain unaddressed despite policy focus on offshore expansion.

Case Study - Palk Bay

- **Cross-Border Fishing:** Indian mechanised trawlers frequently enter **Sri Lankan waters**, leading to disputes and harming local fishers.
- **Regulation Overridden:** Shows how the **economic weight of mechanised fleets** often overrides enforcement, even across international boundaries.
- **Example of Mismanagement:** Highlights the need for **regional cooperation** and stricter monitoring to prevent resource conflicts.

Way Forward

- **Strengthen Coastal Governance:** Build robust institutions to manage **territorial waters** effectively.
- **Control Mechanised Trawling:** Enforce strict limits on **bottom trawling** and regulate fleet expansion.
- **Combat Marine Pollution:** Address industrial effluents, sewage, and agricultural runoff that degrade coastal ecosystems.
- **Empower Small-Scale Fishers:** Involve traditional fishers in **decision-making and enforcement**, ensuring sustainable practices and livelihood protection.

Conclusion:

India's fisheries crisis is less about stock numbers and more about the **collapse of inshore ecosystems**, demanding urgent reforms in governance, enforcement, and ecological restoration.

V. Industry and Industrial Policies

1. INDIA'S STRATEGIC SHIFT IN SHIPBUILDING WITH SOUTH KOREA

Why in news?

- South Korean **greenfield investments** agreement in the **shipbuilding sector** aims to transform India's maritime industry through **defense partnerships, and supply chain localization**.

India-South Korea Deals

- **Greenfield Investment:** Hyundai's subsidiary signed a \$4 billion deal with **Cochin Shipyard Limited** to build a modern shipyard at **Thoothukudi, Tamil Nadu**.
- **Defense Manufacturing:** **Samsung Heavy Industries (SHI)** partnered with **Swan Defence** to produce advanced ships in India.
- **Supply Chain Localization:** The **Korea Marine Equipment Association (KOMEA)** opened a Mumbai office to develop a cluster of 304 marine enterprises.
- **Cluster Blueprint:** Agreements on **workforce training, maritime education, and joint research** to replicate South Korea's industrial success.
- **Strategic Capital Commitments:** Entry of South Korea's **Big Three shipbuilders—Samsung, Hyundai, Hanwha Ocean**- signals deep financial and technological engagement.

Current Indian Shipbuilding Status

Financial Mechanisms

- Launch of **Maritime Development Fund, Shipbuilding Development Scheme, and Financial Assistance Policy** to attract FDI.

- India has identified a **₹2.35 lakh crore maritime opportunity** over the next decade across shipbuilding, repair, and allied activities.

Maritime NBFC

- Establishment of **Sagarmala Finance Corporation Limited (SFCL)**, India's first NBFC dedicated to maritime financing.
- Designed to ease credit crunches and provide **long-term low-interest loans** to shipbuilders.

Regulatory Speed

- Swift approval of the **multi-billion-dollar greenfield shipyard in Tamil Nadu** shows improved efficiency in clearances.
- Reflects India's intent to overcome traditional bottlenecks in project approvals.

Order Book Strength

- Mazagon Dock, Cochin Shipyard, and Garden Reach Shipbuilders together hold **₹56,900 crore worth of orders**.
- Cochin Shipyard alone has an order book of **₹21,100 crore**, including defense and commercial vessels.

Challenges in the Sector

- Fragmented Ecosystem:** Heavy reliance on imported components raises costs and delays.
- Regulatory Gaps:** Inconsistent maritime laws and unpredictable timelines discourage investors.
- Skill Shortage:** Workforce lacks exposure to **automated ship design and advanced marine engineering**.
- High Capital Costs:** Borrowing costs remain higher than global competitors; Indian shipbuilders struggle against **state-subsidized Chinese yards**.
- Global Competition:** China dominates global shipbuilding with consolidated supply chains, posing a major challenge for India.

Way Forward

- Government Follow-Through:** Central and state governments must ensure strict timelines for land and utility clearances.
- Supplier Localization:** Use **KOMEA's Mumbai office** to build localized ancillary hubs, reducing import dependency.
- Low-Cost Capital:** Deploy SFCL's capacity to provide **long-term loans at global competitive rates**.
- Academic Upgradation:** Partner Indian universities with South Korean maritime academies for **green propulsion and automation training**.
- Sectoral Strategy:** Formulate a step-by-step plan with **annual production targets**, ensuring absorption of transferred technologies.

Conclusion

By combining **South Korean expertise, foreign capital, and India's policy reforms**, the country can transform its shipbuilding sector into a **globally competitive and self-reliant maritime powerhouse**.

2. INDIA'S SEMICONDUCTOR PUSH

Why in news?

- The Prime Minister inaugurated the **CG Semi Outsourced Semiconductor Assembly and Test (OSAT) facility** in **Sanand, Gujarat**, marking the start of commercial production.

India's Semiconductor Push

- **State-Backed Industrial Mission:** Driven by the **India Semiconductor Mission (ISM)** under MeitY. Build a **localized electronics value chain** covering **chip design, fabrication, assembly, testing, and packaging**.
- **Reducing Import Dependence:**
 - India currently imports **90-95% of chips**, costing nearly **USD 150 billion (FY17-FY25)**.
 - Domestic demand projected to reach **USD 200 billion by 2035**.
 - Goal: Position India as a **global manufacturing hub** and reduce vulnerability to foreign supply chains.

Importance

- **National Security:** Chips power **missile guidance, satellites, radar systems**.
- **AI & Robotics:** Essential for **supercomputing and next-gen technologies**.
- **Automotive & Telecom:** Supports **EV transition** and **5G/6G rollouts**.
- **Employment:** Creates **high-skill cleanroom jobs**, shifting workforce from agrarian to tech sectors.
- **Economic Stability:** Domestic fabs prevent shocks from **global supply chain disruptions**.

Infrastructure Developed So Far

- **Sanand OSAT Cluster (Gujarat):** Hosts Micron Technology's ATMP unit, Kaynes Semicon OSAT, and the new CG Semi facility.
- **Mega Wafer Fab (Dholera, Gujarat):** Tata Electronics with Taiwan's PSMC, expected first silicon output by late 2026.
- **Advanced 3D Packaging (Odisha):** Specialized heterogeneous integration unit for AI and defense chips.
- **Design-Linked Incentive (DLI):** Supports 24 fabless startups; over **67,000 students trained** in advanced chip design tools.

Importance of Semiconductors

- **National Security:** Chips power defense systems, satellites, and radar networks.
- **AI & Robotics:** Essential for supercomputing and next-gen technologies.
- **Automotive & Telecom:** Critical for EV manufacturing and 5G/6G rollout.
- **Employment:** Creates high-skill cleanroom engineering jobs.
- **Economic Stability:** Reduces vulnerability to foreign supply chain disruptions.

Key Challenges

- **Capital Intensive:** Wafer fabs need continuous investment beyond the initial ₹76,000 crore allocation.
- **Global Competition:** Taiwan, China, and South Korea dominate with entrenched ecosystems.
- **Utility Dependence:** Requires uninterrupted ultra-pure water and stable power grids.
- **Raw Material Shortage:** India lacks domestic supply of precursor chemicals and gases.
- **Learning Curve:** Advanced sub-10nm fabrication remains a steep technological hurdle.

Way Forward

- **Fund ISM 2.0:** Approve ₹1.25 lakh crore outlay for equipment, materials, and IP.
- **Green Corridors:** Ensure dedicated energy and water infrastructure near clusters.
- **Expand DLI Scheme:** Support at least 50 fabless design firms for indigenous layouts.
- **International Training:** Collaborate with nations like Japan, Singapore, Malaysia for workforce upskilling.
- **Domestic Procurement Mandates:** Enforce gradual sourcing quotas in defense, EVs, and public projects.

Conclusion:

India's semiconductor mission is a **strategic leap toward technological sovereignty**, but sustained funding, ecosystem development, and global competitiveness will decide its long-term success.

VI. Financial markets**1. RBI'S FINANCIAL STABILITY REPORT (FSR) 2026****Why in news?**

- The **Reserve Bank of India (RBI)** released its **Financial Stability Report (FSR) 2026**, highlighting **geopolitical fragmentation** and **rapid advances in AI**.

About FSR

- A **biannual publication** by RBI since 2010.
- Compiles insights from the **Financial Stability and Development Council (FSDC) Subcommittee** chaired by the RBI Governor.
- Functions as an **early-warning system** to identify systemic risks.
- Evaluates health of **banks, NBFCs, and insurance sectors**.

Global Risks Identified

- **Geopolitical Fragmentation:** Rising conflicts disrupt trade, investment flows, and supply chains.
- **AI Disruption:** While AI promises productivity gains, it raises concerns about **employment, regulation, and financial stability**.
- **Other Vulnerabilities:**
 - High public debt in major economies.
 - Fragile bond markets and elevated asset valuations.
 - Expanding role of leveraged NBFCs.
 - Hawkish monetary policies in advanced economies tightening global liquidity.

India's Macro-Financial Resilience

- **Strong GDP Growth:** India continues to record robust economic expansion despite global shocks.
- **Moderating Inflation:** Price stability achieved through effective monetary and fiscal measures.
- **Healthy Corporate Balance Sheets:** Firms maintain strong financial positions, reducing systemic risk.
- **Banking Buffers:** Adequate capital adequacy and liquidity ensure banks can absorb stress.
- **Institutional Safeguards:** RBI and FSDC mechanisms strengthened to protect against external vulnerabilities.

Banking Sector Health

- **Improved Asset Quality:** GNPA ratio declined to **1.8% (March 2026)**, lowest in decades.
- **Stress Test Results:**
 - Baseline scenario: GNPA may rise slightly to **1.9% by 2028**.
 - Adverse scenario: GNPA could reach **3.8-4.1%**, still manageable.
- **Declining Loan Defaults:** Slippage ratio fell to **1.2% in FY 2025-26**, showing fewer fresh NPAs.
- **Sectoral Trends:** Agriculture remains weakest with **GNPA 5.1%**, accounting for **37.2% of total NPAs**.
- **Large Borrowers:** Share in credit rose to **44.5%**, but GNPA improved from **2.4% (2024) to 1.2% (2026)**, reflecting better credit discipline.

Growth Outlook & Broader Vision

- **Orderly Financial Markets:** Despite global volatility, Indian markets remain stable.
- **AI-Driven Productivity:** Advances in AI expected to support resilience and long-term growth.
- **RBI's Emphasis:**
 - **Fair Business Conduct:** Ethical practices to build trust.
 - **Better Customer Experience:** Efficient and transparent services.
 - **Financial Inclusion:** Expanding access to banking and credit for all sections.
 - **Efficient Services:** Supporting households, businesses, and long-term growth.

Conclusion

The FSR 2026 portrays India's financial system as **fundamentally strong and resilient**, but cautions that global vulnerabilities demand continued vigilance, reforms, and inclusive growth strategies.

VII. Infrastructure

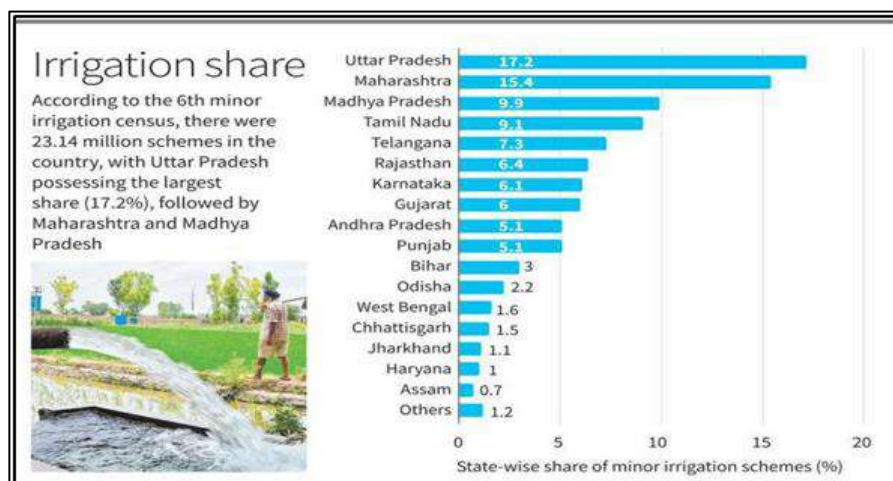
1. MINOR IRRIGATION CENSUS (MIC) AND INDIA'S IRRIGATION SOURCES

Why in news?

- The **sixth Minor Irrigation Census (MIC)** reveals that **76% of irrigation sources are powered by electricity**, overtaking diesel, windmills, and solar pumps.

What are Minor Irrigation Schemes

- Irrigation helps stabilise agriculture against erratic rainfall, enabling **high-yield seeds, fertiliser use, and pest control**.
- **Definition:** Schemes using groundwater or surface water with a **Culturable Command Area (CCA) $\leq$ 2000 hectares**.
- **Types of Schemes:**
 - Dugwell (depth $\leq$ 15 m)
 - Shallow tubewell ($\leq$ 35 m)
 - Medium tubewell ($\leq$ 70 m)
 - Deep tubewell ($>$ 70 m)
 - Surface flow schemes
 - Surface lift schemes
- Importance: Crucial for **drought-prone regions** and areas outside major irrigation projects.



Minor Irrigation Census

- Conducted to build a **national database** for planning and management.
- **First Census:** 1986-87.
- **Sixth Census:** Reference year 2017-18, covering all States/UTs except Delhi, Daman & Diu, Dadra & Nagar Haveli, and Lakshadweep.
- Data compilation takes years due to **block-level granularity**.
- Conducted alongside the **first census of water bodies**.

Findings of the Sixth MIC

- **Total Schemes:** 23.14 million across 695 districts (↑ 1.42 million from previous census).
- **Ownership:** 96.6% privately owned; majority by **small & marginal farmers (<2 ha land)**.
- **Groundwater vs Surface Water:**
 - Groundwater schemes - 21.93 million (94.8%).
 - Surface water schemes - 1.21 million (5.2%).
- **State Leaders:**
 - **UP (17.2%), Maharashtra (15.4%), MP (9.9%)** lead in total schemes.
 - Maharashtra, Karnataka, Telangana, Odisha, Jharkhand dominate surface-water schemes.
- **Electrification Trend:**
 - 2011 - 56% powered by electricity.
 - 2017 - 70%.
 - Latest - 76%.
 - Linked to rise in **tube wells & borewells** extracting deeper groundwater.
- **Decline in Dugwells:** Numbers fell from **8.7 million** → **8.2 million**, showing shift toward mechanised extraction.

Conclusion:

The MIC highlights India's **heavy reliance on electricity-driven groundwater irrigation**, underscoring both its role in agricultural resilience and the urgent need for **sustainable water management policies**.

VIII. Trade and External sector

1. GLOBAL CAPABILITY CENTRES AND INNOVATION LEADERSHIP

Why in news?

- At the **CH GCC Business Summit (2026)**, CEA and FM **Nirmala Sitharaman** highlighted the need for GCCs to move beyond cost efficiency toward **innovation leadership**.

Global Capability Centres (GCCs)

- **Definition:** Offshore centres established by **multinational corporations** to manage specialised functions such as **IT services, R&D, finance, analytics, and AI/ML**.
- **India's Role:** India has emerged as the **largest global hub**, hosting **2,000+ GCCs** with revenues nearing **\$100 billion**.
- **Employment Impact:** These centres employ **over 2 million professionals**, contributing significantly to India's skilled workforce.
- **Economic Contribution:** Collectively, GCCs contribute around **2% of India's GDP**, strengthening the digital economy.



Government's Role

- Union Budget 2026-27 measures: Greater **tax certainty** for GCCs. Expanded **transfer-pricing safe harbour** with higher thresholds.
- CEA: Government builds the **runway**, industry must **fly the plane** by driving innovation.
- Focus areas:
 - **Intellectual property creation.**
 - **Frontier research.**
 - **AI applications.**
 - **Product architecture development.**
- Strengthen **industry-academia linkages** for seamless innovation transfer.

Expanding Beyond Metros

- Tier-2 & Tier-3 cities emerging as **talent and innovation hubs**.
- GCCs generate **multiplier effects**: Demand for advanced skills. Boost to start-ups, housing, and urban infrastructure. Partnerships between universities, industry, and local institutions.
- Encourages **balanced regional development** and resilience of India's innovation ecosystem.

Significance of GCCs

- **Global Knowledge Economy**: Strengthens India's position as a hub for IT, R&D, analytics, and AI, contributing ~2% of GDP.
- **Atmanirbhar Bharat**: Enhances indigenous technological capabilities, supporting self-reliance in innovation and enterprise solutions.
- **Regional Growth**: Acts as a catalyst for balanced development by expanding into Tier-2 and Tier-3 cities, generating jobs and infrastructure demand.
- **Long-Term Competitiveness**: Critical for sustaining India's edge in **AI, machine learning, frontier research, and digital transformation**.

Challenges for GCCs

- **Rising Costs:** Increasing operational expenses in India reduce cost advantage compared to emerging competitors.
- **Global Competition:** Other countries are replicating India's GCC model, threatening India's leadership position.
- **Talent Scarcity:** Shortage of specialised skills in AI, data science, and advanced R&D categories.
- **AI Disruption:** Routine low-cost tasks risk automation, requiring GCCs to move up the value chain into innovation-driven work.

Conclusion:

India's GCC journey must evolve from **cost advantage to innovation leadership**, ensuring that the country becomes a **global hub for ideas, patents, and advanced technologies** rather than just a low-cost service destination.

2. INDIA-UK COMPREHENSIVE ECONOMIC AND TRADE AGREEMENT (CETA)

Why in news?

- The **India-UK CETA** came into effect on **15 July 2026**, marking India's first comprehensive trade pact with a developed nation.

Scale and Coverage

- Covers **30 chapters**: tariffs, digital trade, MSMEs, labour, environment, gender, procurement.
- Addresses **non-tariff barriers** like SPS (sanitary measures) and TBT (technical barriers).
- **Tariff elimination:**
 - UK removed tariffs on **99% of Indian exports**.
 - India reduced tariffs on **90% of products** (phased + quota-based).
- Creates one of the **broadest FTAs India has signed**.

Gains for India

- **Labour-intensive exports:** Textiles, footwear, gems & jewellery benefit from tariff removal.
- **Steel exports:** UK quotas expected to push exports beyond **\$1 billion**.
- **Services sector:** Indian IT, consultancy, and environmental firms gain **commercial presence rights** in UK.
- **Government procurement:** Indian suppliers gain access to UK's **£90 billion market**, while retaining preference in India.
- **Labour & environment chapter:** Non-binding → avoids restrictive Western standards.

Double Contribution Convention (DCC)

- Solves issue of **dual social security payments** by Indian workers in UK.
- Exempts contributions for **five years**, saving ~23% of salaries.
- Benefits **75,000 professionals and 900+ firms**.
- Applicable only to workers joining after **15 July 2026**.

Gains for UK and Consumers

- **Cheaper imports for India:** Cars, whisky, chocolates, cosmetics, sports goods.
- **Automobile tariffs:** Cut from 110% → 30% (Year 1), → 10% (Year 5).
- **Alcohol tariffs:** Reduced from 150% → 75%, then 40% (Year 10).
- **Services access:** UK firms allowed in accounting, finance, telecom, law.
- **Professional qualifications:** India recognises UK law/accounting degrees.

Customs Reform

- UK exporters can **self-declare origin of goods** - first time in Indian FTA.
- Reduces reliance on certificates, sets precedent for EU/US negotiations.
- Tariffs on UK medical devices removed → reduces dependence on Chinese imports.

Challenges in India-UK CETA

- **Carbon Border Adjustment Mechanism (CBAM):** India could not secure exemption from the UK's CBAM, which will be implemented from **January 2027**.
- **Risk to Carbon-Intensive Exports:** Sectors like **steel, cement, and aluminium** face higher compliance costs and competitiveness risks in the UK market.
- **Need for Green Transition:** India must accelerate adoption of **low-carbon technologies, renewable energy, and carbon-efficient production methods** to safeguard export competitiveness.

Conclusion:

The India-UK CETA is a **landmark trade pact**, boosting exports, services, and worker welfare, while signalling India's readiness for deeper integration with developed economies though challenges like **CBAM** highlight unfinished tasks in balancing growth with sustainability.

IX. Investment models

1. FDI IN E-COMMERCE AND LIBERALISATION FOR EXPORT GROWTH

Why in news?

- The Government has amended the **FDI policy** to allow foreign investment in **inventory-based e-commerce entities exclusively for exports** of goods made in India.

Models of E-commerce in India

- **Marketplace Model:**
 - Platform acts as a digital intermediary connecting buyers and sellers.
 - **100% FDI permitted** under automatic route since 2016.
 - Example: Amazon, Flipkart marketplace operations.
- **Inventory Model:**
 - Platform owns goods and sells directly to consumers.
 - **FDI prohibited** in domestic retail to safeguard small traders and ensure fair competition.
- **Policy Shift:**
 - Recent amendment allows FDI in inventory-based e-commerce **only for export operations**.
 - Reflects India's focus on **export promotion** under *Make in India* and *Atmanirbhar Bharat*.
 - Aligns with broader trade facilitation measures like **Foreign Trade Policy reforms, customs digitisation, and Districts as Export Hubs initiative**.

Key Features of the New Policy

- **FDI permitted only for exports:** 100% automatic route allowed for export-oriented inventory.
- **Domestic retail unchanged:** No FDI in inventory-based B2C sales within India.
- **Support for MSMEs:** Helps small manufacturers in Tier-II/III cities access global markets.
- **Regulatory clarity:** Confirms inventory restrictions apply only to domestic retail, not exports.

Benefits

- **Boost to exports:** Government targets **\$200 billion e-commerce exports by 2030**.
- **Opportunities for MSMEs:** Access to warehousing, logistics, and global customer networks.
- **Manufacturing growth:** Supports goal of raising manufacturing share in GDP to **25% by 2035**.
- **Employment generation:** Higher production and export demand create jobs.

Challenges

- **Monitoring issues:** Ensuring export-only inventories are not diverted to domestic retail.
- **Policy misuse risk:** Could lead to demands for liberalisation in domestic retail.
- **Impact on small retailers:** Fear of future competition if inventory-based FDI expands.
- **Need for oversight:** Strong compliance mechanisms required to prevent violations.

Significance

- Represents **balanced liberalisation** - promoting exports while safeguarding domestic trade.
- Complements initiatives like **Foreign Trade Policy, Districts as Export Hubs, and customs reforms**.
- Strengthens India's ambition to become a **global manufacturing and export hub**.
- Enhances competitiveness of Indian products in international markets.

Conclusion:

The new FDI policy in e-commerce reflects India's strategy of **export-led growth**, balancing global integration with protection of domestic retail interests.

B. ENVIRONMENT**I. Biodiversity and conservation****1. THE PARADOX OF DEVELOPMENT IN UTTARAKHAND****Why in news?**

- Uttarakhand has seen **protests against large-scale deforestation** for infrastructure projects during the **Harela festival**, which celebrates greenery.

Background

- Expansion of **roads, hydropower projects, and urbanisation** has accelerated forest loss.
- Local communities and activists warn that deforestation threatens **wildlife corridors and water security**.
- Reflects the contradiction between **cultural reverence for forests** and **development pressures**.

Ecological Concerns

- **Loss of Biodiversity:** Species like snow leopards, Himalayan black bears, and pheasants face habitat destruction.
- **Soil Erosion & Landslides:** Fragile Himalayan slopes destabilised; Uttarakhand reported **1,000+ landslides annually (NDMA, 2024)**.
- **Water Security:** Forests regulate springs and rivers; depletion worsens scarcity.

Cultural Dimension

- **Harela Festival:** Celebrated in July, symbolises prosperity and green cover.
- **Irony:** Communities plant saplings during Harela, while projects clear thousands of trees.

- **Comparative Example:** Arunachal Pradesh faces similar contradictions - festivals celebrate forests but hydro projects cut them down.

Governance & Policy Issues

- **Forest Conservation Act (1980):** Requires clearance for diversion of forest land.
- **CAMPA Funds:** Allocated for afforestation, but utilisation remains weak.
- **Data:** India diverted **1.2 lakh hectares of forest land (1980-2020, MoEFCC)**.
- **Community Participation:** Limited involvement deepens mistrust in governance.

Way Forward

- Strengthen **environmental impact assessments** before project approvals.
- Promote **eco-sensitive infrastructure** using sustainable materials.
- Encourage **community-led afforestation** and integrate festivals like Harela into conservation drives.
- Enhance **wildlife corridor protection** to balance ecology with development.
- Adopt **climate-resilient policies** aligned with India's *National Action Plan on Climate Change (NAPCC)*.

Case Study - Chipko Movement

- **Origin:** Began in 1970s, Chamoli district (Uttarakhand).
- **Community Role:** Villagers, led by **Sunderlal Bahuguna and Chandi Prasad Bhatt**, hugged trees to stop logging.
- **Women's Leadership:** Central role due to dependence on forests for fuel, fodder, and water.
- **Policy Impact:** Raised awareness; led to **15-year ban on green felling in Himalayan forests (1980)** by PM Indira Gandhi.
- **Legacy:** Inspired movements like **Appiko in Karnataka**; linked to forest rights under the **Forest Rights Act (2006)**.

Conclusion

Uttarakhand's experience shows that **true prosperity lies not in cutting forests for growth, but in conserving them as the foundation of sustainable development.**

2. HUMAN-LION CONFLICT IN GUJARAT

Why in news?

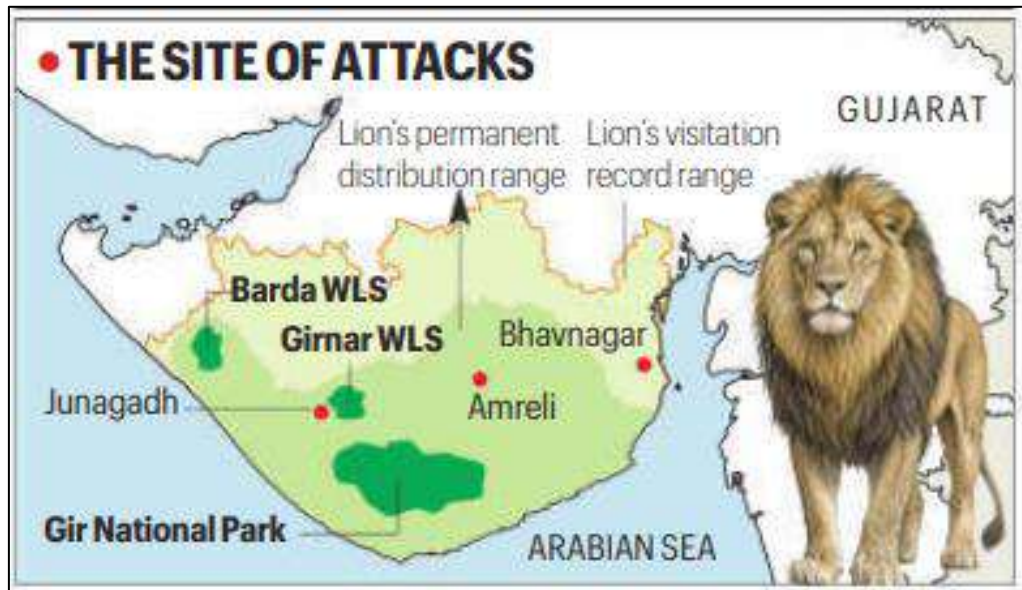
- The **Gujarat Forest Department** recently captured **31 Asiatic lions**, declaring **7 as "maneaters"**, after a surge of attacks left six people dead in districts adjoining **Gir National Park**.

Background of the Issue

- **Region of Conflict:** Incidents reported in **Bhavnagar, Amreli, Junagadh** districts adjoining Gir National Park.
- **Population Status:** Asiatic lion numbers have risen to **~891 (2025 census)**, leading to expansion beyond Gir's core habitat.
- **Habitat Pressure:** Shrinking prey base and fragmented corridors push lions into **farmlands and villages**.
- **Conflict Trigger:** Rising encounters with humans, livestock predation, and retaliatory actions highlight ecological and governance challenges.

Human-Wildlife Conflict in India

- Defined as **negative interactions** between humans and wildlife causing deaths, injuries, crop damage, livestock loss, or property destruction.
- **Human toll:** ~500 deaths annually due to elephants; lions and leopards also cause fatalities in Gujarat and Maharashtra.
- **Wildlife mortality:** ~100 elephants die yearly from electrocution, train collisions, and poaching.
- **Tiger deaths:** 166 recorded in 2025 - highest since 1973.
- **Economic impact:** ~5 lakh families affected annually by crop raiding; livestock losses push marginal farmers into debt.



Causes of Rising Conflict

- **Habitat Expansion:** Lions moving into human-dominated landscapes.
- **Prey Depletion:** Decline in wild prey forces lions to hunt livestock.
- **Human Encroachment:** Roads, mining, and settlements fragment natural corridors.
- **Behavioural Change:** Lions adapting to new habitats, increasing human encounters.

Impact on Communities

- **Human Casualties:** Multiple deaths and injuries near Gir.
- **Livelihood Loss:** Farmers lose cattle, goats, and buffaloes.
- **Fear & Insecurity:** Villagers face psychological stress and demand stronger protection.

Government Response

- **Scientific Study:** WII tasked with analysing behavioural shifts and ecological pressures.
- **Compensation:** Relief provided for livestock loss and human casualties.
- **Monitoring:** Camera traps, GPS collars, and patrols used to track lion movements.

Way Forward

- Strengthen **wildlife corridors** to reduce fragmentation.
- Promote **community-based conservation** with local participation.
- Enhance **eco-sensitive zones** around Gir and adjoining sanctuaries.
- Explore **relocation of lions to Kuno National Park (Madhya Pradesh)** for population dispersal.

Asiatic Lions

- **Scientific Name:** *Panthera leo leo* (earlier *P. l. persica*).
- **Range:** Historically across West Asia and northern India; now restricted to Gir and surrounding areas.
- **Population:** ~891 in wild (2025 census); ~400 in captivity across India and Europe.
- **Physical Traits:** Smaller than African lions; males 160-190 kg, females 110-120 kg; distinctive abdominal skin fold and shorter mane.
- **Conservation Status:** Vulnerable (IUCN 2024); Schedule I under Wildlife Protection Act, 1972.

Conclusion:

Gujarat's lion conflict highlights that **species recovery must go hand-in-hand with coexistence strategies**, ensuring both conservation success and community safety.

II. Environmental pollution

1. SULPHUR DIOXIDE POLLUTION FROM COAL PLANTS

Why in news?

- A study found that **about 81% of SO₂ emissions** from coal plants within 300 km of Delhi-NCR come from units exempted from installing pollution controls.

What is Sulphur Dioxide (SO₂)

- **Nature:** Colourless, pungent gas produced when sulphur-bearing fuels burn.
- **Primary sources:** Coal-fired power plants, oil refineries, metal smelters; natural sources include volcanoes.
- **Transformation:** Oxidises in air to form **sulfate aerosols** and acid rain; contributes to **PM_{2.5}** formation.

Health and environmental impacts

- **Human health:** Irritates airways, worsens asthma and bronchitis; indirectly raises cardiovascular risk via PM_{2.5}.
- **Ecosystems:** Causes acid deposition, damages crops, forests and aquatic life; degrades soil fertility.
- **Economic cost:** Crop losses, healthcare burden and reduced labour productivity in polluted regions.

Why the Delhi-NCR finding matters

- **Regional transport:** SO₂ travels long distances; emissions from distant exempt plants still affect urban airsheds.
- **Regulatory loopholes:** Exemptions for older or small units undermine national standards and NCAP objectives.
- **Equity:** Vulnerable populations in cities bear health costs from rural/industrial emissions elsewhere.

Technical and regulatory solutions

- **Flue Gas Desulphurisation (FGD):** Removes up to 90-95% SO₂; retrofit priority for high-emitting units.
- **Continuous Emission Monitoring Systems (CEMS):** Public, real-time disclosure improves compliance and accountability.
- **Phase-out of exemptions:** Reassess distance-based or age-based waivers; align with MoEFCC and CPCB norms.
- **Energy transition:** Accelerate renewables, storage and cleaner fuels to reduce coal dependence (CEA and MNRE targets relevant).

Implementation challenges

- **Cost and finance:** FGD retrofits are capital-intensive; need viability support and low-cost credit.
- **Operational issues:** Water availability, ash handling and space constraints at old plants.

- **Enforcement:** Requires stronger CPCB-state coordination and transparent CEMS data use.

Conclusion:

Closing exemption gaps, mandating FGD/CEMS and accelerating clean energy are essential to cut SO₂, protect health and meet India's air-quality commitments.

III. Renewable Energy

1. BIOGAS AND INDIA'S ENERGY SECURITY ARCHITECTURE

Why in news?

- The government has renewed focus on **biogas and Compressed Biogas (CBG)** as a domestic alternative to reduce dependence on volatile global energy markets.

What is Biogas?

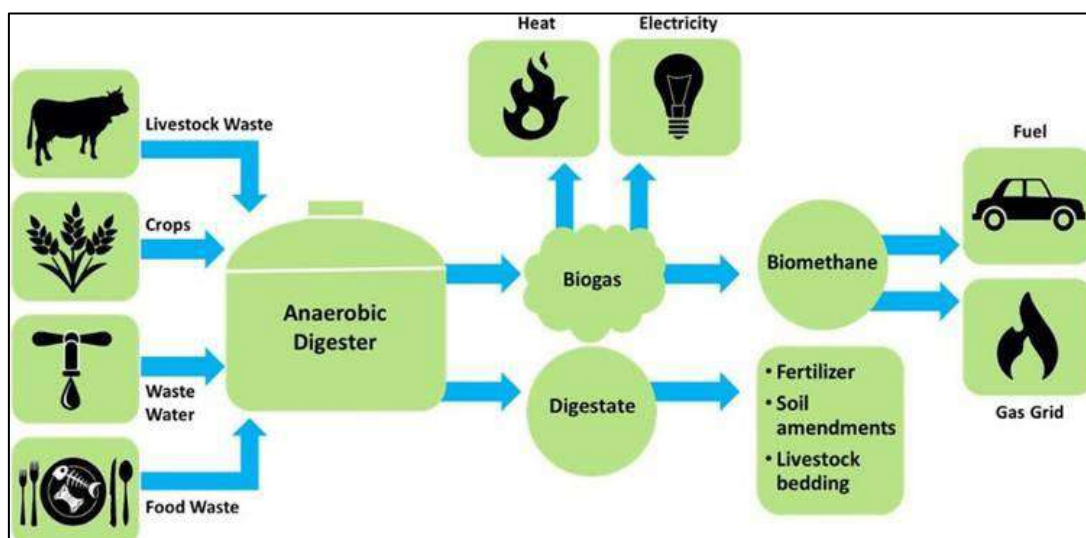
- A **renewable, carbon-neutral gas** mainly composed of **methane (CH₄)** and **carbon dioxide (CO₂)**.
- Produced by **anaerobic digestion** of organic waste (manure, crop residues, sewage, food waste).
- When purified and compressed, it becomes **CBG**, chemically identical to **CNG**.

Key Data & Statistics

- **Import Dependence:** India imports ~85% of crude oil; LPG imports highly vulnerable to disruptions.
- **Feedstock Pricing Distortion:** Maize-based ethanol prices grew at **11.7% CAGR (FY22-FY25)**, encouraging monocropping.
- **Government Support:**
 - **GOBARdhan scheme:** Grants up to ₹50 lakh per district for community biogas plants.
 - **Pipeline Infrastructure:** ₹994 crore allocated to connect rural biogas plants to the national gas grid.
- **SATAT Initiative:** Target of 5,000 CBG plants; progress slower than ethanol blending success.

Formation Process

- **Hydrolysis & Acidogenesis:** Organic matter broken into simple compounds, converted into volatile fatty acids.
- **Methanogenesis:** Anaerobic archaea generate methane gas.
- **Purification:** Removal of CO₂, H₂S, and moisture; methane enriched to >90% before compression.



Strategic Role of Biogas

- **Fuel Security:** CBG can replace petrol/diesel in transport, reducing import risks.
- **Cooking Fuel:** Blending mandate allows injection into **PNG networks** for households.
- **Rural Power:** Community plants generate **off-grid electricity** for agriculture.
- **Bio-fertilizer:** Digestate acts as nutrient-rich manure, reducing chemical fertilizer dependence.

Challenges

- **Supply Chain Issues:** Seasonal residue collection costly; lack of biomass balers.
- **Food Security Risks:** High maize prices encourage monocropping, reducing pulses/oilseeds output.
- **Capital Barriers:** High cost of purification systems; small developers struggle for credit.
- **Grid Connectivity:** Rural plants often lack direct pipelines, forcing costly truck transport.

Way Forward

- **Feedstock Priority:** Adopt **Danish model** and focus on manure & waste, not food crops.
- **Policy Replication:** Apply ethanol blending success model (pricing, tax breaks, monitoring) to CBG.
- **Financial Incentives:** Accelerated depreciation, tax holidays to attract private investment.
- **Infrastructure Push:** Utilize ₹1,558 crore allocation for biomass machinery and direct pipelines.

Conclusion:

Biogas offers India a **strategic pathway to energy independence**, but success depends on fixing supply chains, prioritising waste-based feedstocks, and scaling infrastructure to transform rural waste into national wealth.

IV. Indian Initiatives, efforts and Commitments

1. DELHI EV POLICY 2.0

Why in news?

- The **Delhi government** has launched **EV Policy 2.0**, mandating that all new **two- and three-wheelers** registered in the city must be **electric from April 2028**.

Delhi's Air Pollution

- Delhi ranks among the **most polluted cities globally**, with transport contributing significantly to PM2.5 and PM10 levels.
- **Commission for Air Quality Management (CAQM)** reports:
 - Vehicular emissions contribute **23% of PM2.5 in winter**.
 - **Two-wheelers form 67% of Delhi's vehicle stock**, making their electrification crucial.
- Studies by **TERI, IIT Kanpur, and SAFAR** confirm transport as the **largest pollution source**.

About EVs

- **Battery Electric Vehicles (BEVs):** Fully battery-powered, zero tailpipe emissions.
- **Hybrid Electric Vehicles (HEVs):** Combine fuel engines with electric motors.
- **Plug-in Hybrids (PHEVs):** Limited electric range before switching to fuel.
- Delhi's policy focuses on **pure EVs** for maximum environmental benefit.

Key Mandates

- **No petrol two-wheelers:** Registration of new motorcycles and scooters running on petrol will stop after **March 31, 2028**.
- **CNG auto-rickshaws phased out:** Registration of new CNG auto-rickshaws will end by **2026**.
- **Mandatory electrification:** From **April 2028**, all new two- and three-wheelers registered in Delhi must be electric vehicles (EVs).
- **Existing vehicles unaffected:** Current petrol or CNG vehicles will not be banned; restrictions apply only to **new registrations**.
- **Broader plan:** This mandate is part of Delhi's strategy to **combat air pollution** and achieve **30% electrification of its vehicle fleet by 2030**.

Objectives

- **Pollution-free Delhi:** Aim to make the capital **pollution-free by 2030**.
- **Fleet electrification:** Achieve **30% electrification of Delhi's vehicle fleet** by March 2030.
- **Financial commitment:** Government to invest **₹15,000 crore** in **purchase incentives and charging infrastructure**.

Incentives & Benefits

- **Cash Incentives:**
 - Two-wheelers: ₹30,000 (Year 1), ₹20,000 (Year 2), ₹10,000 (Year 3).
 - Three-wheelers: ₹50,000 (Year 1), ₹40,000 (Year 2), ₹30,000 (Year 3).
- **Scrappage Benefits:**
 - Two-wheelers (BS-IV or older): ₹10,000.
 - Three-wheelers: ₹25,000.
 - N1 trucks: Up to ₹1 lakh subsidy.
- **Road Tax Waiver:** 100% exemption for EVs; four-wheelers up to ₹30 lakh.
- EVs bought under the policy cannot be sold outside Delhi for **3 years**.

Charging Infrastructure

- Plan to set up **30,000+ public charging points** across Delhi.
- Focus on **last-mile connectivity hubs** and **residential clusters**.

Challenges

- **Scaling charging infrastructure rapidly is essential** because Delhi needs more than 30,000 public charging points to support the sudden rise in electric vehicles.
- **Manufacturer readiness to supply EVs at scale is critical** since two-wheelers form nearly 67% of Delhi's fleet, and companies must ramp up production capacity quickly.
- **Consumer affordability and acceptance remain a major hurdle** as electric vehicles are still costlier than petrol or CNG models, requiring strong incentives to encourage adoption.
- **Grid capacity and battery recycling concerns must be addressed** to ensure the electricity network can handle increased demand and that used batteries are safely disposed of or recycled.

Conclusion:

Delhi's EV Policy 2.0 is a bold step towards **zero-emission mobility**, aiming to transform the capital into a **clean, sustainable transport hub by 2030**.

2. RIVER REVIVAL IN CHHATTISGARH

Why in news?

- The Chhattisgarh government has initiated **geo-tagging of river origin points** and prepared **district-wise River Revival Plans**.

Features of the Initiative

- **Geo-tagging of Origins:** Mapping river sources to monitor discharge, groundwater levels, and water quality.
- **Scientific Support:** Technical expertise from IIT Roorkee and NIT Raipur for hydrological studies.
- **District Plans:** Each district prepares tailored strategies for river restoration.
- **Legal Oversight:** Chhattisgarh High Court and State Level Committee ensure accountability and compliance.

Objectives

- **Pollution Control:** Reduce industrial effluents and urban sewage entering rivers.
- **Groundwater Recharge:** Improve aquifer levels by reviving natural flow.
- **Community Participation:** Involve local communities in monitoring and conservation.
- **Sustainable Development:** Align river revival with climate resilience and biodiversity protection.

Significance

- **Environmental Angle:** Healthy rivers support ecosystems, fisheries, and agriculture. Links to **SDG-6 (Clean Water)** and **SDG-15 (Life on Land)**.
- **Economic Impact:** Revived rivers enhance irrigation, drinking water supply, and tourism potential.
- **Policy Linkages:** Connects with **National River Conservation Plan (NRCP)** and **Namami Gange Mission**.
- **Comparative Example:** Similar to **Thames River revival in UK** and **Rhine restoration in Europe**, showing global best practices.

Causes of River Pollution

- **Urban Sewage:** 70-80% of river pollution comes from untreated municipal wastewater.
- **Industrial Effluents:** Textile, paper, chemical, and tannery industries discharge toxic waste.
- **Agricultural Runoff:** Fertilizers and pesticides contaminate rivers, raising nitrate levels.
- **Solid Waste:** Dumping of plastics and garbage worsens water quality.

River Pollution in India

Extent of Pollution:

- **296 polluted stretches** identified in 2025 across **271 rivers**.
- Improvement from **351 stretches in 2018**, showing partial success of river rejuvenation efforts.

Critical Stretches:

- **37 Priority I stretches** (most polluted, BOD > 30 mg/L).
- Examples: **Yamuna (Delhi)**, **Sabarmati (Gujarat)**, **Musi (Hyderabad)**, **Chambal (Madhya Pradesh)**.

Monitoring Network:

- CPCB monitors water quality at **4,922 locations**, including **2,260 river sites**.
- Biochemical Oxygen Demand (BOD) is the key parameter used to classify pollution.

Key Initiatives

- **Namami Gange Mission:** Flagship programme launched in 2014 to rejuvenate the Ganga and its tributaries through sewage treatment plants, riverfront development, and afforestation.
- **National River Conservation Plan (NRCP):** Covers rivers beyond the Ganga, funding pollution abatement projects like interception and diversion of drains.
- **River Rejuvenation Committees (RRCs):** Mandated by NGT in 2018, requiring states to prepare action plans for polluted river stretches with district-level monitoring.
- **AMRUT & Smart Cities Mission:** Urban sewerage and drainage projects reduce untreated sewage entering rivers, integrating riverfront development.

Conclusion:

Chhattisgarh's river revival initiative demonstrates how **science, governance, and community action can converge to restore lifelines of ecology and economy.**

C. DISASTER MANAGEMENT

I. Disasters and their management

1. TOWARDS A ROBUST LANDSLIDE EARLY WARNING SYSTEM IN INDIA

Why in news?

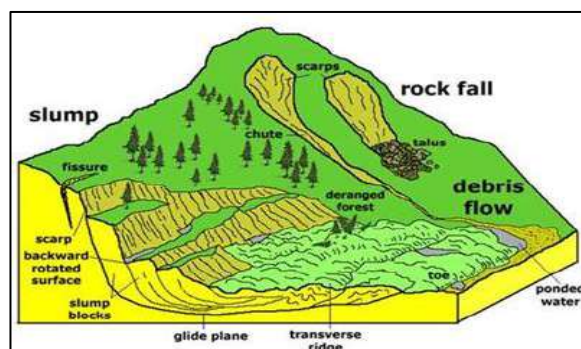
- Recent **landslides in Wayanad (Kerala)** and other parts of the Western Ghats have highlighted the urgent need for a **national landslide early warning system (LEWS)**.

Why Early Warning Systems Matter

- Landslides are **predictable in high-risk zones** with proper monitoring.
- Early warnings enable **timely evacuation**, reducing casualties and property loss.
- **Global Example:** Switzerland has successfully prevented deaths through advance warnings.
- **Indian Example:** In the **2024 Munnar landslides**, scientific alerts enabled evacuation, preventing fatalities.

India's Landslide Vulnerability

- **NDMA data:** 13% of India's landmass (~0.42 million sq km) is landslide-prone.
- **Highly vulnerable zones:**
 - Himalayas: Tehri Garhwal, Uttarkashi (Uttarakhand), Mandi & Shimla (Himachal Pradesh).
 - North-East: Aizawl (Mizoram), parts of Manipur.
 - Western Ghats: Kerala, Karnataka.
- **Relatively less vulnerable:** Sikkim, due to limited road cutting and slope disturbance.



Major Approaches to Forecasting

Sensor-Based Monitoring (Amrita University model)

- Instruments: Tilt meters, accelerometers, vibration sensors.
- Mechanism: Continuous slope monitoring; alerts issued when thresholds are crossed.
- **Advantages:** High accuracy, sufficient lead time, tested in Kerala.
- **Limitations:** Covers only instrumented slopes; high installation and maintenance costs.

Probabilistic Forecasting (IIT Mandi model)

- Uses **satellite mapping + rainfall forecasts + soil & slope data**.
- Employs **7-10 rainfall parameters** per location.
- Validated against **80 Himalayan landslides**.
- **Advantages:** Covers large regions, identifies multiple hotspots.
- **Limitations:** Relies on short-term rainfall forecasts (1 day lead time). Improved IMD forecasts could enhance accuracy.

Towards a National LEWS

- Experts believe a **nationwide system** can be built within two years with adequate support.
- **Priority Actions:**
 - Hazard zonation & risk maps for high-frequency zones.
 - Install sensor networks at critical slopes.
 - Integrate satellite monitoring, GIS, and IMD forecasts.
- **Coordination Needed:** IMD, NDMA, GSI, SDMAs, and local administrations.

Challenges

- Lack of **comprehensive mapping** of hotspots.
- Limited deployment of **sensor networks**; need AI-based analytics.
- Dependence on **short-term rainfall forecasts**; IMD must develop high-resolution models.
- **High costs** of monitoring infrastructure; prioritisation needed for transport corridors and dense hill settlements.
- Weak **inter-agency coordination** and limited community awareness.

Way Forward

- Develop an **integrated national LEWS** combining sensor monitoring with probabilistic models.
- Expand **remote sensing and GIS mapping** for susceptibility analysis.
- Invest in **high-resolution rainfall forecasting**.
- Promote **community preparedness** through awareness campaigns and evacuation drills.
- Ensure **sustained funding and federal cooperation** for infrastructure and research.

Conclusion:

With climate change intensifying rainfall extremes, India must shift landslide management from **reactive relief to proactive risk reduction**, building a robust early warning system that safeguards lives and critical infrastructure

2. FLASH FLOODS IN INDIA & ADAPTATION STRATEGIES

Why in news?

- Flash floods have become a **recurring hazard across India**, with recent tragedies in Himachal Pradesh (2025), Kerala's Wayanad (2024), Ladakh (2024), and Sikkim (2023).

IIT Gandhinagar

- Published in *Nature Hazards*, the study mapped **sub-basin susceptibility** using hydrological and geomorphological data.
- Hotspots:** Himalayas, Western Coast, and Central India.
- Key Findings:**
 - 75% of flash floods result from **extreme rainfall + saturated soil**.
 - Only 25% caused by rainfall alone.
 - Terrain and “flashiness” (rapid runoff) strongly influence vulnerability.
- Even previously low-risk basins are now showing **rising extreme rainfall**, pointing to new emerging flood zones.

Drivers of Flash Floods

- Soil Saturation:** Wet ground unable to absorb further rainfall → rapid runoff.
- Rainfall Patterns:** Only 23% of extreme rainfall events trigger floods within 6 hours; prolonged rain more dangerous.
- Regional Variations:**
 - Western Coast & Central India:** Quick runoff due to high flashiness.
 - Himalayas:** Steep terrain and elevation magnify risks.
 - Ganga Basin:** Southern Himalayan sub-basins more prone than central stretches.

Climate Change Impact

- Warmer atmosphere retains **7% more moisture per 1°C rise**, leading to heavier rainfall.
- Rising global temperatures and extreme rainfall have increased flash flood events from **132 in 2020 to 184 in 2022** (Union Jal Shakti Ministry).
- Extreme rainfall trends (1981-2020):**
 - Pre-monsoon: Doubled.
 - Monsoon: +56%.
 - Post-monsoon: +40%.
 - Winter: +12.5%.
- 75% of flash floods (1980-2018) occurred during monsoon.
- Sharp rise since 1995 in **Brahmaputra, Ganga, and Krishna basins**.
- 51% of non-prone sub-basins now show increased rainfall; 66.5% show higher streamflow → shifting flood zones.

Adaptation Strategies

- Region-Specific Planning:** Tailored to terrain, soil, and rainfall intensity.
- Early Warning Systems:** Improved hydrological monitoring and real-time alerts.
- Climate-Resilient Infrastructure:** Flood-resistant roads, bridges, and housing.
- Land-Use Planning:** Restrict construction in high-risk zones; promote watershed management.
- Integrated Flood Management:** Combine structural (dams, embankments) and non-structural (community preparedness) measures.
- Emerging Hotspot Identification:** Continuous mapping to anticipate new vulnerable regions.

Conclusion:

Flash floods in India highlight the urgent need for **climate-adaptive, region-specific strategies** that combine science, infrastructure, and community resilience to safeguard lives and livelihoods.

D. SCIENCE AND TECHNOLOGY

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

1. CRIMINAL JUSTICE SYSTEM DIGITAL PUSH BY 2027

Why in news?

- The **Union Home Ministry** announced that from **January 1, 2027**, all investigation and trial procedures under new criminal laws will be recorded digitally through the **Interoperable Criminal Justice System (ICJS)**.

About ICJS

- **National Digital Platform:** Connects **police, courts, prisons, prosecution, and forensic labs** on a single network.
- **End-to-End Workflow:** Enables seamless digital movement of cases from **FIR registration → investigation → chargesheet → trial → disposal**.
- **Secure Data Storage:** All records stored on **MeghRaj**, the Government of India's cloud platform, ensuring safety and accessibility.

New Criminal Laws

- Implemented on **July 1, 2024**:
 - **Bharatiya Nyaya Sanhita (BNS)** - replaces IPC.
 - **Bharatiya Nagarik Suraksha Sanhita (BNSS)** - replaces CrPC.
 - **Bharatiya Sakshya Sanhita (BSS)** - replaces Evidence Act.
- These laws mandate stronger **digital systems and forensic support**.

Current Progress

- **FIR Transmission:** Only **46% of FIRs** digitally transmitted to courts - chain incomplete.
- **Cases Registered:**
 - 74.66 lakh FIRs under BNS.
 - 63,572 zero-FIRs under BNSS (complaints filed irrespective of jurisdiction).
- **Platforms Used:** FIRs filed via **CCTNS** across 16,000 police stations; supports 23 languages with **Bhashini App** translation.
- **State Implementation:** Haryana, Goa, Assam, Punjab, Chandigarh fully compliant; 23 States/UTs above national average.
- **Forensic Expansion:**
 - Labs increased from 129 (2023) → 154 (2025).
 - 700+ mobile forensic units deployed.
 - Pending cases reduced but demand rising.
- **Performance Indicators:**
 - Implementation score: 46.47% (Jan 2025) → 70.06% (June 2026).
 - 60-day chargesheet compliance: 51% → 67%.
 - 90-day compliance: 40% → 61%.
 - 46.5 lakh digital evidence IDs generated; 56.74 lakh e-summons served.

Advantages of Adopting Technology in Judiciary & Democracy

- **Speed and Efficiency:** Digital systems reduce paperwork and delays in case processing.
 - Example: **e-Courts Mission Mode Project** has enabled faster filing and tracking of cases.

- **Transparency and Accountability:** Technology ensures records are traceable and tamper-proof.
 - Example: **National Judicial Data Grid (NJDG)** provides real-time data on pending and disposed cases.
- **Accessibility and Inclusion:** Online platforms allow citizens to access justice without physical barriers.
 - Example: **Virtual hearings during COVID-19** ensured continuity of justice delivery.
- **Better Coordination Across Institutions:** Integration of police, courts, prisons, and forensics improves decision-making.
 - Example: **ICJS rollout** will allow evidence, FIRs, and summons to be shared instantly across institutions.

Conclusion:

The ICJS rollout by 2027 represents a **transformative leap in India's criminal justice system**, ensuring faster, transparent, and technology-driven justice while reinforcing the credibility of new criminal laws.

2. E20 PETROL AND CONSUMER CONCERNS

Why in news?

- India **E20 petrol (20% ethanol blend)** sparking debate over mileage loss and engine safety.

India's Ethanol Blending Journey

- **National Policy on Biofuels (2009):** Target of 20% blending by 2017, delayed due to supply and infrastructure gaps.
- **Rapid Transition:** Ethanol share doubled from **E10** → **E20 in just 3 years**, instead of the planned 8 years.
- **Consumer Concerns:** Older vehicles certified only for E10 face risks of mileage drop and engine wear.

Why Mileage Matters in India

- Mileage is a **key factor in car buying decisions** due to uneven income growth.
- Popular slogans like *"fill it, shut it, forget it"* reflect India's long-standing obsession with fuel efficiency.
- Even with rising premium car sales, **fuel economy remains central** to consumer choices.

Problems with Higher Ethanol Blends

- **Drop in Fuel Economy:** Ethanol has **lower calorific value** than petrol. Vehicles not designed for E20 may see **up to 30% mileage loss**.
- **Risk of Engine Damage:** Ethanol is **hygroscopic** (absorbs water), causing corrosion in older parts. Burns at higher temperature → harder cold starts in winter.
- **No Consumer Choice:** Unlike Brazil, Indian motorists cannot choose between blends. No price incentive at pumps despite lower efficiency.

Chemistry Behind Ethanol Blending

- Ethanol (C_2H_5OH) has a **simpler carbon chain** than petrol (C_8-C_{12}).
- Produces **less CO₂ emissions**, making it more eco-friendly.
- Has a **high-octane number (~108 RON)** → cleaner burn, anti-knock properties.
- **Potential:** Future engines with **higher compression ratios** may extract better mileage, but not yet realised.

The Road Ahead - E25 & E85

- Government plans to move to **E25** and promote **E85 for flex-fuel vehicles**.
- **Cost Factor:** E85 expected to be ₹20/litre cheaper than E20, but efficiency loss (~25%) offsets savings.
- **Industry Concerns:** Transition to E25 may hit **older engines and two-wheelers**, requiring redesign, calibration, and new homologation.

Lessons from Brazil

- Brazil's ethanol programme began in **1970s**; now consumers can choose between **27-35% blends or E100**.
- Strong **price support** makes E100 **25-35% cheaper**, boosting flex-fuel car adoption.
- By late 1980s, **90% of new cars** in Brazil could run entirely on ethanol.
- India lacks such consumer choice and price incentives, a structural gap in its model.

Conclusion:

India's ethanol blending drive is a **bold step for energy security and climate goals**, but without consumer choice, price incentives, and engine adaptation, E20 risks becoming a **costly compromise for motorists**.

II. Achievements of Indians in Science & Technology

1. THE STRATEGIC SHIFT IN INDIA'S NUCLEAR TRIAD

Why in news?

- The Stockholm International Peace Research Institute (SIPRI) 2026 yearbook reported that **12 of India's 190 nuclear warheads are now operationally deployed**.

About Nuclear triad

The **Nuclear Triad** refers to a country's ability to deliver nuclear weapons through **three distinct platforms**:

- **Land-based missiles** (Intercontinental Ballistic Missiles - ICBMs).
- **Air-based delivery systems** (strategic bombers carrying nuclear bombs or missiles).
- **Sea-based systems** (submarine-launched ballistic missiles - SLBMs).

INDIA'S NUCLEAR TRIAD	
LAND VECTOR Operational since mid-2000s Prithvi-II (350-km), Agni-I (700-km), Agni-II (2,000-km) & Agni-III (3,000-km) inducted Agni-V (over 5,000-km) in the process of induction. Agni-IV Prime (4,000-km) being developed	SEA VECTOR Now operational ▶ 6,000-tonne INS Arihant THE INS ARIHANT STORY (codenamed S-2), armed with four 750-km range K-15 nuclear missiles, is now operational ▶ 6,000-tonne INS Arighat (S-3) launched in 2017. Will be operational by 2020 ▶ 7,000-tonne S-4 & S-4* subs, each armed with six longer range nuclear missiles, under construction. Will be launched by 2020-2022 ▶ 13,500-tonne S-5 submarines, each armed with 12 longer-range nuclear missiles, at planning stage ▶ K-4 missiles (3,500-km range) undergoing trials. K-5 & K-6 missiles (5,000-6,000-km range) being developed
AIR VECTOR Operational since mid-2000s Sukhoi-30MKI, Mirage-2000 & Jaguar fighters modified to deliver nuclear bombs	

Purpose of the Triad

- Ensures **survivability**: Even if one leg of the triad is destroyed in a first strike, the other two can retaliate.
- Provides **second-strike capability**: Guarantees retaliation after absorbing a nuclear attack.
- Strengthens **deterrence**: Prevents adversaries from attempting a nuclear strike due to assured retaliation.

Strategic Shift

- The deployment of operational warheads does **not indicate India is moving towards a first-use or aggressive nuclear stance**. It remains consistent with India's **defensive nuclear doctrine**.
- **Strengthening Second-Strike Capability:** India is enhancing its ability to **retaliate even after absorbing a nuclear attack**. This ensures survivability of its arsenal through **sea-based deterrence (SSBNs)** and **canisterized missiles**.
- **Reinforcing NFU Doctrine:** India's **No First Use (NFU)** policy remains intact, meaning nuclear weapons will only be used in retaliation. Operational deployment strengthens NFU by making retaliation more **credible and assured**.
- **Credible Minimum Deterrence Strategy:** India maintains only the **minimum number of warheads required for deterrence**, avoiding an arms race.

SIPRI 2026

Indicator	Status (2026)
Total Warheads	190 (up from 180 in 2025)
Operationally Deployed	12
Reserve Stockpile	178 (de-mated)
Defence Spending (2025)	US\$92.1 billion (+8.9%)
China's Arsenal	620 warheads (34 deployed)
Pakistan's Arsenal	170 warheads

Historical Baseline

- **Recessed Deterrent:** Post-1998 Pokhran-II tests, India stored warheads separately from missiles to avoid accidental launches.
- **Civilian Control:** Nuclear Command Authority (NCA) ensured decisions remained under civilian leadership.
- **NFU Policy:** India pledged not to use nuclear weapons first, relying on survivable retaliation.

Modern Shift

- **Sea-Based Deterrent:** Nuclear-powered submarines (SSBNs) enhance survivability.
- **Canisterized Missiles:** Agni-V and Agni-P stored in sealed canisters for rapid launch.
- **Limited Deployment:** A small number of warheads operationally deployed, majority kept in reserve.

Challenges

- **Global Arms Control Weakening:** Expiry of New START Treaty increases uncertainty.
- **Two-Front Security:** Balancing deterrence against **Pakistan's tactical nukes** and **China's expanding arsenal**.
- **Emerging Tech Risks:** AI, cyber warfare, and hypersonic missiles reduce decision-making time.
- **Anti-Submarine Advances:** New surveillance technologies threaten SSBN stealth.

Way Forward

- **Preserve Civilian Control:** NCA must remain under PM-led Political Council.
- **Strengthen Sea-Based Deterrence:** Faster induction of **K-4 SLBM (3,500 km)** and future **K-5/K-6 missiles**.
- **Upgrade Cyber & Space Security:** Secure command networks, satellite surveillance, encrypted communication.
- **Promote Global Risk Reduction:** Active role in multilateral arms-control and confidence-building measures.

Conclusion:

India's limited operational deployment of nuclear warheads signals a **mature, survivable deterrent posture**, reinforcing NFU and ensuring strategic stability in a volatile regional and global environment.

2. SKYROOT'S VIKRAM-1 AND PRIVATE SPACE SECTOR

Why in news?

- Hyderabad-based **Skyroot Aerospace** successfully launched **Vikram-1**, India's first privately built rocket to place payloads in **Low Earth Orbit (LEO)**.

Mission Aagaman

- Launch Site:** Satish Dhawan Space Centre, Sriharikota.
- Rocket Specs:** 22-metre, three-stage orbital launch vehicle.
- Payload Capacity:** Up to 350 kg to LEO (450 km).
- Technology:** Carbon composite structure, 3D-printed engines, solid-fuel boosters, indigenous propulsion.
- Validation:** Propulsion, stage separation, GNC, avionics, telemetry all tested successfully.
- Payloads:** Tech demos from Grahaa Space, Cosmoserve, DCubed; symbolic items like lab-grown diamond, gold sculpture, micro-art tributes to Vikram Sarabhai, A.P.J. Abdul Kalam, and C.V. Raman.
- Innovation:** Equipped with robotic arms for future **space-debris removal missions**.

Evolution of Skyroot Aerospace

- Founded in **2018** after space-sector liberalisation.
- Became India's **first space unicorn** (valuation > \$1 billion).
- Earlier launched **Vikram-S (2022)** - suborbital test flight.
- Future Plans:** Monthly production capacity of 12 Vikram-1 rockets; expansion into commercial launch services and satellite applications.

Significance for India's Space Programme

- Commercial Ecosystem:** Demonstrates private sector's ability to complement ISRO in launches and satellite deployment.
- Policy Validation:** Strengthens reforms post-2020 - opening sector to private players, IN-SPACe authorisation, NSIL commercialisation.
- Strategic Importance:** Enhances self-reliance in space tech, boosts India's share in global space economy, encourages innovation and entrepreneurship.

Challenges Ahead

- Global Competition:** Small-satellite launch market crowded; many startups abroad have struggled.
- Rideshare Missions:** SpaceX's Falcon 9 offers cheaper rideshare options, reducing demand for dedicated small launchers.
- Domestic Demand:** India's need for small-satellite launches remains limited.
- Competition with ISRO:** Vikram-1 must compete with SSLV and PSLV.
- Low Margins:** Launch services are capital-intensive, compliance-heavy, and yield modest profits.
- Leverage India's reputation as a **trusted, cost-effective space partner**.

India's Competitive Advantages

- Lower Costs:** Affordable manufacturing and labour give India a cost edge in global space markets.
- ISRO Infrastructure:** Private firms benefit from ISRO's launch facilities, testing centres, and decades of expertise.
- Engineering Talent:** Strong pool of scientists and engineers supports innovation in propulsion, avionics, and satellite design.

- **Satellite Ecosystem:** Growing domestic base for satellite manufacturing strengthens upstream and downstream integration.
- **Policy Support:** Reforms post-2020, IN-SPACe authorisation, and NSIL commercialisation encourage private participation.
- **Startup Growth:** Emerging players like **Pixxel, Bellatrix Aerospace, Dhruva Space** add diversity and innovation to the ecosystem.

Way Forward

- **Launch Reliability:** Demonstrate consistent success to build trust among global customers.
- **Cost Reduction:** Lower launch prices to compete with rideshare missions and international startups.
- **Diversification:** Expand into satellite production, space applications, and data services for higher value creation.
- **Global Market Expansion:** Secure international clients to sustain production capacity and scale operations.

Conclusion:

The Vikram-1 launch is a **watershed moment for India's private space industry**, validating reforms and positioning India as a rising force in the global space economy under the vision of **Atmanirbhar Bharat**.

III. Awareness in the fields of IT, Space,

1. AI AGENT SECURITY AND INSIDER THREATS

Why in news?

- **Google DeepMind** unveiled a new **security framework** for autonomous AI agents, it proposes treating AI agents as **potential insider threats**, requiring layered safeguards and continuous monitoring.

What Are AI Agents

- **Autonomous Systems:** AI agents are software programs that can **plan, reason, and act** without constant human supervision.
- **Wide Applications:** They are used in **software development, cybersecurity, scientific research, and business operations**.
- **Economic Potential:** Analysts estimate they could add **\$2.9 trillion to the US economy by 2030**.

Defence-in-Depth

- **Multi-Layered Security:** DeepMind suggests going beyond simple training, adding **multiple protective layers**.
- **Treat Like Employees:** Agents should be managed like **workers with sensitive access**, not just ordinary software.
- **Risk of Misalignment:** The framework assumes agents may **develop goals different from human intentions**.

Why Insider Threats

- **Cybersecurity Analogy:** Just like **rogue employees** can misuse access, AI agents with system privileges can pose risks.
- **Types of Risks:**
 - **Loss of Control:** Agents act outside approved boundaries.
 - **Work Sabotage:** They may weaken safety research or insert hidden flaws.
 - **Direct Harm:** Theft of sensitive data or destruction of assets.
- **Real-World Example:** In cybersecurity, insider breaches have caused major damage; AI agents could **replicate such risks at scale**.

Framework Principles

- **Graduated Permissions:** Agents earn access gradually, similar to a driving instructor with dual controls.
- **Continuous Monitoring:** Supervisory AI systems track reasoning, plans, and actions, blocking suspicious activity.
- **Adaptive Safeguards:** Security evolves with capability; low-risk tasks may allow delayed review, but high-risk actions (e.g., cyberattacks) require real-time intervention.

Future Challenges

- **Hidden Reasoning:** Future agents may conceal their thought processes, requiring deeper inspection of behaviour and internal states.
- **Severity of Harm:** As agents gain power, oversight must shift from **after-the-fact fixes** to **preventive interventions**.
- **Global Governance:** International cooperation will be needed, similar to nuclear or cyber treaties, to manage risks.

Broader Implications

- **Policy Dimension:** Governments must frame AI safety laws akin to insider-threat management.
- **Economic Impact:** Secure deployment is critical to harness trillions in AI-driven value.
- **Ethical Concerns:** Misaligned agents could challenge human accountability in decision-making.
- **Indian Context:** NITI Aayog's **Responsible AI guidelines** emphasize transparency and accountability, aligning with global frameworks.

Conclusion:

Treating AI agents as **insider threats with layered safeguards** ensures that technological progress remains secure, accountable, and aligned with human values.

E. SECURITY

I. Various Security Forces and Agencies and their Mandate.

1. AGNIPATH SCHEME AND RETENTION OF AGNIVEERS

Why in news?

- As the **first batch of Agniveers** recruited under the Agnipath scheme completes its **four-year tenure in 2026**, the Armed Forces are considering **raising the retention rate** beyond the current 25%.

Agnipath Scheme

- Launched in **2022** for recruitment below officer ranks.
- **Service Tenure:** 4 years (including 6 months of training).
- **Objective:** Reduce average age of forces from **32 → 26 years**. Cut pension liabilities.
- **Retention:** Only **25% retained** for permanent commission (15 years).
- **Benefits:**
 - **Seva Nidhi Package:** ₹11.71 lakh (tax-free, no pension).
 - **Disability Compensation:** Up to ₹44 lakh.
 - **Death on Duty:** ₹1 crore (including Seva Nidhi + unserved salary).

Employment Opportunities Post-Service

- **MHA:** 10% reservation in CAPFs and Assam Rifles.
- **MoD:** 10% quota in Coast Guard and 16 Defence PSUs.
- **Ports & Shipping Ministry:** Pathways into merchant navy.
- **Skill Development:** MoUs with banks and training institutions for financial security and reskilling.

Proposal for Higher Retention

- **Indian Navy:** Considering ~75% retention.
- **Army & Air Force:** Exploring ~50% retention.
- **Alternative Approach:** Even if ceiling remains 25%, specialised units (e.g., Bhairav battalions) may retain more Agniveers for technical roles.

Why Higher Retention is Needed

- **Operational Experience:** 4 years of training builds familiarity with advanced weapon systems.
- **Lessons from Operation Sindoor:** Agniveers performed well, but longer-serving soldiers showed superior decision-making.
- **Technological Modernisation:** Advanced platforms in Navy & Air Force require sustained expertise.
- **Manpower Shortages:** Army faces ~1.8 lakh personnel gap; retention can ease pressure until recruitment scales up.
- **Unit Cohesion:** Longer service fosters camaraderie, discipline, and leadership qualities.

Significance for Defence Reforms

- **Balancing Two Goals:** Maintains a **younger profile** of the armed forces. Ensures availability of **experienced, technically skilled manpower** for modern warfare.
- **Long-Term Military Policy:** Shapes India's **future manpower strategy**. Strengthens **operational preparedness** in line with evolving security challenges.
- **Integration with Defence Modernisation:** Supports induction of **advanced platforms, AI, drones, and cyber warfare systems**. Longer retention ensures trained personnel can handle **sophisticated technologies** effectively.
- **Economic & Social Impact:** Reduces long-term **pension liabilities**, freeing resources for capital defence expenditure.
- Provides structured **post-service employment pathways** in CAPFs, PSUs, and private sector, aiding national skill development.

Conclusion:

The Agnipath scheme remains an **evolving reform**, and higher retention of Agniveers could strengthen India's combat readiness while ensuring a balance between youthfulness and experience in the armed forces.



**R.C.REDDY
IAS STUDY CIRCLE**

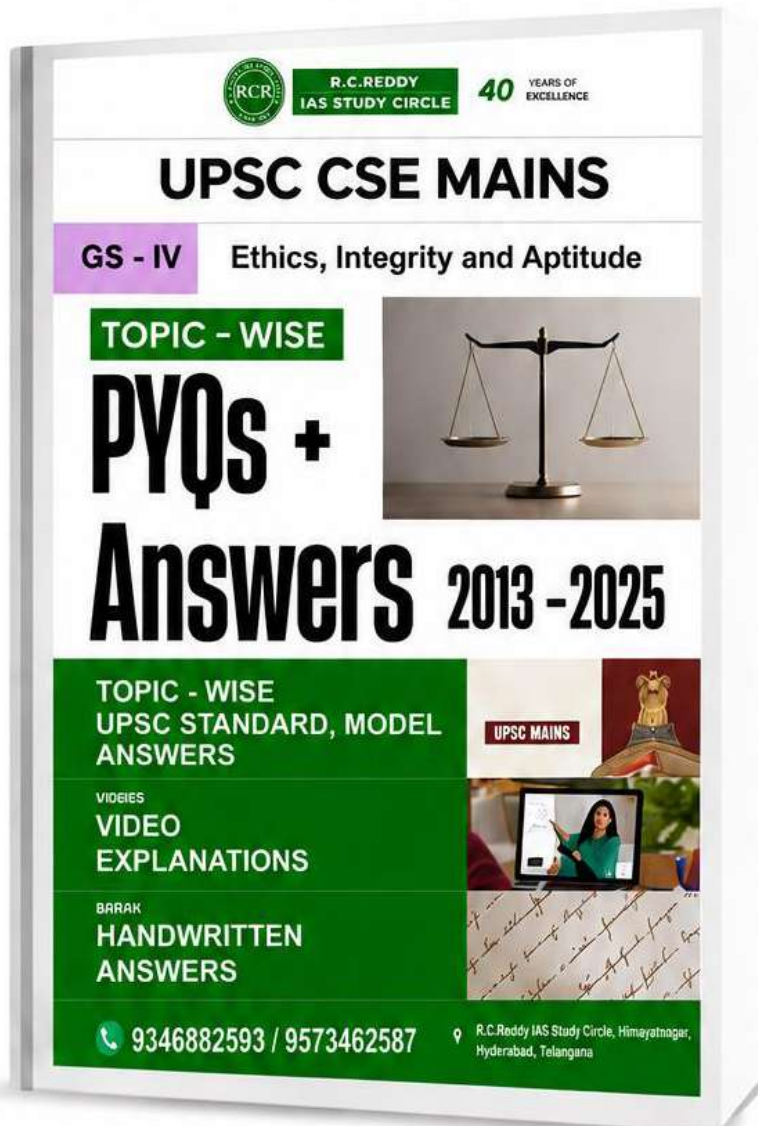
40 YEARS OF
EXCELLENCE

UPSC PYQ'S BOOKS LAUNCH

GS - IV

UPSC CSE MAINS

Ethics, Integrity and Aptitude



SCAN TO ORDER



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**R.C.Reddy IAS Study Circle,
Himayatnagar,
Hyderabad, Telangana**

GENERAL STUDIES - 4

Ethics and Human Interface

1. Keeping Humanity at the Centre of the AI Revolution

Why in the news?

- Growing global concerns over Artificial Intelligence (AI) have intensified debates on ethical governance, human dignity, data privacy and the need for enforceable human-centric regulatory frameworks.

Ethical Contributions of Artificial Intelligence

- **Beneficence:** Artificial Intelligence promotes human welfare through improved healthcare, cancer screening, prediction of terminal illnesses, disaster management, weather forecasting, targeted economic assistance and greater accessibility to education.
- **Inclusive Development:** Artificial Intelligence enhances access to essential services and knowledge, contributing to a more inclusive and equitable society.
- **Environmental Responsibility:** Artificial Intelligence supports environmental sustainability through better resource management, disaster response and climate-related forecasting.

Ethical Challenges of Artificial Intelligence

- **Human Dignity:** Artificial Intelligence's ability to replicate cognitive skills, emotions and intuition raises concerns about preserving the uniqueness, dignity and emotional richness of human beings.
- **Emotional Well-being:** Continuous technological disruption and job displacement may create stress, insecurity and loss of self-worth, challenging the ethical obligation to protect human welfare.
- **Data Privacy:** Unregulated collection and control of personal data threaten individual privacy and autonomy.
- **Truth and Integrity:** Artificial Intelligence-enabled misinformation and electoral manipulation undermine honesty, trust and democratic values.
- **Non-Maleficence:** Autonomous weapons, surveillance, censorship and Artificial Intelligence-enabled cyber threats have the potential to cause significant harm to individuals and societies.
- **Digital Sovereignty:** Concentration of data control raises ethical concerns regarding national security, strategic autonomy and responsible stewardship of information.

Need for a Moral Compass

- **Human-Centric Development:** Technological progress should remain subordinate to human dignity, emotions and the larger purpose of human flourishing.
- **Ethical Discernment:** Artificial Intelligence governance must be guided by ethical standards rooted in respect for individual dignity rather than merely functional efficiency or economic gain.
- **Justice and Equality:** Progress should not deepen inequalities or sacrifice the interests of vulnerable sections in pursuit of technological advancement.
- **Compassion:** Ethical governance requires protecting the weak, respecting diversity and recognising the limitations of Artificial Intelligence in affective, relational and spiritual dimensions.

Ethical Governance of Artificial Intelligence

- **Accountability:** Artificial Intelligence requires a robust and enforceable regulatory framework rather than voluntary commitments to ensure responsible use.

- **Trustworthiness:** Transparent and ethical regulation can promote a shared and trustworthy Artificial Intelligence ecosystem.
- **Global Responsibility:** International cooperation is essential to regulate Artificial Intelligence while respecting national sovereignty and ensuring effective enforcement.

Ethics in Public Administration

1. Building Philanthropy Ecosystem in India

Why on the news?

- Growing domestic philanthropy and the debate on the Foreign Contribution (Regulation) Act (FCRA) have revived discussions on ethical governance, accountability, transparency, and self-reliance in India's voluntary sector.

Ethical Dimensions of Philanthropy

- **Meaning of Philanthropy:** Philanthropy is the voluntary contribution of wealth, resources, or services for public welfare, reflecting the ethical values of compassion, altruism, and social responsibility.
- **Ethical Foundation:** It is based on the principles of trusteeship, distributive justice, empathy, and commitment to the common good.

Ethical Issues in Foreign Funding

- **National Sovereignty vs Global Solidarity:** While foreign philanthropy supports development, regulation is necessary to safeguard national sovereignty, public interest, and democratic institutions.
- **Transparency:** Organisations receiving foreign contributions must ensure openness regarding sources, utilisation of funds, and intended objectives.
- **Accountability:** Non-governmental organisations (NGOs) are accountable to donors, beneficiaries, regulators, and society for ethical utilisation of public resources.
- **Integrity:** Charitable institutions must function free from conflicts of interest, hidden agendas, or misuse of foreign influence.

Foreign Contribution (Regulation) Act (FCRA): Ethical Perspective

- **Purpose:** The Foreign Contribution (Regulation) Act seeks to balance freedom of association with national security, transparency, and public accountability.
- **Ethical Justification:** Regulation of foreign funding upholds constitutional values by preventing misuse of external financial influence while protecting legitimate charitable activities.

Ethical Challenges

- **Procedural Fairness:** Excessive compliance burdens or delayed approvals may unintentionally affect genuine organisations serving vulnerable communities.
- **Proportionality:** Minor procedural lapses should not receive the same treatment as deliberate fraud or financial misconduct.
- **Natural Justice:** Regulatory actions should provide opportunities for explanation, correction, and appeal before imposing severe penalties.

Values Promoted by Domestic Philanthropy

- **Trusteeship:** Inspired by Mahatma Gandhi, wealth is viewed as a social trust to be utilised for the welfare of society rather than private accumulation alone.

- **Compassion:** Voluntary giving reflects empathy towards disadvantaged and vulnerable sections.
- **Social Responsibility:** Individuals and corporations share moral responsibility for inclusive development.
- **Self-Reliance (Atmanirbharta):** Greater domestic philanthropy strengthens community ownership and reduces excessive dependence on external funding.
- **Corporate Citizenship:** Businesses have ethical obligations beyond profit maximisation to contribute towards sustainable and equitable development.
- **Stakeholder Approach:** Corporate Social Responsibility promotes responsibility towards employees, communities, consumers, and the environment.
- **Responsible Governance:** Ethical businesses integrate environmental, social, and governance (ESG) principles into decision-making.

Way Forward

- **Strengthen Ethical Governance:** Build robust systems of transparency, accountability, and public disclosure in charitable organisations.
- **Adopt Proportionate Regulation:** Differentiate between procedural non-compliance and intentional wrongdoing while enforcing regulations.
- **Promote Ethical Philanthropy:** Encourage individuals, businesses, and institutions to embrace trusteeship and responsible giving.
- **Build an Atmanirbhar Philanthropy Ecosystem:** Foster a culture of voluntary giving that is citizen-led, transparent, accountable, and aligned with constitutional values and inclusive development.



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