

"You are as strong as your Foundation" **FOUNDATION COURSE GENERAL STUDIES** PRELIMS CUM MAINS **2026, 2027 & 2028**

Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains Exam

- Includes Pre Foundation Classes
- Includes comprehensive coverage of all the topics for all the four papers of GS Mains, GS Prelims & Essay
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- Our Comprehensive Current Affairs classes of PT 365 and Mains 365 of year 2026, 2027 & 2028

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Targeted towards those students who are aware of the basics but want to improve their understanding of complex topics, inter-linkages among them, and analytical ability to tackle the problems posed by the Mains examination.

Covers topics which are conceptually challenging.



Mains 365 Current Affairs



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Comprehensive current affairs notes

Sectional Mini Tests



Approach is completely

analytical, focusing on the demands of the Mains examination.







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NOTE:

Dear Students,

Memorisation and recollection of information in Current Affairs is as important as understanding the articles. In order to enhance the learning outcomes from the Monthly Current Affairs Magazine, we are introducing following additions:



A thematic based colors has been used in the document in the boxes, tables etc to enable easy identification and recollection of various concepts and topics.



Questions are an important tool to assess and retain information. To enable this we are adding a Smart Quiz at the end of each section in the document for practicing the questions.



A wide variety of infographics have been added to ensure smoother learning experience and enhanced retention of the information. This will also help in effective presentation of information in the answer writing as well.

Places and persons in news are being presented in an objective manner through Maps, Tables & Pictures. This will help in easier recollection of factual information.



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DELHI: GMMR 33, Pusa Road, Near Karol Bagh Metro Station, Opposite Pillar No. 113, Delhi - 110005CONTACT: 8468022022, 9019066066 AHMEDABAD | BENGALURU | BHOPAL | CHANDIGARH | GUWAHATI | HYDERABAD | JAIPUR | JODHPUR | LUCKNOW | PRAYAGRAJ | PUNE | RANCHI

1. POLITY AND GOVERNANCE

1.1. CASTE CENSUS

Why in the News?

Centre issued notification for census which begin from October 2026 in Ladakh and March 2027 across rest of India which includes caste census.

More on the News

- First Since Independence: This marks the first time since independence that caste data (beyond Scheduled Castes and Scheduled Tribes) will be officially collected as part of the decennial census.
- **Discrepancies in State-Level Caste Surveys**: Several states have conducted their own caste surveys (e.g., Bihar, Karnataka, etc.) in recent years, but these have often lacked uniformity, transparency, and credibility, leading to doubts about their reliability and comparability.
 - A caste survey is different from a caste census, as **census is a constitutionally mandated** unlike surveys.
- **Digital Mode**: The upcoming census will incorporate a **mobile application to digitally record** the census data alongside the traditional pen and paper mode.

Census in India

- About: It is a decennial exercise that provides comprehensive demographic, social, and economic data relating to all persons in the country, at a particular time.
 - Censuses have been **conducted regularly every ten years since 1881** in India. However, the latest census, scheduled to take place in 2021, was indefinitely put on hold due to COVID-19.

Legal Framework

- **Constitutional Provision:** Census is a **Union subject** under Entry 69 of the Union List of the **Seventh Schedule** as per **Article 246** of the Constitution.
- **Statutory Provisions:** For conduct of census, the **Census Act, 1948** and the **Census Rules, 1990** provide the legal framework along with the duties and responsibilities of census officers.
 - > The **Registrar General and Census Commissioner** (RG&CC) is authorized to design the census proforma, **including the addition of caste-related questions** without the need for amending the Act.



Need for Caste Census

- Constitutional mandate: Article 340 mandates appointing a commission to investigate socially and educationally backward classes.
- **Policy Making**: Accurate caste data is crucial for evidence-based policymaking, targeted welfare schemes, and equitable resource allocation.

- OBC groups argue that their claims on national resources are **often neglected due to lack of updated data** on their numbers and backwardness.
- Affirmative Action: It enables better identification of disadvantaged groups for reservations in education and public employment and also the better monitoring of the effectiveness such policies for necessary adjustments.
 - Various rulings of the Supreme Court have held caste as a 'relevant criterion', 'sole criterion' or 'dominant criterion' for defining a backward class, and have demanded detailed caste-wise data for upholding reservation policies.
 - Demands of OBC reservation by various groups across India (such as Marathas in Maharashtra, Jats in Haryana, etc.) can be better ascertained.
- **Sub-categorization**: Helps in the sub-categorization of OBCs and other groups to ensure equitable distribution of benefits and address intra-group disparities.
 - o Justice Rohini Commission on sub-categorization of OBCs, formed in 2017, is yet to present its report.
- Comprehensive National Database: A central database of all castes, enumerated with full transparency in an objective manner is necessary amidst various state level discrepancies in caste surveys for a data driven good governance process.

Issues associated with Caste Census

- Data Accuracy and Reporting: Self-reporting of caste identities and lack of proper training of government officials can lead to errors or deliberate misrepresentation.
 - **E.g.,** 2011 SECC reported inflated caste counts due to duplicate entries and misspellings, rendering parts of the data unusable.
- **Classification Issues:** Variations in caste classification between **Centre and state lists** create inconsistencies. For instance, a caste listed as OBC in one state may be unrecognized in another (e.g., Jats in Haryana vs. Uttar Pradesh).
- **Political Sensitivities:** Recognition of certain castes may lead to demands for inclusion in reservation categories, stirring political unrest.
 - E.g., the Gujjar agitation in Rajasthan at one point demanded ST status based on socio-economic backwardness.
- Identity Politics: Caste data may intensify caste-based political mobilization, deepening social divisions.
- **Privacy Concerns:** Collecting caste data digitally raises concerns about data security and privacy, especially in rural areas with limited digital literacy.

Way Forward

- **Consultative Process:** The Office of the Registrar General of India and the Census Commissioner must consult with academics, caste groups, political groupings and the public at large to device a method of caste enumeration accurately.
- **Caste Directory:** A comprehensive national directory of castes should be created in the upcoming census, standardizing the classification and nomenclature of various caste groups across states.
 - The government should enlist sociological/ anthropological experts to draw up a draft list of castes specific to each State, publish the draft list online, inviting suggestions and comments from the public before finalising it, and give only that list to the enumerators.
- Training and Capacity Building: Officials and staff collecting the caste data must be properly trained to avoid duplication and spelling errors in caste enumeration.



• Modern technologies like **AI and Big Data Analytics** can be used to minimize errors.

1.2. PRIVATE MEMBER BILL

Why in the News?

As per PRS Legislative Research report, the space for private members' bill has declined in both the Houses of the Parliament in recent years.

What is a Private Member's Bill?

- About: A Member of Parliament, other than a Minister (both elected and nominated) is known as a Private Member. A bill initiated by any such Member is called a Private Member's Bill (PMB).
 - **Drafting** of such a bill is **responsibility of the Member** introducing it.
- **Mechanism:** A **one month notice** is given before the introduction of the bill with the permission of Speaker (Lok Sabha) or Chairman (Rajya Sabha). If the bill is selected then:
 - Lok Sabha allots last two-and-a-half hours of business every Friday for consideration and discussion on the Bill.
 - Rajya Sabha allots two and a half hours (from 2.30 p.m. to 5.00 p.m.) on every alternate Friday.
 - The first private member bill passed was the Muslim wakfs bill,1952 which was introduced by Syed Mohammed Ahmad Kasmi.

What is the significance of PMBs?

- **Policy Innovation**: They allow MPs to propose novel ideas or address issues overlooked by the government.
 - **E.g.**, **Right to Disconnect** Bill 2019 introduced by a private member, granting employees the legal right to disengage from work-related communication beyond official working hours.
- **Reform Potential**: They can spark debate on outdated laws or emerging issues.
 - **E.g.**, **The Rights of Transgender Persons Bill, 2014,** was first introduced by a Private Member which then inspired the government to introduce its own Bill on transgender rights.
- Expression Beyond Party Line: They enable MPs to voice independent views, free from party whip constraints under 10th Schedule, fostering democratic participation.
- Checks and Balances: These act as a tool for MPs to hold the government accountable by proposing alternative policies.

Why are PMBs in Decline?

- **Disruptions**: Frequent adjournments and chaotic sessions reduce time for PMB discussions.
 - **E.g.,** in the 17th Lok Sabha (2019-24), 729 PMBs were introduced in the Lok Sabha and 705 in the Rajya Sabha. However, only 2 in the Lok Sabha and 14 in the Rajya Sabha were ever discussed.
- **Procedural Issues**: It takes years for legislation moved by private members to come up for discussion due to **limited time** (only 2–3 hours weekly).
 - The **Speaker/Chairman's discretionary power** to admit or reject bills can be influenced by political considerations.
- **Resource Constraints**: Private members lack research support, drafting expertise, or institutional backing, unlike government bills.
- Low Success Perception: The historically low passage rate discourages MPs from investing effort in PMBs.
 - E.g., only 14 private member bills have become law till date and the last such bill was passed in 1970.
- Lack of Political Will: Many private MPs have pointed out that governments prioritize their own legislative agenda, sidelining PMBs.

Way Forward

- Streamlining Procedures: Allocate fixed, uninterrupted time for PMB discussions, digital tracking of such bills, etc. to ensure at least a few bills are debated each session.
 - Amendments to the **Rules of Procedure** and **Conduct of Business** can explicitly protect the allotted time from being overridden by other agendas.
- Research Support: Establish a dedicated research unit (like the UK's Public Bill Committee) to assist MPs in drafting robust bills.
- Institutionalised Mechanism: Parliament can introduce a dedicated review committee for screening Bills for quality, relevance, and constitutionality and recommend a priority list for discussion based on public importance and encouraging cross-party support.
 - **UK's 10-Minute Rule Model** can also be adopted where MPs can introduce short bills with brief speeches to make their case for a new Bill.

1.3. NEWS IN SHORTS

1.3.1. INCLUSIVE DIGITAL ACCESS PART OF ARTICLE 21: SUPREME COURT

Recently, Supreme Court in **Amar Jain V Union of India and Ors.** judgment held that inclusive and meaningful digital access to e-governance and welfare delivery systems is a part of the fundamental right to life and liberty.

Key Highlights of Judgment

- Directed to revise the digital Know-Your-Customer (KYC) norms: To enable persons with facial disfiguration due to acid attacks or visual impairment to access banking and egovernance services.
 - Under the Rights of Persons with Disabilities Act, 2016, the Court issued twenty directions to make the eKYC process accessible to them.
- Invoking the 'principle of substantive equality': Digital transformation must be both inclusive and equitable.
- Part of Article 21: Right to digital access emerges as an instinctive component of the right to life and liberty.



• State's obligation: Under Articles 21 [Right to a dignified life], 14 [Right to Equality], 15 [Right against discrimination], and 38 [directs the State to promote Social Justice] of the Constitution, state is obliged to ensure digital infrastructure to all vulnerable marginalized populations.

Significance of inclusive digital access: Access essential governmental schemes, reducing rural-urban divide, access to online learning platforms, and financial technologies, inclusion of marginalised in development process, etc.

Scan the QR code to know more about Digital inclusion in India

Weekly Focus #113- Digital Inclusion in India: Building a Connected and Empowered Nation



1.3.2. POWER OF COURTS TO MODIFY ARBITRAL AWARDS

Supreme Court recently held that courts have limited powers to modify arbitral awards.

SC in the Gayatri Balasamy v. ISG Novasoft Technologies Limited, held that the power to modify awards can be exercised under Section 34 or 37 of the Arbitration and Conciliation Act, 1996 under the following circumstances:

- When the award is severable by **separating the invalid portion from the valid portion.**
 - SC cited the doctrine of *omne majus continet in se minus* (the greater power includes the lesser), i.e. the power to set aside an arbitral award necessarily includes the power to **set it aside in part.**
- Correct any clerical, computation or typographical errors.
- Modify post-award interest in some circumstances.
- Under **Article 142** (enabling Courts to do **complete justice**) of the Constitution provided this power should be in consonance with the fundamental principles of the 1996 Act.

Arbitration in India

• **Meaning:** It is a form of **Alternative Dispute Resolution** mechanisms (others being conciliation and mediation) involving **consensual method** of resolving disputes **outside of a national judicial system** through a private system of adjudication.

- Significance: Less adversarial, Flexible, Quicker, etc.
- Legal Framework: The Arbitration and Conciliation Act, 1996 modelled as per the United Nations Commission on International Trade Law (UNCITRAL) Model Law on International Commercial Arbitration, 1985.
 - Section 34(1) of the Act stipulates 'recourse' to a court only by an application for setting aside the award.
 - \circ $\,$ Section 37 states instances where an appeal may lie against orders.



1.3.3. ROHINGYAS AND PROVISIONS RELATED TO REFUGEES AND DEPORTATION

The Supreme Court (SC), while hearing petitions related to **deportation and living conditions of Rohingya refugees**, highlighted that **they cannot claim reliefs based on the UNHCR cards**.

- UNHCR (UN High Commissioner for Refugees) is a global organization to protect refugees, forcibly displaced communities, and stateless people.
 - India is not a signatory to the 1951 Convention on Refugees and its 1967 Protocol.

Statutory Provisions in India related to Refugees and Deportation

- India does not have a separate law to deal with 'refugees'. Thus, case for refugee 'status' are considered on a case-by-case basis based on the policy of bilateralism.
 - Refugees come under the definition of 'alien' and 'foreigners'.
- Foreigners Act, 1946: Section 3 of the Foreigners Act vest the Central Government with powers to detain and deport foreign nationals staying illegally in the country.
- Passport (Entry into India) Act, 1920: Centre may direct the removal of any foreigner from India who enters India without passport & visa.
 - o According to Articles 258(1) and 239(1) of the Constitution, States/UTs are also entrusted with these powers.

1.3.4. RIGHTS OF PEDESTRIANS

The Supreme Court (SC) passed an order affirming the constitutional rights of pedestrians.

About the SC Order

- SC stated that the **Right to have unobstructed and disabled-friendly footpaths** is guaranteed under **Article 21**.
 - Article 21 (Protection of life and personal liberty) states that no person shall be deprived of their life except according to the procedure established by law.
- The SC issued directions:
 - All public roads must have footpaths and must be accessible and usable by persons with disabilities.
 - Removal of encroachments from footpaths is mandatory.
 - **States/UTs** must evolve **policies** to ensure the availability and maintenance of footpaths and footways.



Other Provisions

Mohammad Salimullah v. Union

of India (2021): Right

not to be deported,

is ancillary or

concomitant to the

right to reside or settle

under Article 19 (1)(e).

India follows the non-

refoulement principle

(Bangkok Principles,

1966), prohibiting

transfer of persons

likely to face

fundamental rights

violations.

1.3.5. 50TH ANNIVERSARY OF SIKKIM'S STATEHOOD

About Sikkim Statehood

- Sikkim was made a full-fledged State of the Union of India under the Constitution (36th Amendment) Act, 1975.
 - Earlier, Constitution (35th Amendment) Act, 1974 granted Sikkim the status of an "Associate State" of the Union of India under Article 2A.
 - > Article 2A was repealed by the Constitution (36th Amendment) Act, 1975.
- It became 22nd State of India.
- Article 371F grants certain special provisions to the state of Sikkim.



You can scan this QR code to practice the Smart Quiz of Polity at our open test online platform for testing your understanding and recalling of the concepts.





2. INTERNATIONAL RELATIONS

2.1. INDIA-UK FREE TRADE AGREEMENT (FTA)

Why in the News?

India and the United Kingdom (UK) announced the conclusion of a **Free Trade Agreement (FTA**) after three years of formal talks.

More on the News

- FTA will be implemented after the finalization of the legal document.
 - It will consist of 27 chapters such as digital trade, environment, etc.
- Both countries also agreed to negotiate a reciprocal
 Double Contributions Convention (DCC).
- Data Bank
 India-UK Trade Relation
 USD 60 billion of Bilateral Trade, projected to double by 2030.
 16th largest trading partner of India
 - Trade balance is skewed in favour of India.
- DCC is a type of Social Security Agreement.
 - It will support business and trade by ensuring that employees moving between both countries and their employers, will only be liable to pay social security contributions in one country at a time.
 - > It will include employees temporarily working in the other **country for up to 3 years**.
 - It will not affect **individuals' rights to access benefits** from the country in which they pay social security contributions or the requirement to pay the UK immigration health surcharge.

Key Highlights of the India-UK FTA

- Zero-duty Market Access: Approximately 99% of Indian exports will enjoy zero-duty access to the UK market, covering almost 100% of the trade value.
 - On the other hand, India will **cut levies on 90% of British products sold** in the country.
 - Within a decade, 85% of British products sold will become **tariff-free** in India.
- Eases mobility for Indian Professionals: It includes contractual Service Suppliers; Business Visitors; Investors; Intra-Corporate Transferees, their partners and dependent children with right to work; and Independent Professionals like yoga instructors, etc.
- Ambitious commitment from UK in Services: Such as IT/ITeS, financial services, professional services, other business services and educational services.
- Allowed Participation of UK Businesses in Procurement: UK businesses will be able to compete for a wide variety of goods, services, and construction procurements, for the majority of central government entities and state-owned enterprises.

About Free Trade Agreement (FTA)

- FTAs are arrangements between **two or more countries or trading blocs** that agree to **reduce or eliminate customs tariff and non-tariff barriers** on substantial trade between them.
- It covers **trade in goods** (like agricultural or industrial products) or **trade in services** (like banking, construction, trading etc.) and also areas like **intellectual property rights (IPs)**, etc.
 - o Early Harvest Scheme is a precursor to an FTA and other trade agreements.
- FTAs act as an exception to the **Most Favoured Nation principle** of the **World Trade Organisation (WTO)**.
- **Status**: India has signed 13 FTAs in the last five years with its trading partners like Mauritius, UAE, Australia, etc (SBI Report).



India's Experience with FTA's

- **Growing Trade Imbalance**: India's exports to its FTA partners increased by 31 %, while its imports increased by 82%. (between 2017 and 2022)
- Low Utilisation: India's FTA utilisation remains very low at around 25 %, while utilisation for developed countries is between 70–80 %.
- **Non-Tariff Barriers**: Global Trade Alert database shows that between 2020 and 2024, over 26,000 new restrictions related to trade and investments have been globally imposed.
- **Unequal Competition:** E.g., South Korea and ASEAN's manufacturing sectors outperformed India's in critical industries such as electronics, etc.
- **Other:** Complexity of certification requirements and rules of origin, etc. **Note:** Assessment of Trade agreement cannot be done based on the trade balance only.
- There are other potential gains in the form of **technology transfer**, **value-added linkages**, **trade-related investment flows**, and **improved access to a greater variety of intermediate goods** and **services**.

How the India-UK FTA can help shape Future FTAs?

- Swift Negotiations: India- European Union (EU) negotiations have been in process since 2007.
- Safeguard of Sensitive Sectors: Sensitive agri-products like dairy products, etc. are on the exclusion list.
 - Also, Sensitive industrial goods like plastics, etc. have been included under the exclusion list, thus, protecting India's interest.
- **Gradual Removal of Duties**: In the India- UK FTA, the former agreed to cut or remove duties gradually over a longer period which ensures adequate time for domestic industries to adjust to increased competition.
- Emphasis on Mutual Benefits: E.g., UK car manufacturers will benefit from a quota that reduces tariffs from over 100% to 10%

Conclusion

The India-UK FTA not only strengthens bilateral economic ties but also serves as a strategic template for India's future trade agreements with developed nations. By addressing sensitive sectors, embracing modern trade issues, and ensuring a phased liberalization approach, it balances growth with domestic safeguards.

2.2. CHINA PAKISTAN ECONOMIC CORRIDOR (CPEC)

Why in the News?

The foreign ministers of China, Pakistan and Afghanistan agreed to extend the China Pakistan Economic Corridor to Afghanistan.

What is China Pakistan Economic Corridor (CPEC)?

- **CPEC** is the flagship project of the **Belt and Road Initiative (BRI)** launched in **2015.**
- It is the link between the Silk Road Economic Belt and the Maritime Silk Road.
- The projects under the CPEC mainly relate to energy and infrastructure.
- The **3000** kilometres of roads, railways and pipelines are intended to transport oil and gas from **Pakistan's Gwadar Port** to **Kashgar City** in northwestern **China's Xinjiang Uyghur Autonomous Region (XUAR).**



Belt and Road Initiative (BRI)

- BRI proposed by China in **2013** to improve connectivity and cooperation on a transcontinental scale.
- BRI also known as One Belt One Road (OBOR):
 - Silk Road Economic Belt (the "Belt"): The overland "Belt" links China to Central and South Asia and onward to Europe.
 - **New Maritime Silk Road (the "Road"):** The maritime "Road" links China to the nations of South East Asia, the Gulf countries, East and North Africa, and on to Europe.

India Concern regarding inclusion of Afghanistan in CPEC

- Geo-Strategic: The expansion of CPEC into Afghanistan could present a strong competing alternative backed by China and Pakistan, potentially limiting the strategic utility of India's initiatives like Chabahar Port and International North-South Transport Corridor (INSTC) to access Central Asia.
 - Strategic encirclement: China has already established a presence at strategic ports under 'String of Pearls' around India such as Hambantota (Sri Lanka), Gwadar (Pakistan), and Chittagong (Bangladesh), with CPEC now reaching Afghanistan, China gains further strategic depth on India's western front.
- Strengthening of Pakistan-Afghanistan-China Axis: It can strengthen Pakistan's influence over Afghanistan, especially given India's limited engagement with the Taliban regime.
 - It may **potentially reduce India's leverage and developmental influence** in Afghanistan, built over two decades via soft power, infrastructure (**Zaranj-Delaram highway, etc.**), and humanitarian aid.
- **Security:** The Taliban regime, backed by Chinese funds and Pakistani intelligence, could once again become a launchpad for **anti-India terrorism** by supporting groups like Jaish-e-Mohammed and Lashkar-e-Taiba.
- **Economic:** Afghanistan's rich lithium and rare earth reserves are vital for high-tech and clean energy industries. CPEC gives China easier access, putting India at a strategic disadvantage in securing these key resources.

Steps taken by India to counter CPEC

- **Chabahar port development**: Development of Shahid Beheshti Port Terminal, Chabahar (Iran) offers India a strategic route to Afghanistan and Central Asia, bypassing Pakistan's Gwadar port and CPEC corridor.
- International North-South Transport Corridor (INSTC): Established in 2000 by India, Russia and Iran, it is a multimodal transportation route linking Indian Ocean and Persian Gulf to Caspian Sea via Iran and onward to northern Europe via St. Petersburg in Russia.
- India-Middle East-Europe Economic Corridor (IMEC): Launched in 2023 it aims to integrate India, Europe, Middle-East through UAE, Saudi Arabia, Jordan, Israel and the European Union.

• **Quadrilateral Security Dialogue (QUAD):** It is a forum consisting of Australia, India, Japan, and United States, aims to promote a free and open Indo-Pacific region to counter China's growing influence.

Conclusion

India can continue to promote its **Chabahar connectivity vision** and seek **diplomatic openings to engage with the Afghan people**. Moreover, by advocating for **transparent**, **inclusive**, **and sustainable regional infrastructure**, India can position itself as a **constructive player** in shaping the future of South and Central Asian integration—ensuring that development benefits all without compromising core national interests.

2.3. INDIA-TURKEY RELATIONS

Why in the News?

India–Turkey relations have worsened after Turkey criticized India's counter-terror strikes in Pakistan following the Pahalgam attack.

More on the news

- Turkey **condemned India's Operation Sindoor**, labeling as "provocative" and warning that strikes inside Pakistan increased the risk of a wider conflict.
 - During Operation Sindoor, **Turkish-made Songar drones** used by Pakistan were neutralized by Indian air defense.
- Following this, India also revoked the security clearance of Turkish company **Celebi Aviation** operating at 9 Indian airports.
 - Several Indian universities, including Jamia Millia Islamia have suspended academic collaborations with Turkish institutions.



Why Turkey Matters for India?

- Strategic Location: Turkey connects Europe and Asia. It is also part of the International North-South Transport Corridor (INSTC), essential for boosting India's trade with Europe and Central Asia.
- **Regional Influence**: Since Turkey is an influential player in its immediate neighborhood, i.e. Middle East, Black Sea region etc. Ties with Turkey can help India stay informed and influence developments in these areas.
- Global Forums: Both are members of the G20 and have common interests in global governance reforms, including UN Security Council (UNSC) reform. Turkey has expressed its support for INDIA'S BID for a PERMANENT SEAT on the UNSC.

Contemporary Challenges in India–Turkey Relations

- **Turkey's Military & Diplomatic Support to Pakistan**: Turkey is Pakistan's **2nd largest arms supplier** (after China), supplying drones, corvettes, missiles, and F-16 upgrades.
 - This strengthens Pakistan's **defense resilience** and its ability to manage prolonged escalatory situations with India.
- Meddling in Kashmir Issue: Turkey supports Pakistan's stand on Kashmir and opposes India's 2019 Article 370 abrogation at international forums like the UN.
- Narrative Destabilization: Turkey-backed social media campaigns and digital content try to internationalize India's internal issues, creating narrative threats.
- Emerging Turkey–Azerbaijan–Pakistan Axis: Turkey and Azerbaijan condemned India's Operation Sindoor.
 - Turkey and Pakistan are members together of the **Baghdad Pact** and the **Central Treaty Organization (CENTO)**. The two countries were part of the **Regional Cooperation for Development (RCD) format** too, along with Iran.
- Islamist Rhetoric & Pan-Islamism: President Erdogan's Islamist positioning and global Muslim solidarity often lead to criticism of India's domestic policies, straining ties further.

Turkey's Evolving Pakistan-Centric Tilt

- **Historic Ties and Early Support:** India and Turkey shared anti-colonial solidarity. Indian nationalists supported Turkey during WWI. However, this goodwill didn't turn into strong ties post-India's independence.
- **Turkey's Shift Towards Pakistan:** After 1947, Turkey focused more on Pakistan due to shared Islamic identity. Rise of Islamist parties in the 1970s further aligned Turkey with Muslim nations like Pakistan.
- Security and Strategic Partnership: In 1950s Turkey and Pakistan signed the 'Treaty of Eternal Friendship' and joined CENTO to counter Soviet influence. Pakistan also used it to gain support against India.
 - Turkey and Pakistan signed of the 'Deepening, Diversifying, and Institutionalizing the Strategic Partnership' declaration in 2025.
- **Opposition to India's Nuclear Program: In** 1998 Turkey criticized India's nuclear tests and backed Pakistan's response. It also supported **Pakistan's NSG membership**.

Conclusion

India–Turkey relations have witnessed fluctuations shaped by historical alignments, ideological postures, and emerging geopolitical realities. While challenges persist, **leveraging multilateral forums, countering narrative threats, and strengthening ties with Turkey's regional rivals** (Greece, Cyprus, Armenia, Israel, and the UAE) can help maintain a strategic balance. At the same time, recalibrating relations based on mutual respect and shared interests can pave the way for a more stable, pragmatic, and forward-looking partnership.

2.4. CONCERNS RAISED BY INDIA OVER IMF'S LENDING TO PAKISTAN

Why in the News?

International Monetary Fund's (IMF's) Executive Board completed the first review of Pakistan's economic reform program supported by the **Extended Fund Facility (EFF) Arrangement**.

More on the News

• IMF allowed the disbursement of around \$1 billion (Special Drawing Rights (SDR) 760 million) under EFF.

- EFF: It assists countries experiencing serious payment imbalances because of structural impediments or slow growth and an inherently weak balance-of-payments position.
- It also approved lending of US\$1.4 billion (SDR 1 billion) under the **Resilience and Sustainability Facility (RSF) lending program**.
- India criticized the approval of the lending and abstained from the voting process.

Know the term

- Special Drawing Rights (SDR): It is an international reserve asset, created by the IMF in 1969 to supplement its member countries' official reserves
 - It is not a currency but serves as the unit of account of the IMF and other international organizations.
 - Its value is based on a basket of five currencies—US dollar, euro, Chinese renminbi, Japanese yen, and British pound sterling.
 - Individuals and private entities cannot hold SDRs.



Key Reports: World Economic Outlook, Global Financial Stability Report etc.

Key Lending Instruments of IMF Funds						
General Resources Account (GRA)	Poverty Reduction and Growth Trust (PRGT)	Resilience and Sustainability Trust (RST)				
• Lending on non-concessional terms (market-based interest rates) through the Financial Transactions Plan	• Longer duration and Concessional financial support, including interest-	Offers longer-term financing at affordable interest rates to low-				
mechanism.	free financing to the poorest	income and vulnerable				
 Aim: To resolve a country's balance of payments (BoP) problems. 	for low-income countries (LICs).	middle-income countries.				

ſ	•	Members can take loans with limits	•	Aim: To address the needs of	•	Aim: To bui	ld resiliend	ce to
		corresponding to their quota.		low-income countries in		external	shocks	like
	•	Lending Facilities: Stand-by		resolving BoP crisis.		climate	change	and
		Arrangement (SBA); Extended Fund	•	Lending Facilities: Rapid		pandemic pi	reparednes	s.
		Facility (EFF); Rapid Financing		Credit Facility (RCF); Standby	•	Lending	Facil	ities:
		Instrument (RFI); Flexible Credit Line		Credit Facility (SCF) and		Resilience		and
		(FCL); Short-term Liquidity Line (SLL); etc.		Extended Credit Facility (ECF).		Sustainabilit	ty Facility (F	RSF)

Concerns raised by India over IMF's Lending

- Misuse of Funds: Funds could be used for military and state-sponsored cross border terrorist activities.
- Role of military: Pakistan military's strong involvement in economic matters increases the risk of policy failures • and reversal of reforms.
- Undermining Global Values: Lending could be seen as a reward to countries that sponsored cross-border terrorism • (linked to proxy warfare), exposing funding agencies and donors to reputational risks.
- Prolonged Use of IMF Resources: Due to repeated bailouts, Pakistan now has a heavy debt burden, making it too • big to fail debtor for the IMF.
- Undermines effectiveness of the IMF program: Since 1989, Pakistan has received IMF funds in 28 out of 35 years, raising doubts about the effectiveness of the IMF's programs, their monitoring, or Pakistan's implementation.

Other Key Challenges/Concerns associated with IMF

- **Ineffective voting process:** There is no provision to vote against a loan or proposal. E.g., India had to abstain from the IMF vote as the system does not allow a formal "no" vote. 0
- Undemocratic Governance Structure: Distribution of voting power (based on quota) remains severely imbalanced in favour of the US, European countries and Japan, in particular. 0
 - E.g. In 2010, IMF changed its rule to lend Greece.
- Ineffective Evaluation Process: IMF established the Independent Evaluation Office (IEO) in 2001 to evaluate various aspects of IMF performance.
 - However, although IEO is being positioned as 'independent' but it is governed and financed directly by IMF. 0
- Varied success: IMF conditionalities have sometimes led to short-term macroeconomic stability but at the cost of increased poverty and reduced social spending due to Fiscal consolidation measures (or austerity).
- **Implementation issues:** Member countries that borrow from the IMF have primary responsibility for selecting, designing, and implementing policies to make their economic program successful.

Conclusion

While the IMF plays a crucial role in stabilizing the global financial system, it faces serious challenges related to governance imbalance, rigid conditionalities, etc. To remain credible and effective, it must accelerate **quota and voting** power reforms to reflect the rise of emerging economies and enhance transparency and accountability in its lending and evaluation processes.

2.5. UNITED NATIONS PEACEKEEPING

Why in the News?

United Nations Peacekeeping Ministerial 2025 concluded recently in Berlin, Germany.

About UN Peacekeeping Ministerial 2025

- It was co-organised and hosted by Germany.
- It serves as a high-level political forum to discuss the future of peacekeeping.
- The meeting coincided with the 10-year anniversary of the 2015 New York Summit on Peacekeeping.
- At the ministerial, India pledged one Quick Reaction Force (QRF) Company, one women-led Police Unit, a SWAT Police Unit and peacekeeping training, capacity building and partnerships.



About United Nations Peacekeeping

- Origin: Began in 1948 with the establishment of the United Nations Truce Supervision Organization (UNTSO) in the Middle East to monitor ceasefires.
- **Deployment Mechanism: UN Security Council** provides mandates to Missions by adopting a resolution.
 - **Budget and resources** are subject to General Assembly approval.
 - Key Rules/Principles of engagement include:
 - **Consent** of the involved parties in a conflict
 - o Impartiality
 - **Non-use of force** except in self-defense or defense of the mandate.
- Governance: Department of Peace Operations (DPO) of UN, formally created in 1992, provides political and executive direction to peacekeeping operations.
 - Currently, it operates 11 peacekeeping missions in regions like Western Sahara, Golan, Democratic Republic of Congo etc.
- Award & Honour: Nobel Peace Prize in 1988.
- Doctrines:
 - Capstone Doctrine: It sets out the guiding principles and core objectives of UN Peace operations.
 - > It also provides a **basis for the development of training materials** for military, police and civilian personnel preparing to serve in the field.
 - **Responsibility to Protect (R2P) doctrine** (2005): It embodies a **political commitment** to end the worst forms of violence and persecution.

India's Key Contribution to UN Peacekeeping

- Highest Troops Contribution: Contributed over 2.9 Lakh peacekeepers serving in more than 50 UN missions.
 - It is currently the **fourth largest troop-contributing nation** after Nepal, Rwanda and Bangladesh.
 - o It played a key role in the Korean War armistice, peace missions in Cyprus, Congo etc.
- **Capacity Building:** India's Centre for **United Nations Peacekeeping (CUNPK)**, established by the **Indian Army in New Delhi**, serves as the nation's focal point for peacekeeping training
- **Promoting Gender Parity**: India became the **first country** to deploy an all-women Formed Police Unit (2007, Liberia).

Key challenges faced by Peacekeeping

- Targeting Peacekeepers: E.g. Peacekeepers of UN Interim Force in Lebanon (UNIFIL) were injured during Israel-Lebanon conflict.
- Opposition from host Countries: E.g. Sudan opposed African Union-United Nations Hybrid Operation in Darfur (UNAMID)
- **Credibility Issues:** E.g. Failure to prevent genocide in Rwanda and Srebrenica in the 1990's.
- **Changing Nature of Conflicts:** E.g., rise in conflicts Intra-state conflicts, rather than inter-state, changing profile of armed groups using terrorist tactics and unregulated spread of a new generation of weapons.
- Other: Restrictions on Freedom of Movement; Delays in Political Solutions; Lack of well structured; equipped and trained forces; Lack of participation of major troop contributing countries in decision making, etc.

Conclusion

UN Peacekeeping can be made more effective by implementing recommendations of **Brahimi Report (2000)** and **UN High-Level Independent Panel on Peace Operations (HIPPO)** (2015) such as need of Security Council and UN system to act earlier in crisis situations to improve mission success, etc. Further, future peacekeeping must adapt to new security, gender, and human rights challenges, address funding and legitimacy issues, and ensure that peacekeepers are well-trained, well-equipped, and accountable to both the UN and the people they serve.

<u>To know more about India's role in global peace making refer to the Article 2.1. India: Global Peacemaker in June</u> 2024 Monthly Current Affairs Magazine.

······Do you know ??······

- > UN Peacekeepers are also known as Blue Helmets as they use blue helmets while carrying out peacekeeping missions around the world.
- In 2023, India received the UN's highest peacekeeping honour, the Dag Hammarskjöld Medal, posthumously awarded to Indian peacekeepers.

2.6. NEWS IN SHORTS

2.6.1. NEW DEVELOPMENT BANK

Algeria became 9th member of NDB.

About NDB (Hq: Shanghai, China)

- Genesis: 2015 by Brazil, Russia, India, China and South Africa (BRICS) countries.
- **Purpose:** It is a **Multilateral development bank** for mobilising resources for infrastructure and sustainable development projects in **emerging markets and developing countries (EMDCs).**
- Members: Brazil, Russia, India, China, South Africa, Bangladesh, UAE, Egypt, Algeria.
 - The membership is open to members of the **United Nations,** including **both borrowing and non-borrowing members** (Article 2 of the NDB).
 - **Uruguay** is listed as the **prospective member** (admitted by NDB's Board of Governors but will officially become a member after depositing its instrument of accession).
- Capital and Shareholding: Out of the initial authorized capital of \$100 Billion, all 5 founding members have an equal share totaling \$50 Billion.
- Voting Power: Combined voting power of founding members to be atleast 55%.

Other Prominent Regional Financial Institutions

Institution	Genesis	Purpose	Members					
Asian Development Bank (HQ: Manila, Philippines)	1966	Social and economic development, regional integration across Asia and the Pacific.	69 (50 from Asia-Pacific, 19 from outside the region), including India.					
Asian Infrastructure Investment Bank (HQ: Beijing, China)	2016	Finances sustainable infrastructure and development projects, primarily in Asia with global reach.	110 approved (100 Full + 10 Prospective) members, (India, a full member).					
African Development Bank (HQ: Abidjan, Côte D'Ivoire)	1964	Poverty reduction and socio- economic development across Africa.	54 African countries and 27 non-African countries (including India) .					

Contemporary significance of Regional Financial Institutions

- Sustainable and Inclusive Development: E.g., As of 2024, India has around 20 ongoing projects (worth \$4.87 billion) supported by NDB, covering transportation, water conservation, etc.
- **Bridging Infrastructure and Investment Gaps:** Mobilize **long-term financing** for infrastructure, catalyse private investment, and close funding gaps.
- **Promoting Regional Integration and Stability:** Facilitate cross-border cooperation. **E.g.,** India being the founding member of NDB and AIIB has strengthened the **South-South cooperation.**

2.6.2. IAEA

Minister of Defence urged IAEA oversight of Pakistan's nuclear arsenal.

About International Atomic Energy Agency (IAEA)

- Headquarters: Vienna, Austria
- Genesis: Established in 1957 as an autonomous international organisation within the UN.
- Motto: Atoms for Peace and Development
- Members: 180 (India is a member)
 - North Korea: Joined in 1974, withdrew in 1994
- General Conference: All member states meet annually in Vienna.

- Recognition: Awarded the Nobel Peace Prize in 2005 for promoting peaceful nuclear use and global safety
- IAEA and NPT: The IAEA is not a member of the Non-Proliferation of Nuclear Weapons (NPT) but plays a key verification responsibilities under the Treaty.
 - Each **non-nuclear-weapon State** party is required under NPT to conclude a **comprehensive safeguards agreement (CSA) with the IAEA** to enable the **IAEA** to verify the fulfilment of their obligation.

About NPT

- The NPT is a binding international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology.
- It came into force in 1970 and was extended indefinitely in 1995.
- So far, **191 countries have joined**, including all **five recognized nuclear-weapon states** (China, France, Russia, the UK, and the US).
 - India, Israel, and Pakistan have never joined, while North Korea withdrew in 2003.

Other Treaties to Prevent Nuclear Proliferation

- **Partial Test Ban Treaty 1963:** Treaty banning nuclear weapon tests in the atmosphere, in outer space and underwater (India has signed and ratified).
- **Comprehensive Nuclear Test Ban Treaty (CTBT), 1996:** CTBT bans all nuclear explosions, whether for military or peaceful purposes (India did not sign)
- **Prohibition of Nuclear Weapons (TPNW) 2017**: includes a comprehensive set of prohibitions on participating in any nuclear weapon activities (India did not sign).

Scan the QR code to know more about Nuclear Disarmament

Weekly Focus #74- Nuclear Disarmament: A step towards safe and better world

2.6.3. UN SECURITY COUNCIL'S (UNSC) 1267 SANCTIONS COMMITTEE

Indian officials briefed the monitoring team of the UNSC's 1267 Sanctions Committee on the activities of The Resistance Front (TRF).

About 1267 sanctions Committee

- It is also called the ISIS and Al-Qaeda Sanctions Committee.
- It was established in 1999, to focus on combating terrorism linked to ISIS, Al-Qaeda, and related groups.
- It comprises all permanent and non-permanent members of the UNSC.
- The committee decides on sanctions and travel bans for terror organisations and ensures the enforcement of these measures under UNSC resolutions 1267 (1999), 1989 (2011), and 2253 (2015).

2.6.4. ASIAN PRODUCTIVITY ORGANIZATION

India has formally assumed the Chairmanship of the Asian Productivity Organization for 2025-26.

About Asian Productivity Organization (APO)

- **Genesis**: It is an intergovernmental organization established in **1961** by 8 founding members.
 - India is one of the founding members.
 - **Objective**: To increase productivity in the Asia-Pacific region through mutual cooperation.
 - Members: Comprises 21 economies in the Asia-Pacific region.
 - **Key roles:** Conducts research on emerging needs of members for their follow-up, promotes bilateral and multilateral alliances among members, surveys the economic and development policies and performance of each member, etc.

Global Focal Point	Peaceful Applications	
Serves as the global	Assists Member States in	
focal point for nuclear	using nuclear science for	
cooperation	peaceful purposes	
Safety Standards	Verification & Compliance	
Develops nuclear	Verifies that States comply	
safety standards &	with commitments to use	
promotes maintenance	nuclear facilities only for	
of high safety levels	peaceful purposes	

The role of IAFA

2.7. ERRATA

In the March 2025 Monthly Current Affairs Magazine, in Article 2.2. Indian Ocean Rim Association (IORA), a design error in the infographic titled 'Member States of IORA' led to France being mentioned incorrectly as а Dialogue Partner of IORA and omission of 3 member states-Maldives, Mauritius and Seychelles. The correct infographic is provided below.





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3. ECONOMY

3.1. NORTHEAST AS 'FRONTRUNNER OF GROWTH'

Why in the News?

Recently, Prime Minister of India inaugurated the **Rising North East Summit 2025** hosted by the **Ministry of Development of the North-Eastern Region (DoNER).**

More on the News

- Highlighting the importance of Northeast India's strategic location, Prime Minister also gave the Vision of EAST (Empower, Act, Strengthen, and Transform) as a policy framework for Northeast.
- Prime Minister, while describing the region's eight States as 'Ashta Lakshmis' (eight forms of Goddess Lakshmi), listed the bio-economy, bamboo, tea production, petroleum, sports and eco-tourism as some of the areas where the region is an emerging hub.

Key highlights of focus sectors of NER in the Rising North East Summit 2025

Sectors	Highlights	
Textiles,	• NER is a hub for sustainable textiles and handicrafts, features Assam's GI-tagged Muga silk,	
Handlooms &	Nagaland's tribal shawls, Tripura's bamboo crafts etc.	
Handicrafts	• NER plays a dominant role in India's handloom sector, contributing 92.90% of shawls, mekhela	
	chadors, stoles, and scarves, nearly 78.50% of traditional garments.	
	• Over 53% of looms and more than 50% of weavers in the country belongs to North East States.	
Renewable	• It holds over 60 GW of exploitable conventional hydropower potential (40% of India's total), with	
Energy	major reserves in Arunachal Pradesh, Sikkim, and Assam.	
IT &ITES	• Rapid IT infrastructure development, including a 100-acre IT Park in Assam, STPI Complex ir	
	Agartala, and region's first IT SEZ with an Innovation Hub inaugurated at Mantripukhri, Imphal	
	in 2021.	
Infrastructure	• In FY 2024–25, 78 km of NH were built with bridges like Dhola-Sadiya and Bogibeel further	
and Logistics	enhances Assam-Arunachal connectivity.	
	• Air connectivity has been improved with 17 airports (up from 9 in 2013).	
	• Jogighopa IWT terminal in Assam is strategically linked to a Multi-Modal Logistics Park to boost	
	international trade access.	
Tourism and	• NER features 2 UNESCO sites (Kaziranga, Manas), 30+ wildlife sanctuaries, and diverse	
Hospitality	landscapes.	
	Sikkim and Meghalaya lead in sustainable tourism; "Swadesh Darshan" and "PRASHAD" schemes to baset infrastructure	
Education	schemes to boost infrastructure.	
Education	High literacy: Mizoram (91.3%), Tripura (87.2%), Nagaland (80.1%)	
Health	40% population under 25, ideal for innovation and entrepreneurship.	
пеаци	High potential in phytopharmaceuticals and traditional medicine.	
	• Strategic focus on PPP models, private hospital chains, and diagnostics labs in urban hubs like	
Agriculture	Guwahati, Imphal, and Aizawl is gradually transforming the healthcare ecosystem.	
Agriculture	 Rich agro-biodiversity and climate support organic & high-value crops (Assam tea, Joha rice, Kachai lemon, kiwi, pineapple). 	
Sports	There are Over 70% population in agriculture, mostly small/marginal farmers.	
50015	 Indigenous sports (archery, thang-ta, polo etc). States like Manipur, Mizoram, Assam produce national/international athletes (football, boxing, 	
	• States the manpur, mizoram, Assam produce national international attractes (rootball, boxing, weightlifting).	
	 Infrastructure projects like Indira Gandhi Athletic Stadium (Assam) and Khuman Lampak 	
	(Manipur) can become hubs with investment.	
	(Finishi) our booome hubs with investment.	

Potential of NER to become 'frontrunner of growth'

- **Geo-strategic:** It serves as a gateway to **Southeast Asia**, with each state sharing an international border. The region also holds a significant stake in the country's **'Act East Policy,'** which is aimed at **promoting economic, political, and cultural ties** with Southeast Asia.
- **Energy**: Abundant in natural resources like coal, uranium, oil, natural gas, and hydropower, this region has the potential to serve as a major energy hub for India.
- Diverse cultural heritage: A region with unique ethnic communities and traditions that offer investment opportunities in tourism and handicrafts.
- **Low-cost manufacturing hub:** Low labour costs compared to other parts of India and the world.
- India's green hub: Home to lush forests and rich biodiversity, it is an ideal destination for ecotourism and agro-based industries.

Challenges in North-Eastern Region

- **Poor connectivity:** The region's only connection to mainland India is narrow **Siliguri Corridor (or Chicken Neck)**, isolating the region from the rest of the country which affect movement and logistics.
- Insurgency and armed conflicts: Long-standing insurgencies due to demands for autonomy, or tribal rights. For e.g., NSCN-IM (National Socialist Council of Nagaland Isak-Muivah) demands "Greater Nagalim", Kuki -Meitei clashes in Manipur, etc.
- Narco terrorism: NER, bordering near the "Golden Triangle" (Myanmar, Laos, Thailand), serves as a key transit route for heroin and synthetic drugs due to porous and poorly monitored borders in states like Manipur, Mizoram, Nagaland, and Arunachal Pradesh.
- Human Rights violations: Supreme Court, NHRC etc raised concerns about lack of accountability under Armed Forces (Special Powers) Act (AFSPA), 1958. AFSPA's prolonged presence in Nagaland and Manipur has fueled separatist sentiments.
- Environmental vulnerabilities: Prone to natural disasters like floods, landslides, and earthquakes. For e.g., Annual Brahmaputra floods displace lakhs in Assam and destroy crops.

Initiatives for Development of NER

India	International
 North East Special Infrastructure Development Scheme (NESIDS): Supports in developing physical infrastructure like water supply, power, connectivity, tourism, and social infrastructure in NER. Prime Minister's Development Initiative for North East Region (PM-DevINE): Aimed at rapid and holistic development of NER by funding infrastructure and social development projects, based on felt needs of the States. Mission Organic Value Chain Development for North East Region (MOVCDNER): For development of certified organic production in a value chain mode to link growers with consumers and to support the development of entire value chain. Peace and security initiatives: NLFT and ATTF Peace Agreement 2024, Adivasi Assam Peace Accord, 2022, DNLA Peace agreement 2023, ULFA Peace Accord 2023 etc. 	 Kaladan Multi Modal Transit Transport Project, IMT (India-Myanmar-Thailand) Trilateral Highway, BBIM Motor Vehicle Agreement, Mekong-Ganga Cooperation, etc. Act East Forum (AEF): Established in 2017 by India and Japan to promote connectivity within NER and between this region and Southeast Asia.



Way Forward

- **Diversify access routes: For e.g. Hili–Mahendraganj transnational corridor,** this proposed corridor would connect Hili (West Bengal) with Mahendraganj (Meghalaya) through Bangladesh, bypassing the Siliguri route.
- **Reduce insurgency**: Tripura's success in **achieving peace** through rehabilitation efforts and strengthening local governance mechanism offers valuable lessons for Nagaland and Manipur.
 - **Bru tribals,** who were affected by the **ethnic violence in Mizoram** in the late 1990s and 2009, have been **rehabilitated** in Tripura.
- Address illegal migration and border security: Measures include Surveillance equipment like Hand Held Thermal Imager (HHTI), Night Vision Device (NVD), UAVs, CCTV/PTZ cameras, IR sensors, and Comprehensive Integrated Border Management System (CIBMS).
- Improving Integration of NER with rest of India: Prevent discrimination and racial attacks against the people from NER living in other parts of India through legal measures, media campaigns, etc. (Bezbaruah Committee).

Conclusion

With its unique strategic location, rich cultural diversity, and abundant natural resources, the NER holds immense potential across sectors ranging from renewable energy to tourism. By addressing connectivity gaps, ensuring peace, and integrating with regional economies, NER can truly emerge as a vibrant engine of inclusive and sustainable development.

3.2. REVAMPED PERIODIC LABOUR FORCE SURVEY (PLFS)

Why in the News?

National Statistics Office (NSO) has revamped Periodic Labour Force Survey (PLFS) from January 2025.

About Periodic Labour Force Survey (PLFS)

- Conducting agency: National Statistics Office (NSO)
- Ministry: Introduced in 2017 by Ministry of Statistics and Programme Implementation
- Objectives:
 - To estimate the **key employment and unemployment indicators in the short time interval of three months** for the urban areas only (Now rural area also included) in the **'Current Weekly Status' (CWS).**
 - To estimate employment and unemployment indicators in both 'Usual Status' (ps+ss) and CWS in both rural and urban areas annually.
- Key Terminologies used in PLFS
 - **Labor Force Participation Rate (LFPR):** It is defined as percentage of persons in labor force (i.e. Working or seeking or available for work) in the population.
 - Worker Population Ratio (WPR): WPR is defined as the percentage of employed persons in population.
 - **Unemployment Rate (UR):** UR is defined as percentage of persons unemployed among the persons in the labour force.
 - Activity Status- The activity status of a person is determined on the basis of the activities pursued by the person during the specified reference period.
 - **Usual Status:** When the activity status is determined on the basis of the reference period of last 365 days preceding the date of survey, it is known as the usual activity status of the person.
 - > Usual principal activity and usual subsidiary economic activity of a person taken together, is considered as the usual activity status of the person and is written as usual status (ps+ss).
 - **Current Weekly Status (CWS):** The activity status determined on basis of a reference period of last 7 days preceding date of survey is known as the current weekly status (CWS) of person.
 - **Current daily activity status (CDS):** If on a day, a person **'had actually worked for 1 hour or more'** accordingly he/she is given work status.

Key changes in PLFS Introduced:

• Availability of monthly estimates of key labour market indicators at the country level: Key employment and unemployment indicators on monthly basis for rural and urban areas in Current Weekly Status (CWS).

- First monthly bulletin of Periodic Labour Force Survey (PLFS) has been released.
- Extending quarterly estimates to rural areas in CWS: Previously PLFS provided quarterly labour market indicators for urban areas only; now it will be available for both rural and urban areas.
- Calendar year reporting: From year 2025, annual PLFS results will be based on calendar year i.e. survey period of January – December (July-June cycle previously) of a specific year in both usual status (ps+ss) and CWS.
- **Enhanced sample size**: 2.65 time increase in sample households to be covered in PLFS.
- Improved Geographical Representation: District has been made the primary geographical unit, called basic stratum within a state/UT separately for rural and urban sectors for selecting FSUs for most part of the geography covered.
 - In the remaining parts National Sample Survey (NSS) region has been made the basic stratum.



• Improved social indicators data availability: Additional details about education; land possessed and land leased out; and households' usual monthly income from rent, pension, interest and remittances is now covered.

Other methodologies/Reports to compute Employment related indicators in India

- **Employment Market Information Programme:** Provide information at short intervals about structure of employment in public and private sectors at the area, state and national levels and also to monitor changes in the levels of employment.
 - Implemented under the **Employment Exchange (Compulsory Notification of Vacancies) Act, 1959.**
- ILO reports: Reports such as World Employment and Social Outlook etc.
- **Census:** Data collected on workers include for main and marginal worker under various social and economic characteristics, which include classification by industrial activity and occupation.
- Labour Bureau: An attached office of Ministry of Labour & Employment (MoL&E) headquartered at Chandigarh, It collects statistics through statutory and voluntary returns under different Labour Acts such as Plantation Labour Act, 1951; Minimum Wages Act, 1948 etc.
 - **Data on Labour Statistics** are collected through the Annual Survey of Industries (ASI), Rural Labour Inquiry, and Rural Retail Prices for Consumer Price Index (CPI) for Rural Labour/Agriculture Labour etc.

Issues with methodologies to compute Employment related indicators in India

- Inconsistencies in data: This is mainly due to differences in sampling methods, survey timing, and the types of questions asked.
- **Relaxed criteria:** Current Weekly Status (CWS) counts individuals as employed if they worked ≥1 hour in the preceding week which often undercount unemployment.
- Unmatching definition: The Indian definition of employment does not meet international standards.
- **Restrictive nature of Many Surveys:** Quarterly Employment Survey (QES) is presenting employment data but maintained an absolute silence about the unemployment numbers.
- Inadequate sample size: India's workforce is around 60 crore and sample size of PLFS is only 2,72,304 households.
- **Time lag, Poor Quality and Poor Response in Submission of Returns:** Data is received after a considerable time lag.

Way forward

- Adopt definitions of United Nations System of National Accounts such as on informal sector, etc. on greater scale.
 - International Labour Organisation (ILO) has urged India to follow the standards laid down by the **19th** International Conference of Labour Statisticians.

- Leveraging AI to ensure data quality, data validation and processing can speed up processes and improve the quality of our statistics.
- There is a need to carry out **enterprise surveys at a greater frequency**.
- In addition, there is a need to carry out the Economic Census at regular intervals.
- Create a Central Server for All Government Data with uniform methodology
- Eliminate Duplication in Surveys and Harmonization of Reports: MoSPI, MoLE and other ministries collecting employment data should work together.
- Data accessibility and case for improved data visualization: The NSS could develop tools, fostering greater public awareness and engagement with statistical insights.
 - Countries like Canada and the US have data **storytelling portals with interactive maps and graphs** for people to understand socio-economic trends.

3.3. VIZHINJAM INTERNATIONAL SEAPORT

Why in the News?

Recently, Prime Minister of India inaugurated the Vizhinjam International Transhipment Deepwater Multipurpose Seaport in Kerala.

About Vizhinjam International Seaport

- It is India's First Deep-Water Container Transshipment Port. This ambitious project is taken up by Government of Kerala.
- **Purpose**: It is designed primarily to cater **container transhipment** besides **multi-purpose and break-bulk cargo**.
- Developmental model: The port is being currently developed in landlord model with a Public Private Partnership (PPP) component on a Design, Build, Finance, Operate, and Transfer (DBFOT) basis.
- Key advantages of Vizhinjam Port
 - Strategic Location: Located just 10 nautical miles from the busy international shipping route connecting Europe, Persian Gulf and Far East.
 - **Naturally Advantaged:** Vizhinjam can leverage **its natural depth** to host even ultra-large next-gen container ships requiring **20m+ drafts.**
 - **Scalable infrastructure:** With capacity for **18,000+ TEU** (Twenty-Foot Equivalent Unit) ships, scalable infrastructure to match cargo growth and minimal siltation.

What is transshipment?

- It is the transfer of cargo or containers from one vessel to another during transit to the final port of destination (POD).
- The three primary ways a transshipment hub can be inserted into existing maritime networks are:
 - **Hub-and-spoke:** It connects short-distance feeder lines and ports with long distance deep-sea lines, linking regional and global shipping networks.
 - Intersection: It usually involves the movement of cargo between large ships since deep-sea routes are prone to economies of scale.
 - **Relay:** Where transshipment hub connects shipping routes along the **same region**, but serving different port calls.



Need to develop India as Transshipment hub

- **High Dependency on Foreign Transshipment Hubs:** Currently, nearly **75%** of India's transshipped cargo is handled at ports outside India.
 - Colombo (Sri Lanka), Singapore and Klang (Malaysia) handle more than **85%** of this cargo.
- **Proximity to major trade routes**: Liners prefer **minimum deviation** from their courses when selecting a transshipment port. East–West trade route (Far East to Europe and US via Malacca Straits and Suez Canal) is the global trade route.
 - Vizhinjam and Galathea Bay are promising locations given their position at ~6-10 Nautical Miles deviation (0.2-1 hours) from the Suez route.
- Loss of Revenue: Indian ports lose up to \$200-220 Million of potential revenue each year on transshipment handling of cargo originating/destined for India.
- Lack of deep-draft ports: The current ports in southern India (such as Cochin and V.O. Chidambaranar) have insufficient drafts of **14.5m and 14.2m** respectively whereas major transshipment hubs across the world have at least **18-meter draft.**
- Infrastructure: In line with global ports, India needs to develop world-class infrastructure and dedicated superstructure (**up to 6 cranes** may be required for a ship towards ensuring international standards in productivity of about 200 moves per hour).

Challenges in developing India as Transshipment hub

- **High Cost:** Total transshipment charges at Indian ports such as JNPT are 43% higher as compared to Colombo port (13%) mainly on account of vessel related charges.
- Far distance to international maritime trade route: All current ports on East and West coasts of India are at a distance of greater than **5 hours** of voyage from the international shipping route in comparison to Colombo which is at **0.5-1 hours** of voyage.
- Lack of tax benefits: There is currently no major incentive available for setting up of the transshipment free trade zone as the fiscal incentives available under the SEZ policy have been withdrawn.
- Land availability on islands: Based on the current guidelines, minimum 25 hectares (~61 acres) of land is required for developing a Free Trade Zone.
 - Due to their existing ecology on islands, the availability of the contiguous land as per area requirement of the guidelines would be difficult.
- **Custom process:** Customs clearance process in Indian ports is perceived to be more complex and **time-consuming** than global ports which lead to a **high turnaround time and cargo lead times**.

Other Initiatives taken to promote Transshipment in India

- International Container Transhipment Port (ICTP), at Galathea Bay, Great Nicobar Island: Greater Nicobar is in close proximity to Malacca Strait (the route for East West trade route) and also to Singapore (a major transshipment and bunkering hub).
- Kochi International Transhipment Terminal: The Terminal is located on the Vallarpadam Island in Kochi. It can handle cargo up to one million TEUs (Twenty-foot equivalent units) per annum.
- Amrit Kaal Vision 2047: Formulated by the Ministry of Ports, Shipping & Waterways, builds on the Maritime India Vision 2030 and aims to develop world-class ports and promote inland water transport, coastal shipping etc.
- Cabotage Law Relaxation: Cabotage rule under section 407 of the Merchant Shipping Act 1958 has relaxed the licencing requirements of foreign flag ships for transportation of EXIM laden containers for transhipment purposes in India.
- Cabotage is the practice of imposing restrictions for movement of domestic cargo by foreign flagged vessels.

Way Forward

- **Positive economics of cargo logistics:** Need to ensure ~15-20% lower costs in comparison to Colombo through lower port charges and potential waiver of service tax (at least for initial ~5 years).
- **Globally competitive:** In countries such as US and Sri Lanka, dredging cost is partly borne by National Government. On similar lines, dredging cost would need to be partly borne by Government in order to make Indian ports globally competitive.

- **Develop word class Mega Ports:** 3 Ports (Vadhavan-JNPT Cluster, Paradip Port, and Deendayal Port) have been identified to be developed into Mega Ports with >300 million Tonnes Per Annum (MTPA) capacity.
- **Simplify customs process:** To promote ease of doing business, customs processes need to be digitized for Gateway Cargo. Further, there should be no customs involvement for transshipment cargo.
- Infrastructure Modernization: As part of the long-term strategic interventions, Major ports need to move to a landlord model and bring in more private sector participation to drive operational efficiency.

Conclusion

With its strategic location, natural depth, and scalable infrastructure, Vizhinjam port holds the potential to reduce dependency on foreign ports and reclaim transshipment revenue. However, realizing this vision will require concerted efforts in policy reform, infrastructure modernization, and cost competitiveness to fully leverage India's maritime advantage.

3.4. NATIONAL ROAD SAFETY BOARD

Why in the News?

The Supreme Court questioned the Central Government for failing to implement Section 215B of the Motor Vehicles Act, 1988 and constitute the National Road Safety Board.

More on the News

- Section 215B of the Motor Vehicles (Amendment) Act, 2019, provides for the **constitution of the National Road Safety Board.**
- Notification for the constitution of the National Road Safety Board was issued by the Ministry of Road Transport & Highways (MORTH) in 2021.

About National Road Safety Board (NRSB)

- **Composition:** A Chairman and not less than three, but not exceeding seven Members, to be appointed by the Central Government.
- **The Head Office:** Shall be in the National Capital Region and the Board may establish offices at other places in India.
- Functions of NSRB:
 - The Board shall be responsible for **promoting road safety, innovation and adoption of new technology and for regulating traffic and motor vehicles.**
 - For these purposes, the Board shall:
 - > **Provide technical advice and assistance** to the Central Government, State Governments and local authorities on road safety and traffic management;
 - > Promote
 - ✓ Good Samaritans;
 - ✓ Good practices in road safety and traffic management;
 - ✓ New vehicle technology in the field of vehicular engineering;
 - ✓ Consistency between international technical standards and domestic technical standards;
 - > Conduct research to improve road safety, traffic management, crash investigation.

Challenges of road safety in India

- High Fatality Rate and Injury Burden: India accounted for 11% of global road fatalities in 2022, making it one of the most dangerous countries for road travel.
- Behavioural issues: E.g., in 2022, over speeding accounted for **71.2** % of the persons killed followed by driving on the wrong side (5.4 %). (Road Accidents in India-2022)
- **Road condition/environment:** As per the WHO South-East Asia Regional status report on road safety, **less than 20%** of the national road network undergoes **safety rating assessment.**

📾 Data Bank-

- The Annual Report 2023-24 of MORTH highlights that in 2022
- Increase in Road accidents victims: More than 1.5 lakh people killed, young people (18-45 years) made up 66.5 percent of victims.
- Increase in Mortality: 177 percent increase in deaths (2005-22), contrasting with the global trend of road deaths decline.
- National Highways and Expressways: Accounted for 39.2 percent of road accidents and 36.2 percent of deaths.

0

- Slow progress at states levels: According to the India Status Report on Road Safety 2024,"(TRIP Centre at IIT Delhi), most States are unlikely to meet the United Nations Decade of Action for Road Safety goal to halve traffic deaths by 2030.
- **Other challenges**: Non-compliance of safe vehicle standards, heterogeneity in vehicle fleet, apathy from bystanders, lack of adequate **quality public transport**, etc.

Impact of Road Accidents			
Economic	Rising Inequality	intangible costs	
Road crashes are estimated to cost the Indian economy	More than 75 % of poor households who were affected by a road traffic crash	Trauma, loss of a breadwinner. Nearly 80% of those killed are	
between 3-5 % of GDP a year (World bank).	reported a decline in their income due to the incident.	below 45 years of age	

Initiatives taken for Road safety:

Global

- Global Plan for the Decade of Action for Road Safety 2021–2030
 - Developed by: WHO and UN Regional Commissions to guide global road safety.
 - **Objective:** A target of a **50% reduction in road deaths and injuries by 2030**.
- Brasilia Declaration on Road Safety: Signed by India in 2015, where countries aimed to achieve Sustainable Development Goal (SDG) 3.6.
 - **SDG 3.6:** By 2030, halve the number of global deaths and injuries from road traffic accidents.

In India

- **'National Road Safety Policy' 2010:** Focus on awareness about road safety, setting up a road safety database, ensuring safe road infrastructure, etc.
- The Motor Vehicles Act of 1988 (MVA 1988), as modified by the Motor Vehicles (Amendment) Act 2019 (MVA 2019) includes:
 - **Good Samaritan:** Inserted a new **section 134A,** named "Protection of good Samaritans" which provides that a Good Samaritan shall not be liable for any civil or criminal action for any injury to or death of the victim of an accident.
- Cashless Treatment of Road Accident Victims Scheme, 2025
 - The scheme was launched by the **Ministry of Road Transport and Highways (MoRTH)** based on the powers given by the Motor Vehicles Act, 1988.
 - Key Provisions of the Scheme
 - > **Eligibility:** Any person being a victim of road accident arising out of use of motor vehicle.
 - > **Coverage:** Victims are eligible for cashless treatment up to Rs 1.5 Lakhs at designated hospitals for a maximum period of 7 days from the date of the accident.
 - > **Nodal Agency:** The State Road Safety Council.
 - > **Designated hospitals:** States must onboard all capable hospitals, (including those empanelled under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana), for trauma and poly-trauma care.
 - > **Payments to Hospitals:** Hospitals can raise claims which are verified by the State Health Agency with payment made from Motor Vehicle Accident Fund within 10 days.
- Vehicle engineering: Safety standards for automobiles have been improved in respect of Airbags, Anti-Breaking System (ABS), Tyres, Crash test, etc.
- **Road engineering:** Road safety has been made an integral part of road design at the planning stage.

• Bharat NCAP: It is a "New Car Safety Assessment program" which proposes a mechanism of awarding 'Star Ratings' to automobiles.

Measures Required:

- Improving Governance and Regulation:
 - Strengthening road assessment processes with standardised criteria.
 - Conducting **regular road audits**.
 - > **KS Radhakrishnan panel on Road Safety**, 2014, recommended third party safety audit of State Highways.
- **Technological advancements: E.g.,** Implementation of the Advanced Traffic Management System (ATMS) on National Highways as mandated by the MV Amendment Act, 2019.
 - Solution like iRASTE (Intelligent Solutions for Road Safety through Technology and Engineering) in Nagpur, which leverages AI can be tried at national level.
- Adopting Safe System approach: Five areas of recommendations for safe system are multimodel transport and land use planning, safe road infrastructure, Vehicle safety, safe road use and post-crash response.
- **Improving Emergency Healthcare System**: Establishment of equitable and essential **trauma care systems**, including pre-hospital response systems.
- **Other:** Promoting safe driving habits among youth, use of **quality helmets**, reducing alcohol and drug use, etc.

3.5. DISTRICT MINERAL FOUNDATION (DMF)

Why in the News?

A report was placed in the Parliament by the **Standing Committee on Coal Mines and Steel r**eviewing the implementation of the **DMF Fund** and **the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY)** in India.

About District Mineral Foundation (DMF)

- Enactment: Created in 2015, via an amendment to the Mines and Minerals (Development & Regulation) Act, 1957
- **Concept:** The DMF is a **non-profit statutory 'Fund'** for every Indian district affected by mining related operations. It is set up as a non-profit trust.
- **Objective:** To work for the interest and benefit of persons, and areas affected by mining related operations in such manner as may be prescribed by the State Government.
- Structure of DMF: Two-tier administrative setup: -
 - As **per MMDR Act, 1957, the State Governments** are empowered to make rules prescribing the composition and functions of the District Mineral Foundation.
 - DMFs function through a 2-tier administrative set-up comprising of:
 - > **Governing Council (GC)** Policy-making body.
 - > Managing Committee (MC)– Executes projects and schemes.
- Funding of DMF
 - **Funded by mining leaseholders** as a percentage of royalty as prescribed by the central government:
 - > 10% of royalty for leases granted on or after 2015.
 - > **30% of royalty** for leases granted **before 2015**.
 - The contribution of mine lease holders to DMF differ **from mineral to mineral as it is charged as percentage of royalty and royalty** differ from mineral to mineral but not mine to mine.
 - Utilization of Funds: Funds must be spent at the district level under the PMKKKY guidelines.

Mining Jurisdiction in India

Constitutional Framework and Regulatory Authority

Constitutional Framework

Entry 54 of the Union List

Regulation of mines and mineral development as declared by Parliament by law in the public interest.

Entry 23 of the State List

Regulation of mines and mineral development subject to the provisions of the Union List.

Minor Mineral Authority

Central Government

Has the authority to notify any mineral as "minor mineral" via official notification

State Government

is empowered to make rules for grant of concessions related to minor minerals within their territories.

MMDR (Amendment) Act, 2023

Critical and Strategic Minerals

The MMDR (Amendment) Act, 2023 has empowered the Central Government to exclusively auction Mining Leases (ML) and Composite Licences (CL) (prospecting licence-cum-mining lease) in respect of any 'critical and strategic mineral specified in Part D of the First Schedule of the MMDR Act.

DMF Jurisdiction

Central Government

The MMDR (Amendment) Act, 2021 empowers the Central Government to give directions regarding composition and utilisation of funds by DMFs

State Government

Handles implementation and day-to-day management.

Significance and status:

- Tied to participatory governance laws: Functioning of DMF is also guided by 5th & 6th Schedules of the Constitution (tribal areas); Panchayats (Extension to Scheduled Areas) Act (PESA), 1996; Forest Rights Act (FRA), 2006.
- o 645 districts (23 States) have DMFs.
- **Over ₹1-lakh crore** collected in the past decade.
- Top states by DMF funds: Odisha (29%); Chhattisgarh (14%); Jharkhand (13%)

Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY)

- Launch: 2015 by the Central Government under Section 20A of the MMDR Act, 1957.
- Implementation Mechanism: State Governments must integrate PMKKKY into DMF rules.
- Objective:
 - Ensure **sustainable development** in mining-affected areas.
 - Fund healthcare, education, infrastructure, water, livelihoods, etc.
- Key Revisions (2024 Guidelines)
 - Fund Allocation Priorities:
 - > 70% of DMF funds must go to high-priority sectors (drinking water, healthcare, education, etc).
 - > 30% cap on other sectors (infrastructure, irrigation, energy, watershed development).
 - Livelihood Focus:
 - > Skill development expanded to "skill development & livelihood generation."
 - > Agriculture & animal husbandry added as high-priority sectors.
 - **Directly Affected Areas**: 70% of funds must be spent in directly mining-affected areas.
 - Endowment Fund: 10% of annual DMF receipts to be set aside for sustaining livelihoods in post-mining areas.
 - Strengthened Planning: 5-year perspective plans required, based on needs assessment.

Challenges Associated with the District Mineral Foundation (DMF)

- Governance Issues:
 - **Dominance of Officials:** DMFs are largely controlled by **district collectors (DCs**), with little mining community representation. **E.g.,** Only five states include affected people in Governing Councils (iForest report).
 - Lack of Independence: DCs are chairpersons of both Governing Councils (GCs) and Managing Committees (MCs), limiting independent decision-making (Parliamentary Committee Report).
- Lacks Planning and Beneficiary Identification: No district has published a five-year perspective plan.
 - **E.g.**, lack of Gram Sabha engagement (reflecting a top-down approach) in decision-making. (Parliamentary Committee Report)
- Fund Utilization Challenges:
 - Low Spending: Only 40% of accrued funds have been utilized, reflecting delays in project execution. For instance, utilisation in major DMF states, e.g., Jharkhand, Odisha & Rajasthan is quite low. (iForest report).
 - **Imbalanced Allocation of DMF Funds**: The funds favour physical infrastructure over human development thereby contradicting PMKKKY's goal to address poverty and deprivation.
 - > E.g., In 11 states, over 30% of DMF funds are allocated to infrastructure (iForest report)
- Weak Grievance Redressal & Monitoring: Most districts lack functional complaint systems, with no public data on resolutions.
 - **E.g.,** Absence of **a DMF fund utilization index** hinders transparency in fund utilization (Parliamentary Committee Report).
- **No Social Audits:** DMFs have not conducted social impact assessments to evaluate the effectiveness of their investments on beneficiaries (iForest report)
- **Gap in Achieving PMKKKY Goals in Aspirational Districts**: Of the **112 ADP districts**, **106** are DMF districts, yet key PMKKKY objectives like mitigating mining impacts remain unmet. (Parliamentary Committee Report).

Reforming District Mineral Foundation (DMF) Governance & Implementation

- Governance Reforms:
 - Ensure DMFs operate as independent, community-led institutions, not as extensions of district administrations. E.g., Actively engage Gram Sabhas.
 - There can be at least 1/3rd representation of mining-affected communities in the GC and MC.
- Participatory Planning & Long-Term Vision: All DMFs can develop comprehensive five-year plans based on community consultations.
 - Plans should align with **district development goals** but **prioritize the needs of mining-affected populations**.
- Strict Enforcement of PMKKKY Guidelines: At least 70% of DMF funds must be allocated to critical sectors. E.g., Healthcare, Education, Livelihoods & Skill Development and Drinking Water & Sanitation.
 - **State governments must comply** with national PMKKKY guidelines.
- Mandatory Social Audits & Financial Reviews: 3rd Party independent agencies may conduct regular audits.
 - **CAG** may perform **periodic evaluations** of DMF spending and impact.
- Focus on 'Just Transition': E.g., Endowment Funds for Post-Mine Economies to support communities in regions where mining is ceasing.

Conclusion

A decade after its creation, the DMF remains a work in progress. The problem is not a lack of funds but a lack of vision and political will to ensure the DMF serves its intended purpose. For the DMF to truly fulfil its mandate, we need urgent, systemic changes that put communities at the centre of decision-making.

To know more about major and minor minerals, refer to Article 3.2.1. Major and Minor Minerals in February 2025 Monthly Current Affairs Magazine.

3.6. NEWS IN SHORTS

3.6.1. INDIA OVERTAKES JAPAN TO BECOME 4TH LARGEST ECONOMY

As per the recent **World Economic Outlook of the IMF**, India has surpassed Japan to become 4th largest economy worldwide.

Key drivers for India's Economic Leap

- Structural: Urbanization and rising aspirations leading to rise in per capita income and lifestyle consumption, demographic dividend (India's current median age is ~29 years), strong domestic demand (private consumption contributes nearly 70% to GDP), etc.
- Policy: Taxation and business reforms (implementation of GST, IBC, Corporate Tax cuts, etc.), push for infrastructure (National Infrastructure Pipeline, PM Gati Shakti, etc.), Atmanirbhar Bharat and Production-linked incentive, etc.
- **Technological:** Digital Public Infrastructure (UPI, JAM Trinity, etc.), strong global demand for Indian IT, software exports, and consulting services, etc.
- External and global factors: Increased FDI inflows, Global supply chain rebalancing with strategies like 'China Plus One' and Supply Chain Resilience Initiative, etc.

Future prospects for the Indian Economy

India is well positioned to become 3rd largest economy in the coming 2.5 to 3 years due to factors like:

- **Energy transition:** Rapid growth in renewable energy capacity (targeting 500 GW by 2030) and leadership in global platforms like the **International Solar Alliance (ISA)** positions India as a green growth leader.
- **Regulatory stability:** Reforms in banking sector (e.g., bank recapitalization) and strong regulatory institutions like RBI ensure macroeconomic stability.

3.6.2. US HOUSE APPROVES 3.5% OUTWARD REMITTANCE TAX

US House Approves 'One, Big, Beautiful Bill' with 3.5% outward remittance tax provision

• Called the 'Excise tax on remittance transfers', the newly proposed provision will be effective from January 1, 2026.

Remittances

- Definition: The movement of funds from the country of work back to a home country is known as remittances.
 In 2023, remittances back to home countries totalled about \$656 billion.
- India got 14.3% of global remittances in 2024 (its highest ever).

Key highlights of the Bill

- Remittance tax (excise tax) will apply only to non-US citizens and US citizens are exempted.
 Affected groups include Visa holders (H-1B, F-1), Green card holders, etc.
- The bill **reduced the Outward remittance** tax from 5% (which was previously proposed) to 3.5%.

Impact of Excise tax on remittance transfers'

- **Global Economic ripple:** Countries like El Salvador, Mexico, India, which rely on US remittances, may face economic setbacks.
 - The proposal may also discourage foreign workers from maintaining assets or employment in the US.
- **Dent India's Inward Remittance Flow:** The United States is the largest source of remittances to India, accounting for \$32.9 billion of the total remittance inflows in 2023-24.
- A remittance tax could push some funds from Indians in the U.S. to grey or black markets, bypassing regulation.



Related News

Student remittances under the Liberalised Remittances Scheme (LRS) in FY2025 dropped to a five-year low (\$2.92 billion), indicating reduced student outflows (RBI)

About Liberalised Remittances Scheme

- Genesis: Introduced in 2004 by Reserve Bank of India
- **Benefit:** All resident individuals, including minors, are allowed to freely remit up to **USD 250,000 per financial year** for any permissible current or capital account transaction or a combination of both.
- There are **no restrictions** on the frequency of remittances under it.
- The Scheme is not available to corporates, partnership firms, Hindu Undivided Family (HUF), Trusts etc.

3.6.3. ALTERNATIVE INVESTMENT FUNDS (AIFS)

RBI has revised the rules for investment in Alternative Investment Funds.

About AIFs

- Any fund incorporated in India which is a **privately pooled investment vehicle** which collects funds from **sophisticated investors, whether Indian or foreign,** for investing it in accordance with a defined investment policy for the benefit of its investors.
- AIFs are regulated by the SEBI, as per the SEBI (Alternative Investment Funds) Regulations, 2012.

Categories of AIFs

- **Category I AIF:** Invest in start-ups, early-stage ventures or sectors considered **socially or economically beneficial.** E.g. Venture Capital Funds, Angel funds, SME Funds, Infrastructure Funds
- Category II AIF: They do not use leverage or debts other than to cover their day-to-day operational expenses. E.g. Private Equity Funds, Debt Funds, Real Estate Funds.
- **Category III AIF:** It may use leverage including through investment in listed or unlisted derivatives. E.g. Hedge Funds, Private investment in public equity (PIPE).

3.6.4. PREDATORY PRICING

Recently, **Competition Commission of India** has notified the **Cost Regulations**, 2025 providing **new definitions to curb** predatory pricing.

About Predatory Pricing

- **Definition**: The sale of goods or provision of services at a **price below the cost** with a view to **reduce competition or eliminate competitors.**
- Section 4(2) of the **Competition Act, 2002** identifies **predatory pricing** by a **dominant enterprise** as an **abusive practice**.
- Impact of predatory pricing:
 - **On customers**: Beneficial in the short term with lower prices but they suffer in the long term due to lesser options and higher prices.
 - **On Companies**: Harms all companies in the short term but once competitors are driven out, the monopolised companies raise prices and recover lost profits.

3.6.5. PAYMENTS REGULATORY BOARD

The Reserve Bank of India (RBI) notified the **Payments Regulatory Board Regulations, 2025**, under Payment and Settlement Systems Act, 2007.

• These regulations replace the earlier Board for Regulation and Supervision of Payment and Settlement Systems Regulations, 2008.

About Payments Regulatory Board

- Composition
 - Chairperson: RBI Governor
- **Ex-officio Members**: Deputy Governor in charge of payment systems, 1 RBI-nominated officer.
- 3 members nominated by Central Government.
- Board may also invite experts from fields like payments, IT, cybersecurity, law etc.
- **Tenure of Members:** Government-nominated members will have a fixed tenure of 4 years and **no re-nomination** is allowed.
- Meetings: At least twice a year.
- Quorum: Minimum of 3 members, including Chairperson or Deputy Governor.
- **Decisions:** by **majority vote**. In case of a tie, Chairperson has a casting vote.

3.6.6. RBI (DIGITAL LENDING) DIRECTIONS, 2025

Key objectives of directions include enhancing borrower protection, ensuring data transparency, and promoting responsible Digital lending practices.

Key Highlights of the RBI Directions

- **Defines digital lending** as a remote and automated lending process by use of digital technologies for customer acquisition, credit assessment, loan approval, disbursement, recovery etc.
- **Applies to:** Commercial Banks, Primary (Urban)/State/Central Co-operative Banks, NBFCs (including Housing Finance Companies) and All-India Financial Institutions.
- **Mandatory reporting of Digital Lending Apps (DLAs):** via the RBI's Centralized Information Management System (CIMS) portal to create a transparent public directory of legitimate DLAs.
- Enhanced due diligence: BY the financial entities on Lending Service Providers' (LSPs) technical capabilities, data privacy, borrower conduct, and regulatory compliance.
 - o LSP is an agent of a financial entity who carries out digital lending functions on their behalf.
- **Disclosures to borrowers:** Financial entities and LSPs **must disclose key details** such as **terms and conditions**, **privacy policies etc.** allowing borrowers to make informed choices.
- Grievance redressal Officer: To be appointed by LSPs to deal with digital lending-related complaints and issues.



3.6.7. OPINION TRADING PLATFORMS

The Securities and Exchange Board of India (SEBI) has cautioned investors against dealing with opinion trading platform.

About Opinion trading platforms

- **Concept:** These platforms allow participants to earn money by investing in their predictions on any sports, political, weather, or crypto events,
 - Participants can bet on any event based on their predictions.
 - o If the predictions are correct, a participant makes money, and in case the prediction goes wrong they lose.
- Legal Status: not regulated by SEBI because the items being traded are not classified as securities under Indian law.
- Economy: These platforms have registered transaction volumes of over Rs 50,000 crore a year with a user base of more than 5 crore people.

3.6.8. INDIA ACHIEVES HIGHEST EVER EXPORTS

As per the RBI, **India's total exports (Merchandise + Services) have reached \$824.9 billion in 2024-25** rising by 6.01 % from \$778.1 billion in 2023–24.

 This is despite global slowdown triggered by trade disruptions due to Red Sea crisis, Ukraine war, drought in Panama Canal, increase in Non-Tariff Measures,

rising energy prices etc.

Key data and trends

- Merchandise Exports: Have marginally increased to US\$437.4 billion, from US\$437.1 billion in 2023-24.
- Services Exports: Reached a historic high of US\$387.5 billion in 2024–25, up 13.6% from US\$341.1 billion in 2023-24.
 - Key sectors included telecommunications, computer and information services, transport, travel, and financial services.



Factors Driving Export Growth

- **Policy Push**: Government boosted exports via New Foreign Trade Policy, sector-specific schemes, Trade Facilitation, Districts as Export Hubs Initiatives and MSME support.
- **Diversification of export markets**: Rising demand from Southeast Asia, Africa, and Latin America offset global slowdowns.
- Trade Agreements: New bilateral and multilateral deals, such as India-UAE Comprehensive Economic Partnership Agreement (CEPA), opened markets and lowered barriers, particularly for services and electronics.
- **Supply Chain Realignment**: India became a reliable alternative in China-plus-one strategies, attracting global companies.

3.6.9. WORLD BANK LAND CONFERENCE

India assumed the role of a Country Champion at the World Bank Land Conference 2025.

- During the conference, global attention was drawn towards **India's flagship land management initiatives** like SVAMITVA Scheme and Gram Manchitra platform, as models of **inclusive, technology-driven rural governance**.
- With 68,000 sq. km surveyed and Rs.1.16 trillion worth of land monetized, **SVAMITVA stood out as a scalable model** for inclusive economic transformation at the global level.
 - SVAMITVA aims at **establishment of clear ownership of property** in rural areas by mapping of land parcels using drone technology.
- **Gram Manchitra's** role in promoting climate resilience, infrastructure planning, and convergence of schemes drew appreciation for its applicability in global south context.

• Gram Manchitra is a **geospatial planning platform** that empowers Gram Panchayats to prepare data-driven, localized development plans.

Efficient Land Management Systems and Economic Growth

- Jobs and Growth: Streamlined access to property facilitate entrepreneurship, expansion, wealth reinvestment and alternate livelihoods.
- **Private Capital:** Registered property rights provide landowners with collateral access, **boosting private credit and investment opportunities**.
- Infrastructure Funding: Generate stable government revenue for essential public services and infrastructure.
 - Land and property taxes generate just 0.6% of GDP in low-income countries, compared to 2.2% in industrialized nations.
- Urban Management: Help cities plan for growth, protecting public spaces, identify development opportunities, and manage disaster risks.
- Food Security: Improving women's access to land can increase agricultural outputs by 4%.

3.6.10. REPAIRABILITY INDEX

Committee formed under **chairmanship of Bharat Khera** to develop a framework for a Repairability Index (RI) in mobile and electronic sector has submitted its report to Department of Consumer Affairs (DoCA).

About RI Framework (Recommended by Committee):

- Original Equipment Manufacturers (OEMs) are required to self-declare RI based on standards scoring criteria provided in framework.
- **RI** should be **displayed at point of sale/purchase,** E-commerce platforms and in form of QR code on packaged products.
- Committee identified **smartphones and tablets as priority categories f**or the initial phase of RI.
- RI is assessed on **six core parameters (Refer** Infographic).
 - o Scoring criteria and weightages were developed for each parameter.
 - A RI on a five-point numeric scale is calculated after aggregating weightages for priority parts.

Significance of RI:

- Improved repair accessibility: There has been significant rise in complaints in mobiles and tablets product category from 19,057 in 2022-2023 and further to 22,864 in 2024-2025.
- **Promoting Sustainable Economy:** RI **emphasizes on LiFE (Lifestyle for the Environment) movement** through Promoting sustainable consumption.
- Address issue of 'planned obsolescence': i.e. devices are designed specifically to last a limited amount of time and to be replaced.
- **Employment generation**: By allowing third-party repairs.

About Right to Repair:

- It calls for companies to make spare parts, tools and information on how to repair devices available to customers and repair shops to increase lifespan of products.
 - DoCA launched **Right to Repair Portal India in 2022,** to facilitate relevant repair associated information.

3.6.11. WORLD AUDIO VISUAL AND ENTERTAINMENT SUMMIT (WAVES), 2025

At the inaugural WAVES Summit 2025 in Mumbai, Prime Minister highlighted the **India's creative economy** as a powerful driver of future GDP growth, innovation, and inclusive development.



- WAVES aims to unlock a **\$50 billion market by 2029**, positioning India as a major player in the global entertainment economy.
- During the summit, government announced the launch of the **Indian Institute of Creative Technology (IICT)** for the creative sector.
 - It is being established by **Ministry of Information and Broadcasting** in strategic partnership with **FICCI** & **CII**, envisioned as a **National Centre of Excellence**.

What is Creative Economy?

- **Definition:** Creative economy (**orange economy**) is an evolving concept based on the contribution & potential of creative assets to contribute to economic growth and development.
 - It includes Media & Entertainment, Advertising and Marketing, Animation, Visual Effects, Gaming, Comics, and Extended Reality (AVGC-XR) etc.
- The United Nations declared **2021 as the International Year of Creative Economy for Sustainable Development**, emphasizing its global importance.

India's Creative Economy

- Contribution: \$30 billion to GDP, employing 8% of the workforce. Creative exports exceed \$11 billion annually.
- **Challenges:** Misinformation, copyright, intellectual property, privacy, and market monopolization, limited rural digital access, and lack of formal financing.



3.6.12. INDIAN INSTITUTE OF CREATIVE TECHNOLOGY

Indian Institute of Creative Technology (IICT) has been launched by **Ministry of Information and Broadcasting** in collaboration with **FICCI and CII.**

About IICT:

- It will serve as a National Centre of Excellence (NcoE) dedicated exclusively to Animation, Visual Effects, Gaming, Comics, and Extended Reality (AVGC-XR) sector.
 - Extended Reality (XR) technologies blend physical and digital worlds e.g. Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR).
- It will follow same template as IITs and IIMs in India to transform itself into a massive world-class education and training hub for students who aspire to be professionals in AVGC-XR sector.

Status of AVGC-XR sector

- Globally AVGC-XR market was valued at over \$366 billion in 2021.
- India: Currently accounts for less than 1% of the global market. Indian AVGC-XR market could reach \$26 billion by 2030.
 - Karnataka, recognized as India's IT hub, is carving out a leadership position in the AVGC-XR sector.

Emerging key growth drivers of AVGC-XR sector in India

- **Growing OTT User base:** In 2024, India had an estimated 547 million OTT users, representing a penetration rate of 38.4%.
- Growth of Smartphone Users: India is set to have over 900 million internet users by 2025, with a majority from rural areas, according to the IAMAI and Kantar report.

- Wider Spectrum of Applications: Animation and VFX sector can be used in Gaming, EdTech, Architecture etc.
- Advent of New Technologies: E.g. Investment in AR and VR is increasing year on year.
- **Other reasons:** Increased R&D Investments, Growing 5G Presence etc.





4. SECURITY

4.1. INDIA'S NEW SECURITY DOCTRINE

Why in the News?

Addressing the Nation after successful Operation Sindoor, Prime Minister of India outlined **India's new security doctrine**, marked a **significant shift in India's counterterrorism doctrine**.

Key changes in India's Security Doctrine

Operation Sindoor marks a **decisive departure in India's National Security Doctrine** which now includes **three core pillars:**

Pillar	Details	Shift and Significance
Decisive Retaliation	 Any terrorist attack on India will be met with a strong and resolute response, with India retaliating on its own terms, targeting terror hubs at their roots. E.g., India struck nine major terrorist hubs across Pakistan and Pak occupied Jammu & Kashmir (PoJK) including headquarters of Lashkar-e-Taiba and the Jaish-e-Mohammed. 	• It has lowered the threshold of response to deter any major terrorist attack in future, thus increasing military and economic costs of supporting terrorism.
No Tolerance for Nuclear Blackmail	 India will not be intimidated by nuclear threats and any terrorist safe haven operating under this pretext will face precise and decisive strikes. E.g., India stood its ground even when when Pakistan's ambassador to Russia warned that Islamabad could resort to its full military arsenal, including nuclear weapons, if it is attacked by India or if New Delhi disrupts Pakistan's water supply. 	 It ensures that nuclear threats won't deter India's right to self- defense, a sharp shift from past doctrine of strategic restraint.
No Distinction between Terror Sponsors and Terrorists	 India will no longer see terrorist leaders and the governments sheltering them as separate entities. E.g., Operation Sindoor broke conventional norms by targeting locations deep within Pakistan's mainland, including strategic zones like Punjab province and Bahawalpur, treating both terrorists and their state sponsors as legitimate targets. 	 It establishes that state-sponsored terrorism would be considered as a state-sanctioned act of war perpetrated through proxy actors by a complicit state. It strengthens the efforts to counter terrorism that poses a significant threat to global peace and security.

Other key aspects of Security Doctrine during Operation Sindoor

- **Deterrence by Punishment:** The punishment strategy (Inflicting damage after terrorist attack) aims to deter unwarranted Pakistani behaviour by **threatening to inflict unacceptable damage** through conventional means.
 - This is a **shift from earlier strategy of 'Deterrence by Denial'** which aims to deter an action by making it infeasible or unlikely to succeed, thus denying a potential aggressor confidence in attaining its objectives.
- **Economic Measures:** Economic measures, which gives India leverage without inviting kinetic escalation, are now part of India's Strategic Toolkit in dealing with security concerns.
 - E.g., India placed the Indus Water Treaty (IWT) in abeyance.
- **Geopolitical Signalling:** India has dispatched seven high-level all-party delegations to other countries to present India's stand against terrorism and pressure Pakistan internationally.
- **Strategic De-capacitation:** India struck eleven Pakistani airbases disrupting the mobility and operational momentum of Pakistan Air Force, ensuring that Pakistan could not **sustain a second or third wave of escalation.**

- Coordinated and Tech-Driven Response Strategy: India's response was deliberate, precise, and strategic facilitated by seamless integration of indigenous hi-tech systems into national defence including in drone warfare, layered air defence, or electronic warfare.
 - E.g., the integration of drone warfare into India's military doctrine.
- **De-escalation Strategy:** India's strategy aims at inflicting punitive costs on terror headquarters while limiting conventional conflict and putting the onus on Pakistan.
 - E.g., when Pakistan escalated the conflict conventionally, India swiftly mobilized a tri-service response to **quickly subdue the fighting capabilities** of the Pakistani miliary.

Conclusion

Operation Sindoor is a watershed in India's military and geopolitical evolution and India's signal of intent to retaliate against cross-border terrorism marks a clear shift in posture. By operationalizing deterrence, neutralizing terror nodes, blunting enemy retaliation, and avoiding escalation into war, India has delivered a sophisticated, high-impact campaign that redefines conflict dynamics in South Asia.

To know more about India's measure towards tackling terrorism in Jammu and Kashmir and Indus Waters Treaty, please refer to Article 4.1. Terrorism in Jammu and Kashmir and Article 2.3. Indus Waters Treaty in April 2025 Monthly Current Affairs magazine.

4.2. DEFENSE TECHNOLOGY IN OPERATION SINDOOR

Why in the News?

Operation Sindoor displayed India's technological superiority in military operations through its airspace capabilities.

Key Defence technologies that enabled Operation Sindoor

India's Airspace Monitoring Systems

System	Details
IAF's (Indian Air Force) Integrated Air Command and Control System (IACCS)	 Automated command and control system that integrates data from all air defence assets, including ground-based radar, airborne sensors, civilian radar, communication nodes etc. Provides a comprehensive battlefield picture and situational awareness during air operations. Developed by: Bharat Electronics Limited (BEL), a public sector aerospace and defence electronics company
Ballistic Missile Defence (BMD) Network's Mission Control Centre (MCC)	 Constantly monitors Indian airspace via a network of Long-Range Tracking Radars (LRTRs) with a range of over 500 km, comprising Swordfish Radars. It also receives data from: IAF's and National Technical Research Organization's ELM-2090 Terra systems (procured from Israel), which conduct very long-range search and detection. Netra Airborne Early Warning and Control System (AEW&C), developed by Defence Research and Development Organisation (DRDO), having 240-degree radar coverage with a range of up to 200 km. Three Israeli IL-76-based Phalcon Airborne Warning and Control Systems (AWACS) which have 360-degree radar coverage and a range of over 400 km.
Indian Army's Akashteer	 A system designed to automate detection, tracking and engagement of enemy aircraft, drones and missiles and integrates various radar systems, sensors and communication technologies into a single operational framework. Enables autonomous monitoring of low-level airspace in battle zones and efficient control of Ground-Based Air Defence Weapon Systems. Developed by: BEL

Indian Navy's TRIGUN	• It is Indian Navy's maritime domain awareness platform which integrates sea-based radars, sonars, and communication nodes, enabling real-time threat detection across		
	coastal and deep-sea regions.		
Satellite Monitoring	Developed by: Indian Space Research Organisation (ISRO)		
through NavIC	• Coverage: Provides accurate Position, Velocity, and Timing (PVT) service up to region		
(Navigation with	extending about 1500 km beyond the Indian landmass.		
Indian Constellation)	• Consists of 7 satellites and a network of ground stations operating 24 x 7.		
	o 3 satellites are placed in geostationary orbit and 4 in inclined geosynchronous orbit.		
	 These satellites are equipped with dual-band signals (L5 and S-band). 		
	> The L5 signal is encrypted for military use.		

India's Multi-layered Air Defense Systems

India's Air Defence System comprises of four layers (see infographic).



Key Component of Each Layer

First Layer (Very Short Range)			
Drone Detect,	Developed by: DRDO & Productionized by BEL		
Deter and Destroy	It is equipped with dual-layered kill mechanism-		
(D4) anti-drone	 Hard Kill: Laser Directed Energy Weapon System 		
system	• Soft Kill: Drone communication channel Radio Frequency (RF) Detection & Jamming,		
	GPS Jamming / Spoofing System		
	Other features:		
	 RADAR System – Drone detection and tracking 		
	• Charge-Coupled Device, Infra-red camera for detection and tracking of Drone targe		
	 Command & Control Centre (C3) with Power Source for complete System 		
Man-Portable Air	• Surface-to-air missiles that can be carried and fired by a single individual or carried and		
Defence Systems	fired by more than one person acting as a crew.		
(MANPADS)	• India has procured Russian MANPADS including the Igla-M and its more advanced		
	successor, the Igla-S .		
Schilka systems	• It is a self-propelled , radar-guided anti-aircraft weapon system (SPAAG) mounted on a		
(ZSU-23-4)	tracked chassis.		
	• This Russian origin mobile air defense fire control system is designed to defend exposed		
	ground forces and armed vehicles against air attacks.		
	• It uses 3rd generation electro-optical system, phased array 3D tracking radar and an		
	accurate navigation system that generates a 360 degrees full coverage against any air		
7 00 .	attack day or night.		
Zu-23 mm system	• Soviet designed, twin-barrel anti-aircraft gun featuring twin 23mm autocannons .		
	• It has an effective range of up to 2.5 km for air targets and about 2 km for ground targets.		
	• It is capable of offering a high volume of fire and is frequently used to shield static		
	installations against low-flying threats.		
L/70 Anti-Aircraft Gun	• A 40mm gun, significantly enhanced with radar, electro-optical sensors, including		
Guli	auto-tracking systems.		
	Developed by: Sweden's Bofors and manufactured in India.		
	• Capable of firing 240–330 rounds per minute with a range of up to 4 km .		

Second Layer (Short Range)				
Akash	• Short Range Surface to Air Missile (SRSAM) system to protect vulnerable areas and			
	vulnerable points from air attacks.			
	Developed by: DRDO			
	• Currently in service with the IAF and the Indian Army.			
	Key Features			
	 Interception range: 30–35 km 			
	> In 2016, Government approved development of Akash Next Generation (Akash			
	NG) system with an extended range of up to 70 km.			
	• Can engage targets at altitudes of up to 18 km .			
	 Can simultaneously engage multiple targets in Group Mode or Autonomous Mode. Has built in Electronic Counter-Counter Measures (ECCM) features. 			
SPYDER (Surface-	 It is a low-level, quick-reaction SAM system capable of engaging aircraft, helicopters, 			
to-Air Python and	UAVs, and precision-guided munitions.			
Derby)	 Developed by: Israel 			
	 Fires two types of interceptor missiles: the Python-5 and Derby. 			
	 India purchased 18 SPYDER-MR (Medium Range) Systems having a range of 35 km and 			
	these can engage at altitudes between 16 km and 20 km.			
Legacy Soviet	S-125 Pechora, 9K33 Osa-AK, and 2K12 Kub/Kvadrat.			
Systems				
	Third Layer (Medium Range)			
Barak-8 Missile	• Co-developed by : DRDO and Israel Aerospace Industries (IAI) under an intergovernmental			
Defence System	agreement between India and Israel			
	The system has two versions:			
	 Naval-based Long-Range Surface-to-Air Missile (LRSAM) system with a range of up to 100 kms 			
	to 100 km.			
• Medium-Range Surface-to-Air Missile (MRSAM) system with a range of up to 70 km.				
	Fourth Layer (Long Range)			
S-400 Sudarshan	• S-400 integrates a multifunction radar, autonomous detection and targeting systems, anti-			
Chakra	aircraft missile systems, launchers, and a command-and-control centre.			
	Developed by: Russia's Almaz Central Design Bureau as S-400 Triumph			
	 India signed a deal in 2016 to purchase five S-400 systems. 			
	• Employs four types of missiles: short-range (40 km), medium-range (120 km), long-range			
	(250 km), and very long-range (400 km)—thus creating a layered defence.			
	• It can engage all types of aerial targets , including aircraft, Unmanned Aerial Vehicles (UAVs), and ballistic and cruise missiles, within a range of up to 400 km at an altitude of			
	up to 30 km.			
Ballistic Missile	 Two-tiered system capable of intercepting any incoming ballistic missile with a range of up 			
Defence (BMD)	to 2,000 km (and up to 5,000-km in Phase II).			
Programme	• Prithvi Air Defence (PAD) System: Can intercept incoming ballistic missiles with a			
	range of up to 2,000 km, at altitudes of up to 80 km, and at speeds of Mach 5.			
	> As part of Phase II of its BMD programme, India is developing the Prithvi Defence			
	Vehicle (PDV), which can intercept exo-atmospheric targets at altitudes of up to			
	100 km.			
	• Advanced Air Defence (AAD) System: Can intercept incoming ballistic missile threats			
	up to an altitude of 30 km .			

Other Weapons Systems that were potentially used

Details		
• A Supersonic Cruise Missile i.e. travels at a speed of around 2-3 Mach.		
 Cruise Missile is propelled by jet engines. 		
• Developed under the joint venture agreement between India and Russia.		

Rafale Weapon Systems	 Key Features: Fire and Forget principle of operation. Long flight range (290km) with varieties of flight trajectories. Low radar signature. Pin point accuracy with high lethal power aided by large kinetic energy on impact. Rafale fighter jets (developed by Dassault Aviation, France), equipped with state-of-the-art weaponry, are used for precision strike. Some examples of weapons- SCALP (Storm Shadow): A stealthy, air-launched cruise missile manufactured by MBDA, designed for deep strikes up to 450 km. AASM HAMMER (Highly Agile and Manoeuvrable Munition Extended Range) bombs: Have a range of 70 km and they offer pinpoint accuracy and can be launched from low altitudes. METEOR: A beyond-visual-range air-to-air missile (BVRAAM) designed to perform in dense electronic warfare conditions. 		
Drones	Surveillance and Reconnaissance Drones (ISR Drones): These drones are primarily used for intelligence, surveillance, and reconnaissance purposes. India currently has: TAPAS-BH-201 (Tactical Advanced Platform for Aerial Surveillance) Rustom (developed by DRDO) Heron (Israel)		
	Armed/Combat Drones (UCAVs): Unmanned combat aerial vehicles (UCAVs) are capable of launching missiles or dropping bombs. India has: DRDO's Ghatak (under development) Heron TP (from Israel)		
	Swarm Drones: Multiple drones operate in coordination to overwhelm enemy defenses, DRDO and private firms are working on swarm drone technology		
	Loitering Aerial Munitions (LAM) or kamikaze drone or Suicidal drone (crashes onto target) These drones are designed to loiter over a target area & strike when a target is identified. India has: Nagastra (made by Solar Industries and ZMotion) Warmate (Polish origin) SkyStriker (Developed in collaboration with Israel)		

Conclusion

During Operation Sindoor, India's indigenous air defence technology has showcased its efficiency and reliability. It is a result of fusion of public-private partnerships, incentives to innovation, robust public sector execution and a long-term defence vision.

4.3. SOCIAL MEDIA INFLUENCERS' AND NATIONAL SECURITY

Why in the News?

A YouTube vlogger/influencer from Haryana, has been arrested on charges of espionage.

More on the News

- The Social Media influencer was booked under Sections 3 and 5 of the Official Secrets Act (see box) and Section 152 of the Bharatiya Nyaya Sanhita (BNS)
- Section 152 of the BNS deals with 'Act endangering sovereignty, unity and integrity of India.'

Salient Provisions of Official Secrets Act, 1923 (OSA)

- **Objective:** To safeguard the privacy and confidentiality of the government particularly for national security purposes.
- Applicability: OSA extends to whole of India including any office or employment under any department of the government and applies also to individuals or contract or employed on behalf of the government and citizens of India outside India.
- Important Features of OSA, 1923
 - **OSA is a framework for dealing with espionage, sedition**, and other potential threats to the integrity of the nation.
 - Section 22 of the Right to Information (RTI) Act of 2005 grants it precedence over the OSA of 1923 and any other legislation or document in force at the time.
 - Section 8(2) of RTI Act, 2005 allows public authorities to disclose information that would otherwise be exempt under Section 8(1) if the public interest in disclosure outweighs the potential harm to the protected interests.
 - Section 8(1) of the RTI Act lists exemptions to the general rule of mandatory disclosure of information to citizens.
- Important Sections of Official Secrets Act, 1923
 - Section 3. Penalties for spying Engaging in activities like accessing restricted areas, creating sketches for enemies, or sharing secret codes that could harm India's sovereignty and security is punishable.
 - **Section 5. Wrongful communication of information**: Disclosing secret official information, using it for foreign gain, or failing to secure it is punishable.

Social Media Influencers as a Threat to National Security

- **Fuelling Psychological Warfare:** They spread misinformation and disinformation that threaten national security by disseminating foreign narratives to shape public opinion.
 - E.g., China leverages influencers to disseminate state narratives, countering global criticism of issues faced by the Uyghurs in Xinjiang.
- **Facilitating espionage activities:** They pose a threat to national security by unwittingly or deliberately spreading sensitive information through their platforms.
 - **E.g.,** Influencers like Jyoti Malhotra were allegedly recruited by the Pakistan intelligence agency.
- Social Polarisation & Communal Tensions: E.g., The Indian government blocked 1,093 Facebook, X (Twitter), Instagram, and YouTube accounts for spreading fake news, manipulated videos, and hate speech to incite violence in Murshidabad, West Bengal.
- Foreign Influence & Hybrid Warfare: Pro-Khalistani influencers (e.g., Sikhs For Justice (SFJ). -backed accounts) spread secessionist propaganda via YouTube/Twitter.
 - India ordered the blocking of **social media accounts of foreign-based "Punjab Politics TV"** over its alleged "close links" with the banned outfit SFJ.
- **Terror Propaganda:** Extremist groups leverage social media's global reach and anonymity to spread violent propaganda, targeting vulnerable youth for radicalization.
 - **Hizbul Mujahideen commander Burhan Wani** was the architect of the social-media-driven psychological warfare in Kashmir.
 - **E.g.,** Al-Qaeda utilised YouTube preachers **like Anwar al-Awlaki** to influence and recruit through emotionally charged content.

Key Terms

- **Psychological Warfare (Psywar)**: The planned tactical use of propaganda, threats, and other non-combat techniques during wars or periods of geopolitical unrest to mislead, intimidate, and demoralize the enemy.
- **Disinformation**: Intentionally false information spread with the purpose of deceiving its recipients.
- **Misinformation**: False information spread without the intention to deceive its recipients, though the effects may still be similar to disinformation.

Steps Taken by India to Tackle Influencers' Threat to National Security

• Legal Framework & Policies

- Information Technology Act, 2000 (IT Act): Section 69A of the Act grants the government power to block online content in the interest of national security, public order, or sovereignty.
- o IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021
 - > Requires platforms to appoint grievance officers, remove unlawful content within 36 hours, and trace message originators upon government request.
 - > Rule 3(1)(b)(v): Prohibits content threatening "public order" or national integrity.
- The government notified the Fact Check Unit (FCU) under the Press Information Bureau (PIB) of the Ministry of Information and Broadcasting (MIB): It is the official fact-checking body to tackle fake news.
- Regular sensitization of government officials on the Official Secrets Act, 1923, and Central Civil Services (Conduct) Rules, 1964: To prevent unauthorized disclosure of sensitive information and strengthen internal defenses against misinformation and espionage.
- Tackling Propaganda Warfare During Operation Sandor
 - Ministry of Home Affairs (MHA) directed states bordering Pakistan and Nepal to maintain strict vigil on antinational propaganda on social and other media platforms.
 - > Directed prompt action against violators and coordinated between the local administration, the army, and paramilitary forces.
 - States have been instructed to block social media accounts spreading fake narratives against India under Section 69A of the Information Technology Act, 2000.
 - Government urged the public to report fake news to PIB Fact Check amid Pakistan propaganda surge.

Conclusion

India's multi-layered approach combines existing OSA with modern IT regulations, creating a comprehensive framework that addresses both traditional espionage and contemporary digital threats through influencer networks.

Scan the QR code to know more about Hybrid Warfare

Weekly Focus #73- Hybrid Warfare: New age war warrants a new age response



4.4. INDIA'S DIPLOMATIC OUTREACH AGAINST STATE SPONSORED TERRORISM

Why in the news?

India launched a **global diplomatic outreach** after the Pahalgam terror attack and **Operation Sindoor**, targeting Pakistan-sponsored cross-border terrorism.

More on the News

- India dispatched high-level multi-party delegations to more than 30 countries, comprising Members of Parliament from across political parties, senior political leaders, and experienced diplomats.
- These delegations are **narrative architects and strategic communicators**, tasked with restoring clarity and countering Pakistan's narrative rooted in the communalism of the 'two-nation theory.
 - Example: Colombia retracted its earlier statement and reaffirmed support for India's anti-terror stance.

- Key Objectives of the outreach
 - **Reframe the Kashmir Issue:** Present Kashmir as an internal constitutional matter, not a bilateral one.
 - **Expose Terror as State Policy:** Show that Pakistan's use of terror is not just India's problem but a global threat to international anti-terror norms.

Effectiveness of India's Global Outreach Against State Sponsored Terrorism

- **Legitimizing Self-Defence:** India invoked Article 51 of the UN Charter, affirming its right to self-defence after the Pahalgam attack. This justified Operation Sindoor as a lawful response to armed aggression.
- Support for Zero-Tolerance Policy on Terror: India emphasized a firm and lawful approach to terrorism in all forms from any source.
 - It renewed calls for the adoption of the **Comprehensive Convention on International Terrorism (CCIT)** at the UN.
- Building Global Support: Major powers like the USA, Russia, Saudi Arabia, Israel, and Japan condemned the Pahalgam attack and backed India's position. The global response showed rising consensus against state-sponsored terrorism.
- Winning Support from Muslim Majority Nations: India framed the issue as a fight against terror, not religion-based or bilateral.
 - Indonesia, Egypt, and Bahrain blocked Pakistan's anti-India move at the Organization of Islamic Cooperation (OIC).
 - > The **OIC** is the **2**nd **largest organization after the UN** with a membership of **57 states**. It endeavors to safeguard and protect the interests of the Muslim world.



Key Hurdles in India's Diplomatic Outreach Against State Sponsored Terrorism

- **Re-hyphenation of India and Pakistan**: The recent face-off has become a pretext for a creeping re-hyphenation of India and Pakistan in global discourse particularly with respect to Kashmir.
 - This peril is underscored by US President Donald Trump's assertion of brokering the ceasefire.
 - For the West **wary of China's growing influence, Kashmir** may become a theatre of **symbolic contestation** rather than legal and political clarity.
- Lack of Coordinated Global Action: No joint international action (like sanctions or resolutions) has been taken against Pakistan, limiting the impact of India's diplomatic efforts.
- Pakistan's Gains in Global Forums: Pakistan was made Chair of the UNSC Taliban Sanctions Committee and Vice-Chair of the Counter-Terrorism Committee, with China's support.
 - \circ $\;$ This weakens India's efforts to brand Pakistan as a sponsor of terrorism.
- India's limited influence in global financial bodies: Despite Indian objections, Pakistan received major loans (\$1B IMF loan, \$40B World Bank partnership and \$800M from ADB).
 - This highlights challenges **to economically isolate Pakistan**, especially due to concerns over misuse for military and terrorism purposes.
- Persistent Bilateral Support for Pakistan: Countries like China and Turkey continue to back or downplay Pakistan's role in terrorism.
 - Pakistan also sent **diplomatic teams abroad** to counter India's narrative, reducing India's diplomatic edge.

Short Global Media Attention Span: Ongoing global crises (ussia's war in Ukraine, the Israel-Hamas conflict or • nuclear tensions with Iran) distract international focus, letting malign actors like Pakistan reassert itself during moments of reduced global attention.

Conclusion

India's assertion of its sovereign prerogative and refusal to outsource its security calculus is a mark of strategic maturity. The global order respects clarity more than compromise. In the coming days, the contest will unfold in minds, not maps. And narrative clarity will determine not only who commands the present, but who inherits the future. India's challenge is not just to win battles, but to own the story. In geopolitics, as in battle strategy, the side that frames the question often controls the answer. In the end, success will depend on who tells the story best.

4.5. BRAHMOS AEROSPACE TESTING FACILITY LAUNCHED

Why in the News?

The Defence Minister recently inaugurated the Brahmos Aerospace Testing Facility in Lucknow, Uttar Pradesh.

More on the News

- Alongside the testing facility, a Brahmos missile production unit was also inaugurated.
- These units are part of the Uttar Pradesh Defence Industrial Corridor and are expected to play a critical role in missile testing, assembly, and production.

Defence Industrial Corridors

To strengthen defence manufacturing and promote the sector, two Defence Industrial Corridors are being • established, one in Uttar Pradesh and the other in **Significance of the Defence** Tamil Nadu. Industrial Corridors • These were announced in the **Union Budget** 2018-19. 200 Domestic Manufacturing • **Uttar Pradesh Defence Industrial Corridor** Make in India and It is implemented by the Uttar Pradesh 0 Encourage domestic Self-reliance **Expressways** Industrial Development Promote Make in India manufacturing and Authority (UPEIDA). and self-reliance in reduce import o Comprises six nodal points: Agra, Aligarh, defence dependency Chitrakoot, Jhansi, Kanpur and Lucknow. (Aatmanirbharta). **Tamil Nadu Defence Corridor** . Employment Generation Export Export Facilitation Generate employment and

boost MSMES, startups, and

the defence sector.

private sector participation in

- Led by the Government of Tamil Nadu 0
- 0 Comprises five nodal points: Chennai, Coimbatore, Hosur, Salem, and Tiruchirappalli.

About Brahmos Missile

- It is a universal long range supersonic cruise missile system that can be launched from land, sea and air. •
 - Supersonic stands for flight speed greater than the speed of sound. It varies in the range of 1-5 Mach. 0
 - > The **Mach number** is the ratio of the speed of the aircraft to the speed of sound.
 - > Supersonic Cruise missile has typical speed of 2-3 Mach.
- It is developed by **Brahmos Aerospace**, a joint venture between **DRDO**, India and **NPOM** of Russia. .
 - Brahmos is named after Brahmaputra and Moskva rivers.
- **Key Features**
 - It is a two-stage missile with a solid propellant booster engine as its first stage which brings it to supersonic speed and then gets separated.
 - The liquid ramiet or the second stage then takes the missile closer to 3 Mach speed in cruise phase.
 - A ramjet is a form of air-breathing jet engine that uses the vehicle's forward motion to compress incoming air for combustion without a rotating compressor.
 - The missile has flight range of up to 290 km. 0

Facilitate exports

in defence

- It operates on **Fire and Forget Principle**, adopting varieties of flights on its way to the target.
- Versions:
 - > **BrahMos-NG (Next Generation) missile**: It will be envisaged as lighter, smaller and yet smarter version of the BrahMos missile.
 - > BRAHMOS-II: It will be a hypersonic cruise missile which would fly at a speed greater than 5 Mach.

Significance of Brahmos Missile

- **High Speed and Precision:** High **supersonic speed** all through the flight and **Pin point accuracy** with high lethal power aided by **large kinetic energy** on impact.
- **Stealth Feature:** Stealth technology and guidance system with advanced embedded software provides the missile with special features. It has low radar Signature and can cruise as low as 10 meters (terminal altitude).
- **Defense Self Sufficiency:** Brahmos exemplifies **Make in India** through a successful joint venture, with **over 200 public and private Indian industries** contributing to its sub-systems.
- **Defense Export:** The **Philippines became the first country to procure Brahmos**, with several others such as Indonesia, Vietnam, Malaysia, UAE, Chile, and South Africa are showing interest, underscoring India's rising role in global arms exports.

Features	Brahmos (India-	Tomahawk (USA)	Kalibr (Russia)	Kinzhal	Scalp
	Russia)			(Russia)	(France)
Speed	Supersonic (2-3	Subsonic (Mach	Subsonic (boost	Hypersonic (up	Subsonic
	Mach)	0.7–0.9)	to Mach 2.5 near	to Mach 10)	(~Mach 0.8)
			target)		
Range	290 km	1,250–2,500 km	220-2,500 km	1,500-2,000 km	140 -550 km
	(extendable up to				
	800 km)				
Launch	Land, Sea, Air	Land, Sea,	Sea, Submarine,	Air	Air, Ship,
Platforms		submarines	Air		Submarine

• Comparison with other Missiles

Conclusion

The inauguration of the Brahmos Aerospace Testing Facility marks a strategic step towards advancing India's defence self-reliance, strengthening indigenous missile production, and positioning the country as a key player in the global defence export landscape.

4.6. GOLDEN DOME

US President has unveiled an ambitious missile defense system named as Golden Dome.

About Golden Dome

- The Golden Dome is a ground- and space-based missile defense system designed to protect all of the U.S.A.
- It will be a multi-layered defense system against hypersonic and cruise missile threats, integrating space-based interceptors and advanced tracking technologies.
 - The Dome will **detect**, **track and stop missiles** at multiple **stages of flight**, **potentially destroying** them **before takeoff or intercepting** them in mid-air.
- Components of the Golden Dome will be drawn from existing American missile defense assets, including **Patriot** missile batteries, THAAD (Terminal High Altitude Area Defense), Aegis Ballistic Missile Defense, and Ground-based Midcourse Defense (GMD).

Concerns about Golden Dome

- Weaponization of space: China has raised the concern saying that it "heightens the risk of space becoming a battlefield" and "fueling an arms race."
- Against the spirit of Outer Space Treaty: States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner.

Comparison between different air defense systems of the world

Country	System and Details
Russia	• S-400 Triumph (SA-21 Growler): Advanced phased-array radar with 40–400 km range
USA	• THAAD (Terminal High Altitude Area Defense): Hit-to-kill technology, 1,000 km detection, surveillance, target identification, and tracking, Mach 8 interceptors.
Israel	 Iron Dome: System includes Tamir interceptor with launcher, battle management and weapon control system (BMC), serves as fire control radar for David's Sling. Iron Beam: High-energy laser (100–150 kW), unlimited magazine, complements Iron Dome.
China	• HQ-9: Draws from S-300 and Patriot tech, less advanced than S-400's radar.
India	 Barak-8: A joint Indian-Israeli surface-to-air missile defense system with 360° coverage, naval/land variants Akash: Rajendra radar, mobile, 100% indigenous, surface-to-air missile, can fly at supersonic speeds, Uses Ramjet-rocket propulsion system

Conclusion

The deployment of space-based interceptors, though potentially revolutionary for defense capabilities, raises legitimate concerns about adherence to international space law and the risk of triggering a new arms race. The challenge lies in balancing national security imperatives with the preservation of space as a peaceful domain for all humanity.

4.7. NAXALISM

Why in the news?

Recently, security forces conducted the **largest ever anti-Naxal operation at Karreguttalu Hill** on the Chhattisgarh-Telangana border.

More in the News

• The operation was conducted in line with the goal of achieving a Naxal-free India by March 31, 2026.

Data Bank 38 (in 2024) LWE affected districts down from 126 (in 2018). 81% reduction in incidents of LWE violence between 2010 and 2024. 178 Eklavya Model Residential Schools functional in LWE-affected districts.

Naxalism in India

- **Background:** Naxalism or Left Wing Extremism (LWE) originated from the **Naxalbari movement of 1967** in West Bengal.
- **Ideology:** Rooted in socio-economic inequalities and driven by **Maoist principles**, Naxalism has historically impacted some of the most remote, underdeveloped, and tribal-dominated regions of the country.
- Aim: The movement aims to undermine the Indian state through armed rebellion and parallel governance structures, particularly targeting security forces, public infrastructure, and democratic institutions.
- India's Red Corridor: It refers to Naxalism affected states like Chhattisgarh, Jharkhand, Odisha, Maharashtra, Kerala, West Bengal, Madhya Pradesh, and parts of Andhra Pradesh and Telangana.
- **Modus Operandi:** It includes armed violence, extortion, destruction of infrastructure, and recruitment of children and civilians.

Reasons for the decline of Naxalism

India's **multi-pronged counter LWE strategy** combining **security, development, and community outreach** has significantly reduced Naxal activity. Specific factors contributing to this decline include:

- Strengthened Security Architecture:
 - **SAMADHAN doctrine:** It encompasses the entire strategy for security operations, ranging from short-term policy to long-term policy formulated at different levels.
 - This includes providing **Central Armed Police Forces (CAPFs),** sanctioning **India Reserve (IR) battalions**, and supporting the modernization and upgradation of **State Police** forces for State Governments.
 - Security Related Expenditure Scheme: A Ministry of Home Affairs scheme aimed at capacity building of State Governments by reimbursing securityrelated costs, including training, operational needs, ex-gratia payments, and more.
 - Special Infrastructure Scheme (SIS): Provides funds for strengthening State Intelligence Branches, Special Forces, District Police, and Fortified Police Stations.
 - Intelligence and Operations: Real time multi-agency intelligence enabling precise operations.
 - Financial Crackdown: Target funding sources through Prevention of Money Laundering Act enforcement and fund seizures.
- Development Interventions:
 - **Special Central Assistance (SCA)** for most affected districts to fill critical infrastructure and service gaps.
 - Financial Inclusion efforts including opening bank branches, ATMs, and post offices, and operationalizing Banking Correspondents.



- **Skill Development and Education initiatives** like establishing ITIs, Skill Development Centres, and Eklavya Model Residential Schools.
- **Dharti Aaba Janjatiya Gram Utkarsh Abhiyan** for providing personal amenities and benefitting the local population.
- Focus on strengthening Road connectivity, Mobile connectivity, and Financial connectivity (3-C).
- Community Engagement and Perception Management:
 - **Civic Action Programme (CAP)** humanize security forces and build rapport between them and local people.
 - Media Plan to counter Maoist propaganda, increase youth aspirations, and make them aware of development and opportunities.
- Assistance Schemes: Central Scheme for Assistance to Civilian Victims/Family of Victims of Terrorist/ Communal/LWE Violence (CSACV) provides financial assistance to affected civilians.

Persistent Challenges to Eliminating Naxalism

- Violent Ideology: The core challenge is the Maoist ideology which glorifies violence and aims to overthrow the democratic state structure.
- Front Organizations and External Alliances: These exploit legal systems, recruit cadres, raise funds, and align with other insurgent groups, sometimes with external support.
- **Difficult Terrain:** Remote, tribal regions like Karreguttalu Hill feature **harsh geography and climate**, complicating security operations.
- **Trust Deficit:** Cultural differences and perceptions reduce local trust in security and administration, limiting the impact of welfare measures.

Way Forward

- Addressing Trust Deficit: Enhance local participation in administration to bridge trust gaps.
 - Ensure tribal-friendly land acquisition and rehabilitation policies to counter the spread of naxalism (Bandyopadhyay Committee).
 - Policy measures that provide indirect benefits should be implemented with due care. For instance, **Forest Rights Act, 2006**, should be carefully implemented to empower local communities over Minor Forest Produce.
- **Countering Ideological appeal:** Uphold and promote the democratic principles enshrined in the Constitution as a countermeasure to violent Maoist ideology.
- Security and Capacity building: Prioritize modernization of local police forces and utilize small, intelligencedriven units, exemplified by the Greyhounds, to improve operational effectiveness.
- Centre-state coordination: Strengthen synchronized efforts with clearly defined roles to effectively combat radicalization and facilitate comprehensive development in affected regions.

4.8. CRYPTO CURRENCY HAWALA NEXUS

Why in the News?

The Supreme Court recently observed that Bitcoin trading resembles a refined form of hawala while hearing a bail plea.

More on the News

- Supreme court also highlighted the **absence of a clear regulatory framework** for virtual currencies in India.
- Earlier in 2020, the Supreme Court in a landmark judgment quashed the **RBI's 2018 circular** prohibiting banks from offering services for virtual currencies.

About Cryptocurrency and Hawala System

Crypto Currency: It is any form of currency that **exists digitally or virtually** and uses **cryptography** to secure transactions. **Bitcoin** is the best-known example.

- It doesn't have a **central issuing or regulating authority,** instead using a decentralized system to record transactions and issue new units.
- It is based on **Block Chain Technology** and has no **intrinsic value**.

Hawala System

Hawala is an **Informal funds transfer system** used for transferring funds from one location to another through service providers known as **hawaladars**.

- It has been used for centuries, originating in the Middle East and South Asia and had different names at different places such as Fei-Ch'ien (China) and Hundi (India).
- It has alleged role in financing illegal money laundering and terrorist activities.

Cryptocurrency-Hawala Nexus

- The crypto hawala nexus refers to the **convergence of traditional hawala with modern cryptocurrency technologies**, creating a potent channel for **laundering illicit funds** and **bypassing formal financial regulations**.
 - **For instance**, the Enforcement Directorate (ED) uncovered that ₹1,300 crore was routed through such hybrid channels involving shell accounts, crypto exchanges, and hawala.
- In blockchain, **nodes may be seen as analogous to hawaladars**, as both rely on **mutual trust or consensus** to sustain the integrity of their respective networks (see infographic).

Reasons for linking Crypto Currency and Hawala

- Anonymity and Complexity: The combination of crypto currency's anonymity/ pseudonymity and complexity with the traditional, unregulated hawala system, which requires minimal documentation, makes tracking financial flows difficult.
- **Bypassing Traditional Finance:** Both systems can be used to bypass formal, regulated financial institutions, which may be necessary in regions with unstable governance, area of conflict, restrictive regulations etc.
- **Facilitating Illicit Activities:** The characteristics of both systems make them attractive for illicit activities such as money laundering and terror financing.
- Block chain reinforces and scales Hawala: By adding transparency and smart contracts, block chain strengthens hawala's trust-based model, making it faster, modern, and globally scalable.
- **Compatibility of Principles:** Both blockchain and hawala operate **without a central authority,** making their systems naturally compatible.

Concerns of the Cryptocurrency Hawala Nexus



- **Tracking Challenges:** Cryptocurrency's pseudo-anonymity enables large illicit transfers, creating a complex web that hinders regulators.
 - For instance, **stealth addresses and ring signatures** (e.g., Monero), or zk-SNARKs in Zcash, which obscure transaction details.
- Use in Illicit Finance: This nexus is exploited for money laundering and terror financing. Examples include the Murarka case involving over \$20 million and terrorist groups Hamas raising millions or using crypto for operational funding.
- **Regulatory Challenges:** Existing regulations need adaptation to include cryptocurrency transactions. The legal standing of blockchain and cryptocurrencies remain ambiguous in India.
- Tax Avoidance: The nexus can be used to transfer remittances and black money to tax havens.
- **Security Risks:** Digital wallets are targets for hackers, leading to significant losses. Vulnerabilities in cryptocurrency systems can be exploited through cyberattacks like deanonymization, spending denial, theft, and systemic attacks.

Way Forward

- Importance of International Cooperation: Global collaboration and evolving regulations are vital, with law enforcement and intelligence coordination key to deanonymizing and tracking funds. Example: UN Global Programme against Money Laundering.
- Enhanced Compliance using Technology: Blockchain and other emerging technology can potentially be used to track fund usage and ensure proper allocation of money. Example: Value-driven-Transactional tracking Analytics for Crypto compliance (VTAC) approach, TRM Labs etc.
- Strengthening Regulations: Clear laws on virtual currencies are the need of the hour, with FATF guidelines and the EU's MiCA framework serving as useful references to enhance transparency and strengthen AML/CFT measures.
- **Need for Comprehensive Approach:** Approach involving strict regulations, combating money laundering and terrorist financing, and utilizing advanced technologies like AI and machine learning are essential.

4.9. NEWS IN SHORTS

4.9.1. FINANCIAL FRAUD RISK INDICATOR

The Department of Telecommunications (DoT) has introduced a Financial Fraud Risk Indicator (FRI) to combat mobilebased cyber fraud. The Indicator allows for swift, targeted, and collaborative action against suspected frauds in both telecom and financial domains.

What is Financial Fraud Risk Indicator (FRI)?

- It is a risk-based metric that classifies a mobile number to have been associated with Medium, High, or Very High risk of financial fraud.
 - This classification is an outcome of inputs obtained from: National Cybercrime Reporting Portal (NCRP), DoT's Chakshu facility and Digital Intelligence Platform (DIP) and Intelligence shared by banks and financial institutions.
 - It empowers stakeholders such as **banks**, **NBFCs**, **and UPI service providers** to prioritize enforcement and take additional customer protection measures in case a mobile number have high risk.

Status of Cyber Financial Frauds in India

- Between Financial Year 2020 and 2024, Approx. ₹3,207 crore was lost due to 5,82,000 cases of cyber fraud.
- Some common methods of financial frauds are: KYC Fraud, Customer Care Fraud, UPI Fraud, Card Fraud, Digital Arrest Fraud, Investment Frauds and Get Rich Quick Schemes, etc.



4.9.2. NATIONAL SECURITY ADVISORY BOARD (NSAB)

The Government of India has appointed a new chairman along with 7 new members in the National Security Advisory Board (NSAB).

About NSAB

- It was first constituted in December 1998, as an advisory body of eminent persons outside the government, including industry, media and civil society, among others.
 - o It is assisted by the National Security Council Secretariat (NSCS).
- Functions: To undertake long term analysis and to provide perspectives on the national security issues to the National Security Council (NSC).
 - o It also recommends measures and policy options on the issues referred to it by the NSC.

4.9.3. VICTIMS OF TERRORISM ASSOCIATIONS NETWORK (VOTAN)

The UN Office of Counter-Terrorism (UNOCT) launched VoTAN, a global network to support victims and survivors of terrorism.

About VoTAN

- **Background:** The **Group of Friends of Victims of Terrorism,** chaired by **Spain and Iraq,** was established nearly six years ago to **uphold the need to protect victims' rights.**
- Genesis: The network is a key outcome of the 2022 UN Global Congress on Victims of Terrorism.
- **Goal:** To provide a **safe space for victims and survivors** to support each other, build resilience and engage as advocates, educators, and peacebuilders.
- Financial Support: Received from Spain

4.9.4. BHARGAVASTRA

India has successfully test-fired an indigenously developed anti-drone system, Bhargavastra.

About Bhargavastra

- It is a **low-cost, 'hard kill' anti-drone system** designed to neutralize threats from drone swarms.
- Developed By: Solar Defence and Aerospace Limited (SDAL),
- Key Features
 - **Two-layer security system:**
 - > Layer 1: Unguided micro-rockets with a 20m lethal radius for swarm drones
 - > Layer 2: Guided micro-missiles for precision strikes
 - Range: Detects drones from up to 2.5 km. Radar detects aerial threats from 6–10 km
 - Terrain adaptability: Above 5000 meters
 - o Modular design: Allows integration of soft kill options like jamming and spoofing.
 - **C4I-enabled command centre:** Enhances network-centric warfare integration.

4.9.5. MULTI-INFLUENCE GROUND MINE (MIGM)

The Indian Navy and DRDO (Defence Research and Development Organisation) successfully tested the indigenously developed MIGM.

About MIGM

- Advanced underwater naval mine designed to enhance the Indian Navy's capabilities against modern stealth ships and submarines.
- Designed and Developed by: Naval Science and Technological Laboratory (NSTL) under DRDO.
- Features:
 - o It uses **multiple sensors** to detect **acoustic, magnetic, and pressure signals** from marine vessels.
 - It has **built-in electronics** with processors to process data and trigger appropriate actions.
 - It is deployable from ships, submarines etc.

4.9.6. HAWKEYE 360 TECHNOLOGY

The US has recently approved sale of HawkEye 360 technology to India to boost the country's surveillance capabilities.

About HawkEye 360 technology

It uses clusters of three satellites in Low Earth Orbit to detect, geolocate, and analyze radio frequency (RF) signals.

Significance for India

- It can detect vessels that **turn off their Automatic Identification System (AIS**) to avoid tracking in disputed or sensitive areas.
- It will boost India's maritime domain awareness in the Indo-Pacific.
 Indian forces can now more effectively monitor illegal fishing, smuggling, and conduct surveillance.

4.9.7. IGLA-S

Indian Army received new Russian Igla-S missiles to counter drones, choppers, jets.

About Igla-S

- It is a man-portable, shoulder-launched **surface-to-air missile (SAM) system** designed for mobile ground units operating in high-threat environments
 - o It is an improved version of Very Short Range Air Defence Systems (VSHORADS).

• Key Features:

- It uses infrared (IR) homing to detect and lock onto the heat signatures of aerial targets.
- Once the missile is launched, it automatically follows the heat coming from the target's engine.
 - > This makes it very good at hitting fast and small targets like drones and helicopters.
- Range: It can engage targets at ranges up to 6 km and altitudes up to 3.5 km.

4.9.8. OPERATION HAWK

CBI launched **Operation Hawk** to crack down on **global cybercrime networks** involved in **online child sexual exploitation.**

• The operation follows **Operation CARBON (2021)** and **Operation Megh Chakra (2022)** to track suspects and dismantle such networks with international links.

4.9.9. EXERCISES IN NEWS

Exercise	Details			
IMDEX	Indian Naval Ship INS Kiltan arrived in Singapore to participate in 14 th edition of International Maritime			
Asia 2025	Defence Exhibition (IMDEX) Asia 2025.			
	About IMDEX Asia			
	Asia's leading naval and maritime defence event.			
	• Genesis: 1997.			
	Organizers: Republic of Singapore Navy.			
	Participation: More than 70 countries.			
Nomadic	17 th edition of India- Mongolia Joint Military Exercise Nomadic Elephant is to be conducted in			
Elephant	Ulaanbaatar, Mongolia.			
	Conducted annually and alternatively in India and Mongolia.			
	Last edition (2024) was conducted at Umroi, Meghalaya.			
	• Aims to enhance interoperability between the two forces, employing joint task force in semi conventional operations in semi urban/ mountainous terrain under United Nations mandate.			

ENRICHMENT PROGRAMME 2025

17 JUNE , 5 PM

- Introducing different stages from developing an idea into completing an essay
- Practical and efficient approach to learn different parts of essay
- Regular practice and brainstorming sessions
- Inter disciplinary approaches
- LIVE / ONLINE Classes Available
- 🕨 Available in English & हिन्दी



5. ENVIRONMENT

5.1. 2025 CONFERENCES OF THE PARTIES TO THE BASEL, ROTTERDAM, AND STOCKHOLM CONVENTION

Why in the news?

The 17th Basel, 12th Rotterdam, and 12th Stockholm Convention meetings were recently held consecutively in Geneva.

Key Outcomes of the Three COPs:

- Joint Commitment: All three COPs emphasized enhanced collaboration with other environmental agreements and initiatives.
- Basel Convention (BC COP-17):
 - o Updated technical guidelines for managing persistent organic pollutants (POPs) wastes.
 - Adopted a new strategic framework (2025–2031).
 - o Launched work on transboundary movements of textile waste.
- Rotterdam Convention (RC COP-12):
 - Added two chemicals to Annex III: Carbosulfan (pesticide) and Fenthion.
 - Adopted the 2026–2027 Compliance Committee work programme.
- Stockholm Convention (SC COP-12): Added to Annex A: Chlorpyrifos (pesticide), Long-chain perfluorocarboxylic acids (LC-PFCAs), Medium-chain chlorinated paraffins (MCCPs).

Basel Convention		tterdam Convention
Overview: The Basel Convention on the	•	Genesis: Rotterdam Convention on Prior Informed Consent
Control of Transboundary Movements of		Procedures (PIC) for certain hazardous chemicals and
Hazardous Wastes and their Disposal was		pesticides in international trade entered into force in 2004.
adopted on 22 March 1989 in Basel,		• India acceded to the Convention in 2006.
Switzerland.		• Prior Informed Consent (PIC): It is a process to ensure
 India is a party to this treaty. 		hazardous chemicals aren't exported to countries that
Objective: To protect human health and the		don't want them.
environment from the adverse effects of		• The Convention has 4 annextures, with 3 rd annexture
hazardous and other wastes requiring special		having the list of banned chemicals and pesticides.
consideration.	•	Objective : To promote shared responsibility and cooperative
Scope : The Convention covers a broad range		efforts among Parties in the international trade of certain
of hazardous wastes, identified by their origin,		hazardous chemicals in order to protect human health and
•		the environment from potential harm.
-	•	Covers: pesticides and industrial chemicals that have been
		banned or severely restricted for health or environmental
		reasons.
-		Procedure:
		• The Convention creates legally binding obligations for
•		the implementation of the PIC procedure.
-		• It does this by requiring exporters to share information
-		about certain banned or restricted substances through
		a prior informed consent (PIC) process.
		 It doesn't ban chemicals but promotes informed
		decisions through information sharing and export controls based on national policies.
	lee	·
	153	Failure to List Hazardous Chemicals:
	•	
		 The Rotterdam Convention deferred listing eight hazardous chemicals, including methyl bromide,
dismantieu in the next 15 years, many		mercury, and chlorpyrifos.
	 Overview: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 in Basel, Switzerland. India is a party to this treaty. Objective: To protect human health and the environment from the adverse effects of hazardous and other wastes requiring special consideration. Scope: The Convention covers a broad range 	 Overview: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 in Basel, Switzerland. India is a party to this treaty. Objective: To protect human health and the environment from the adverse effects of hazardous and other wastes requiring special consideration. Scope: The Convention covers a broad range of hazardous wastes, identified by their origin, composition, or characteristics. It also includes four categories of "other wastes" such as household waste, certain plastic wastes etc. Transboundary Waste Control: enforces a prior informed consent (PIC) procedure for international shipments of hazardous waste, ensuring countries are informed and consent before receiving such waste. New Area of Focus Textile Waste: Textile waste, often mislabelled as donations or recyclables, poses a regulatory challenge—especially for the Global South—due to difficulties in distinguishing it from usable textiles. Shipbreaking: About 15,000 ships will be

containing hazardous substances like	 Chlorpyrifos, though banned under the Stockholm
POPs and heavy metals.	Convention, was not listed for information-sharing,
> While the Basel Convention	exposing weak coordination among treaties.
addresses this, overlaps with the	• Trade Concerns vs Scientific Consensus: Opposition came
Hong Kong Convention create legal	mainly from producer countries fearing trade impacts. Though
and enforcement challenges.	listing isn't a ban, nations like Argentina argue it affects
	exports.
	• Overlapping Treaties: Concerns over overlap with stricter
	treaties—Montreal Protocol, Minamata, and Stockholm
	Conventions—add to inaction.

Stockholm Convention on Persistent Organic Pollutants (POPs)

- Genesis: Adopted in 2001 in Stockholm, Sweden; entered into force in 2004. It was ratified by India in 2006.
- **Objective**: To protect health and the environment from long-lasting, widespread chemicals that accumulate in humans and wildlife and cause harm.
- Issues
 - **Difficulty Regulating Complex Chemicals**: Delegates faced difficulty regulating MCCPs(medium-chain chlorinated paraffins), widely used in products like PVC. Their global use made them hard to define.
 - **Excessive Exemption Requests**: There was a surge in exemption requests for MCCPs and chlorpyrifos,. This raised concerns about undermining expert guidance.
 - **Industry Misrepresentation** : The UV-328 case exposed industry misinformation—it was found in 4,000 planes despite claims of phase-out.

Significance of the BRS Conventions

- Key Global Frameworks: They are key global frameworks for protecting human health and the environment from hazardous chemicals and wastes.
- Lifecycle Regulation: They regulate the entire chemical lifecycle—production, use, and disposal—to promote safe and responsible management.
- **Role in Meeting SDGs**: They play a crucial role in achieving the 2030 Sustainable Development Goals (SDGs) by promoting the safe management of chemicals and wastes. They contribute directly to several SDGs, including:
 - **Goal 2 (Zero Hunger):** Supporting sustainable agriculture by reducing harmful chemical impacts on soil and ecosystems.
 - **Goal 3 (Good Health and Well-being):** Reducing deaths and illnesses caused by hazardous chemicals and pollution.
 - **Goal 6 (Clean Water and Sanitation):** Improving water quality by minimizing pollution and safely treating wastewater.
 - **Goal 11 (Sustainable Cities):** Reducing environmental impacts in cities, especially through better waste management and air quality.
 - **Goal 12 (Responsible Consumption and Production):** Promoting environmentally sound management of chemicals and waste, reducing releases to air, water, and soil, and increasing recycling and reuse.

Conclusion

The theme "Make visible the invisible" reminds that even small updates can keep treaties like the Rotterdam Convention relevant. As new global efforts emerge, parties must not only adapt but also act to ensure real protection for people and the environment.

5.2. BIOLOGICAL DIVERSITY (ACCESS AND BENEFIT SHARING) REGULATION 2025

Why in the news?

The National Biodiversity Authority has issued new rules — **Biological Diversity (Access and Benefit Sharing) Regulation 2025.**

More on the news

- The rules seek to regulate how benefits from the use of biological resources and associated knowledge are fairly shared.
- Rules have been notified by the NBA in accordance with the Biodiversity Act (BDA) 2002. These rules have replaced the 2014 rules.
- One of the most well-known ABS cases from India involves the **Kani tribal community of Kerala** and the Arogyapacha plant (Trichopus zeylanicus), traditionally used by the tribe for its revitalizing properties (**Jeevani drug**).

India's Legal Framework on Access and Benefit Sharing (ABS)

About Access and Benefit Sharing (ABS)

- ABS (Access and Benefit Sharing) is about how genetic resources are accessed and how the benefits from their use are fairly shared between users and providers.
- **Framework**: Covered under the Convention on Biological Diversity (CBD).
- Bonn Guidelines and Nagoya Protocol (2010) deal with the ABS.
- Multilateral Mechanism for the use of DSI adopted at CBD COP16 (2024).
- **Background and Purpose**: India enacted the Biological Diversity (BD) Act, 2002 in line with its commitment to the Convention on Biological Diversity (CBD) to conserve biological diversity, and ensure sustainable use of its components.
- **Scope and Coverage:** The BD Act, enacted before the Nagoya Protocol, has a broader scope—covering all biological resources within India.
 - In contrast, the Nagoya Protocol is limited to genetic resources.
- Implementation:
 - India implements ABS through a three-tier system: the National Biodiversity Authority (NBA) at the central level, State Biodiversity Boards (SBBs) at the state level, and Biodiversity Management Committees (BMCs) at the local level.
 - These **statutory bodies** manage access, benefit sharing, and distribution under the Biodiversity Act.

Key Highlights of the Rules

- Inclusion of Digital Sequence Information (DSI): The rules will now guide the sharing of benefits for the use of biological resources, including Digital Sequence Information (DSI) or knowledge associated with DSI:
 - **DSI**: It is a policy term for digital representations of genetic resources, including genomic data like DNA, RNA,
 - and protein sequences.

For more information on DSI, refer to Article 57. CoP-16 to the UNCBD of the November Monthly Current Affairs 2024 Document.

- Prior Informed Consent (PIC): Person/industry intending to access biological resources shall give prior intimation to the NBA for approval.
 - This shall not apply in case of access to cultivated medicinal plants notified under BDA 2002.

Annual turnover of the person (in Indian rupee)	Amount payable [Percentage of annual gross ex-factory sale price of product excluding Government taxes]
Up to 5 crore	Nil
Above 5 crore to 50 crore	0.2%
Above 50 crore to 250 crore	0.4%
Above 250 crore	0.6%

- Quantum of Benefit Sharing: Rules delineate slabs based on annual turnover of person/industry. (see table).
 - All users with annual turnover of over 1 crore need to share a statement with information on the resources used per year.
- Benefit Sharing for High-Value Biological Resources: For biological resources having high conservation or economic value, the benefit sharing shall not be less than 5% of the proceeds of the auction or sale amount or the purchase price and could be more than 20% in case of commercial use.
 - E.g. red sanders, agarwood, etc.

- **Transfer of Research Results (Non-IPR Use):** If research results (based on biological resources or traditional knowledge) are shared or transferred, the applicant must share monetary or non-monetary benefits with the National Biodiversity Authority (NBA), as mutually agreed.
- Benefit Sharing for IPR Commercialisation: If a person commercializes a product based on IPR developed using biological resources, they must share a monetary benefit up to 1% of the annual gross ex-factory sale price (excluding taxes), depending on the sector and case specifics.



Challenges with Implementation

- **Transboundary Nature of Resources**: Genetic resources and traditional knowledge often exist across political borders, making it difficult to obtain prior informed consent (PIC) or fairly share benefits among multiple stakeholders.
- Weak Capacity: There is insufficient human and institutional capacity to implement the Convention on Biological Diversity (CBD), its protocols, and national biodiversity laws effectively.
- Limited Recognition of Customary Law: Customary laws that govern traditional knowledge are not adequately integrated into formal legal systems or intellectual property (IP) frameworks. This limits the protection and recognition of indigenous governance systems.
- **Cumbersome Documentation Process:** Documenting biodiversity and associated knowledge (e.g., through People's Biodiversity Registers) is time-intensive and technically complex, though essential for legal protection and benefit-sharing.
- Academic vs Commercial Research : It is difficult to distinguish between academic research and commercially motivated studies, leading to potential misuse of exemptions under the law and bypassing of benefit-sharing requirements.
- Lack of a Robust Market System: Long and inefficient value chains reduce the financial returns to local communities.
- **Monitoring Issues:** Multiple government agencies and overlapping mandates lead to poor coordination and enforcement of ABS regulations .
- Low Awareness: Public understanding of the Convention on Biological Diversity (CBD), Nagoya Protocol, and Biological Diversity Act, 2002 remains low.

Way Ahead

- **Multilateral Benefit-Sharing:** Develop a global mechanism for fair sharing across borders, in line with Nagoya Protocol.
- Empower Indigenous Communities: Legally recognize customary laws and integrate them into ABS frameworks.
- **Digitize Documentation**: Use technology to speed up PBR creation, ensuring protection and transparency.
- Clarify Research Use: Set clear rules distinguishing academic from commercial research to prevent misuse.
- **Improve Monitoring**: Establish a centralized digital platform linking NBA, SBBs(state Biodiversity boards) and BMCs (Biodiversity Management Committees) for real-time compliance tracking.

5.3. THE HIMALAYAN MOUNTAIN SYSTEM ECOLOGY

Why in the News?

Union Minister for Environment, Forest and Climate Change, represented India at the inaugural session of the **Sagarmatha Sambaad in Kathmandu, Nepal.**

More on the News

- **Sagarmatha Sambaad:** It is a multi-stakeholder dialogue forum committed to deliberating on the most prominent issues of global, regional and national significance.
- Theme of the Summit: 'Climate Change, Mountains, and the Future of Humanity'.
- India outlined a five-point call for global action to address ecological challenges in mountainous regions (See infographic).



Physiography of the Himalayan Mountain System

- It is the youngest and highest fold mountain range in the world.
- The Himalayan Mountain System extends across five countries: India, Nepal, Bhutan, China, and Pakistan.
- **Geological Formation:** Formed as a result of the collision between the **Indian Plate** and the **Eurasian Plate** around 50 million years ago.
- Important glaciers: Gangotri Glacier (Bhagirathi), Bandar Poonch Glacier (Yamunotri Glacier at Bandarpuch peak), Alakapuri Glacier (Alaknanda), Sumeru Glacier (Mandakini), Bara Shigiri Glacier (Chenab), Zemu Glacier (Teesta), etc.
- The Indian Himalayan System: Spread across 13 states and UTs Jammu and Kashmir, Ladakh, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Assam and West Bengal), stretching across 2500 km.
- **Vegetation**: The vegetation ranges from tropical forests (in the foothills) to temperate forests (in the middle ranges) to alpine meadows (at higher altitudes).

Ecological Significance of the Himalayan Mountain System

- Biodiversity of the Himalayan Hotspot (A region rich in biodiversity)
 - **Biodiversity Hotspots**: It covers two biodiversity hotspots out of four Indian Biodiversity Hotspots, i.e. Himalaya Hotspot and the Indo-Burma Hotspot.

- **High Species Richness and Endemism in the Himalayas**: The region **hosts 32% endemic plant species** and unique fauna like the snow leopard, red panda, and Himalayan Blue Sheep (Bharal).
- The Himalayan Cryosphere (also called Earth's Third Pole)
 - **Glacial Significance:** The Himalayas contain the world's **3rd largest glacial reserve** (after the Arctic and Antarctic).
 - The Himalayas are the Water Tower of Asia: The Himalayas feed 10 major rivers (e.g., Ganges, Brahmaputra, Indus, and Yangtze), that provide freshwater to ~1.3 billion people across the region.
- Climate Regulation and Carbon Sequestration:
 - **Monsoon Regulation**: Temperature difference between Himalayan glaciers & Indian Ocean pulls South West monsoon during summers.
 - **Carbon sink**: Himalayan forests store **5.4 billion tonnes of carbon**.
 - Albedo Feedback: The Himalayas (having a high albedo due to ice and snow cover), play a significant role in the Earth's albedo, which is the measure of how much sunlight is reflected by a surface.
- Economic Services of the Himalayas

•

- **Fiber and Timber Production: E.g.**, Himalayan nettle provides eco-friendly fibers, while oak trees offer timber. **Gucchi mushroom** is a prized wild mushroom found in the higher reaches of Himalayas.
- **Rising Tourism:** By 2025, it is projected that 240 million tourists will visit the hill States every year.

Threats to the Ecosystem of the Himalayan Mountain System

- **Deforestation and Habitat Loss**: Himalayan states reported an overall loss of 1,072 sq km of forest cover between 2019 and 2021.
 - **Loss of Biodiversity:** Endangered species like the snow leopard, red panda, and Himalayan musk deer face habitat destruction.
- Accelerated Glacial Retreat and Hydrological Disruption: E.g., the Gangotri glacier in the Uttarakhand Himalaya retreated by 1,700 metres between 1935 and 2022.
 - **Glacier retreat** also leads to the expansion of glacial lakes, which increases the risk of Glacial Lake Outburst Floods (GLOFs). **E.g.**, the **2013 Kedarnath disaster** in Uttarakhand.
- Impact of Climate Change on the Himalayan Region:
 - 90% of the Himalayan region will experience drought lasting over a year if global temperatures rise by 3°C.
 - **Threat to Water Resources**: The springs in the Indian Himalayan region, vital for 50 million people, are drying up or becoming seasonal due to erratic rainfall and ecological degradation.
 - > In 2018, Niti Aayog warned that half the region's springs face depletion, impacting river hydrology.
 - The Himalayas are warming 2-5 times faster than the global average, disrupting biodiversity in the region.
- **Unsustainable Tourism**: Unchecked tourism and development, without carrying capacity studies, are triggering severe geological hazards, including landslides and land subsidence.
 - **E.g.,** the sinking of Joshimath due to excessive construction for tourism infrastructure.
- **Uncontrolled Hydroelectric Development**: Over 115 large hydroelectric projects in the Indus basin, mainly in Himachal Pradesh and Jammu & Kashmir, threaten river ecosystems and the environment.

Initiatives to Protect the Ecosystem of the Himalayan Mountain System	
India's Initiatives	Global Initiatives
 National Mission for Sustaining the Himalayan Ecosystem (NMSHE): Part of India's climate action plan, focusing on glacial monitoring, biodiversity conservation, and disaster resilience. 	 International Year of Glaciers Preservation (2025) & Cryosphere Decade (2025–2034): Led by UNESCO and World Metrological Organisation. Global Snow Leopard Ecosystem Protection Program (GSLEP): 12 range countries collaborate to conserve snow
• Project Snow Leopard: First comprehensive	 International Centre for Integrated Mountain Development (ICIMOD): Intergovernmental body preserving the Hindu Kush-Himalaya (HKH) region. International Big Cats Alliance (IBCA): Treaty-based organization conserving seven big cat species: Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar and Puma.

- **Disaster Preparedness:** Includes Glacial Lake Outburst Flood (GLOF) risk mapping.
- Sustainable Tourism & Waste Management : Swadesh Darshan Scheme promotes ecotourism, and a pan-India ban on single-use plastics (2022) reduces pollution.
- **SECURE Himalaya Project:** Part of "Global Partnership on Wildlife Conservation and Crime Prevention for Sustainable Development" (Global Wildlife Program) funded by the Global Environment Facility (GEF).

Conclusion

The Indian Himalayas hold geopolitical, cultural as well as environmental significance. However, **habitat loss from land-use changes, illegal wildlife trade, forest fires, and rising anthropogenic pressures** continues to threaten this fragile biodiversity hotspot, underscoring the need for stronger conservation efforts.

5.4. URBAN FLOODS

Why in the News?

Recently, heavy **pre-monsoon thundershowers in Bengaluru** for a short period of time led to severe **Floods.**

More on the News

 Similar incidents of Flooding in major cities like Hyderabad (2020-21), Chennai (2021), Bengaluru and Ahmedabad (2022), Delhi (2023), shows that Urban Flooding has become a regular phenomenon.

What is Urban Flooding?

- It is a type of flood, where a city or Urban Area is inundated with water often due to inability of drainage systems to handle sudden, excessive rainfall.
- Urban flooding differs from rural flooding as cities have more developed land, which can increase flood peaks by 1.8 to 8 times and flood volumes by up to 6 times.

Causes of Urban Flooding

Natural Factors

- Meteorological Factors: Extreme precipitation events cause sudden water accumulation, as seen in 2005 Mumbai Floods and 2015 Chennai Floods. Similarly storm surges and rapid snowmelt create additional flooding risks, as seen in Sikkim floods of 2023.
 - Climate change has intensified these patterns, As the IPCC has warned about increasing monsoon pattern across south Asia, our major cities remain constantly at risk.
- Hydrological Factors: Flood risk arises when the surface runoff is more than the infiltration rate during precipitation, this leads to overbank flow channel networks.



• **Heavy rainfall in the catchment area of the Yamuna** results into overflow of the Yamuna River, which leads to flooding in Delhi.

Anthropogenic factors

- Unplanned Urbanization: For instance, Bengaluru's drains are designed only for rainwater but forced to handle around 2000 MLD of sewage daily.
 - Further, builders routinely encroach upon or eliminate drains by reducing widths or converting them to roads, while existing drains become choked with garbage and silt.
- Lake Encroachments: As more people migrate towards cities in search of employment, people start settling on the ownerless available vacant land i.e. Low-lying areas near water bodies. Sometimes these encroachments cover up the whole catchment area.

• Example: Ousteri Lake in Puducherry, Charkop Lake in Maharashtra, Pallavaram marshlands in Chennai.

- Unplanned release of water from dams: Unplanned and sudden release of water from dams and lakes lead to floods in an urban area, without giving the public enough time to respond.
 - Example: Chennai Floods 2015 due to Release of water from Chembarampakkam lake, Pune Floods due to Opening of Khadakwasla dam.
- Illegal mining activities: Illegal mining of river sand and quartzite causes soil erosion and reduces the water retention capacity of the waterbody, increasing the speed and scale of stormwater flow.
 - Example: Depletion of river bed in Cauvery River, Tamil Nadu.

Challenges in Urban Flood Management

- Constitutional division of responsibilities: Water is a state subject and drainage systems fall under city authorities' jurisdiction. This creates significant delays between policy formulation and actual implementation by Municipal Corporations at the city level.
- Infrastructure and Technical Challenges: Aging and frequently undersized infrastructure in older sections of communities poses a major problem. Many urban drainage systems were designed decades ago and cannot handle current rainfall intensities or increased runoff from expanded development.
- Social and Economic Inequality: Low-income communities often live in flood-prone areas with inadequate infrastructure and have fewer resources for recovery and resilience measures.
- Rapid Urbanization Impacts: As cities expand rapidly, impervious surfaces increase, natural drainage patterns are disrupted, and stormwater management systems become overwhelmed.
- Lack of necessary data for drainage design: Intensity-duration-frequency (IDF) curves for the major cities in India are not readily available from the IMD (India Meteorological Department).

Mitigation Strategies

- NDMA guidelines: To provide guidance to ministries/ departments, States/UTs and urban local bodies for the preparation of their Disaster Management (DM) plans.
- Flood forecasting stations: Central Water Commission (CWC) has developed a network of flood forecasting stations to issue daily Flood Bulletins to all designated authorities/agencies for all major river basins.
- Technological Interventions: Integrated Flood Warning System for Mumbai referred to as, IFLOWS-Mumbai, The Coastal Flood Warning system for, referred to as CFLOWS-Chennai, are Web GIS based decision support system, integrating data and outputs, derived from Weather forecast models, Hydrologic models and Hydrodynamic models.
 - Similarly, there are **39 Doppler Weather Radars stationed as part of Mission Mausam** to provide accurate weather predictions.
- Groundwater Recharge Programs: Master Plan for Artificial Recharge to Groundwater 2020 envisions 1.42 crore rainwater harvesting structures to harness 185 BCM water across India.
- Water Body Development Schemes: Amrit Sarovar Mission aims to develop 75 water bodies per district for rainwater harvesting.
- Urban Infrastructure Measures: AMRUT 2.0 Scheme provisions storm water drain harvesting into water bodies and strengthening drainage systems.

Way Forward with Global Best Practices

- Singapore's ABC Program: Uses "green infrastructure" to make water "Active, Beautiful and Clean". Focuses on greening public spaces and encouraging private development to follow sustainable principles.
 Creates dual benefits of flood resilience and community interaction spaces.
- Vienna's New Danube System: Built a 21-kilometer flood relief channel in 1969 running parallel to the main Danube River. Remains inactive during normal conditions but activates weirs during flood events.
 - o Designed to **absorb excess water and relieve pressure** on the main river system.
- China's Sponge Cities: Urban design approach using nature-based solutions like permeable surfaces, restored wetlands, and water channels.

• Mimics Earth's natural water absorption capacity rather than relying on traditional hard surfaces and drainage.

- Denmark's Green Climate Screen: Rainwater management system that processes water runoff from buildings using natural processes. Water flows from gutters through willow panels backed by mineral wool for absorption.
 Excess water is directed to planters or nearby green areas during heavy rainfall.
- Other possible way forwards: Preparation of contour maps, augmentation of the storm water drainage network, cross-drainage works, and augmentation of pumping capacity.

5.5. SIX NEW SITES JOIN FAO'S GIAHS

Why in the news?

Six news sites have been added to FAO's Globally Important Agricultural Heritage Systems (GIAHS) Programme.

More on the news

The recent additions include:

- A traditional agroforestry system for erva-mate plant in Brazil.
- Specialised farming systems in China for pearl mussels (a mollusc), white tea, and pears
- Ancestral system preserving vital food crops and biodiversity in Mexico
- A distinctive farming system in the volcanic landscape of Lanzarote island, Spain

About Globally Important Agricultural Heritage Systems (GIAHS) Programme

- Genesis: Launched at the World Summit for Sustainable Development in 2002 as a response to the alarming global trends undermining family farmers and traditional agricultural systems.
- Purpose: To protect family farming and traditional agricultural systems from threats such as
 - o climate change,
 - o community displacements and
 - $\circ \quad \text{biodiversity loss.}$
- Approach: Using a multistakeholder approach, GIAHS provides
 - technical assistance to farming communities
 - o promotes the value of traditional agricultural knowledge
 - o stimulates markets for farm products, agrotourism and other market opportunities.
- Current Status: There are 95 GIAHS sites in 28 countries, including:
- Saffron Heritage of Kashmir
 - Koraput Traditional Agriculture (in Odisha)
 - Kuttanad Below Sea Level Farming System (in Kerala)



Why Protect Family Farming and Traditional Agriculture?

- Food Security: Provide diverse, nutritious food while preserving crop varieties and using resources sustainably.
- Income security: Increase the resilience of the 2.5 billion people whose livelihoods depend on agriculture, including Indigenous Peoples..
- **Cultural Heritage:** Conserve the enormous diversity in global communities, cultures, histories, and traditions, while offering alternatives to modern agriculture.
- Innovation Foundation: Provide the foundation for contemporary and future agricultural innovations and technologies.

Today, preserving family and traditional farming systems is more challenging than ever, with younger generations increasingly moving to cities. Recognising their critical role, the UN has also declared **2019–2028 as the UN Decade of Family Farming**.

5.6. NEWS IN SHORTS

5.6.1. SUPREME COURT STRIKES DOWN RETROSPECTIVE ENVIRONMENTAL CLEARANCES

In Vanashakti v. Union of India (2025), the SC restrained the Centre from granting ex-post facto environmental clearance (EC) to mining projects or regularising actions that contravene the 2006 EIA notification.

- The EIA Notification, 2006, clearly requires 'prior environmental clearance' before a project can start.
- The court also held that such notification issued by the Centre (MoEFCC) were illegal, arbitrary, and violative of Articles 14 (equality before law) and 21 (protection of life and personal liberty) of the Constitution.
- Previously, in **Common Cause v. Uol & Ors. (2017)**, Supreme Court held that the concept of *ex post facto* or retrospective environmental clearance is **completely alien to environmental jurisprudence.**

Environmental Impact Assessment (EIA)

- **EIA notification 2006** was designed to ensure that developmental projects are **assessed** for their potential environmental impacts **before approval.**
- It categorised the projects in 2 categories:
 - Category A: National Level Appraisal
 - Require prior EC from the Central Government in the MoEFCC.
 - > Decision based on recommendations of an **Expert** Appraisal Committee (EAC).
 - Category B: State Level Appraisal
 - > Require prior EC from the State/UT Environment Impact Assessment Authority (SEIAA).
 - > Decision based on recommendations of a **State or UT level Expert Appraisal Committee (SEAC).**



5.6.2. CAQM ISSUES DIRECTION FOR PADDY STUBBLE BURNING

Commission for Air Quality Management (CAQM) gave directives to Punjab, Haryana, and UP to prevent incidents of stubble burning as per Supreme Court order in **M. C. Mehta vs. Union of India case**.

• **CAQM** has been set up for **Air Quality Management** in the **National Capital Region** and Adjoining Areas for better co-ordination and resolution of problems surrounding the air quality index.

Key directions

- Constitution of a dedicated Parali Protection Force: Comprising police officers, officers of the Agriculture
 Department, etc.
 Crop Pagidua Purping
- Mandating use of paddy straw pellets/briquettes for co-firing in brick kilns: This can be done on the lines of thermal power plants.
- **Mapping of each farm in all villages**: For the proposed mode of paddy stubble management (crop diversification/ in-situ management, etc.).
- Determined rate for procurement of paddy straw: Mandated Punjab and Uttar Pradesh to determine common rate of paddy straw on the line of Haryana.



- Promoting ex-situ management: Optimal utilization of balers, rakers and other machines
- Other:
 - o Establish an online platform for real-time and consistent data reporting.
 - o Comprehensive review of the inventories of Crop Residue Management (CRM) machines.

5.6.3. NATIONAL CENTRE OF POLAR AND OCEAN RESEARCH (NCPOR) CELEBRATES 25 YEARS

About NCPOR (HQ: Goa)

- Genesis: 1998, an autonomous Institution of the Ministry of Earth Sciences.
- **Governing Body:** Comprises of **13 members** representing a cross section of the country's leadership in Polar and Ocean Sciences.
 - Secretary, Ministry of Earth Sciences is the ex-officio chairman.

Key Roles of NCOPR

• Research in the Polar and Southern Ocean realms: Plays a role in the maintenance of India's research stations in Antarctica (Maitri and Bharati), the Arctic (Himadri), and the Himalayas (Himansh).

- Leads Deep Ocean Mission: Flagship initiative focused on exploring deep-sea mineral resources and hydrothermal systems in the Indian Ocean.
 - Aids in the Implementation of India's Arctic Policy (2022) and Indian Antarctica Act (2022)
 - Indian Antarctic Act: Legal foundation for India's activities in the continent, provides for the Committee on Antarctic Governance and Environmental Protection (CAG-EP) to monitor international laws.
 - Arctic Policy: Rests on six pillars of Science and Research; Climate and Environmental Protection; Economic and Human Development; Transportation and Connectivity; Governance and International Cooperation; National Capacity Building.



Two first-of its-kind facilities inaugurated at NCPOR

- Polar Bhavan: Includes laboratories for polar and ocean research, would serve as the home of India's first Polar and Ocean Museum.
- Sagar Bhavan: Includes two -30°C ice core laboratories and +4°C storage units for archiving sediment and biological samples.

5.6.4. GLOBAL METHANE TRACKER 2025

Global Methane Tracker 2025 has been released by the International Energy Agency (IEA)

Key findings

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- Methane (greenhouse gas) is responsible for around 30 % of the rise in global temperatures since the Industrial Revolution.
- The three main sources of methane include agriculture, energy and waste sectors.
- The energy sector including **oil, natural gas, coal bioenergy accounts for more than 35 per cent of methane emissions** from human activity.
- Methane emissions could be **cut by 50 per cent by effectively utilising methane in mines**, or by **deploying flaring** or **oxidation technologies**.
 - o Gas flaring is the burning of the natural gas associated with oil extraction.

5.6.5. ASIATIC LION POPULATION INCREASES IN GUJARAT

Asiatic Lion population increases from 674 to 891 in 5 years according to the Lion Census (2025)

- There has been an increase in the number and distribution area of Asiatic Lions (also outside Gir National Park), exemplifying the success of 'Project Lion.'
- The census conducted (every **5 years**) by the **Gujarat Forest Department.**
- Project Lion (2020), has the goal of long term conservation for them to perform their **ecological role** and retain their **evolutionary potential.**
 - Monitoring through advanced technologies like radio-collaring;
 Disease management.

About Asiatic Lion (Panthera leo persica)

• Habitat: Grasslands, savannas, dense scrub, and open woodlands.



- o Concentrated in the Gir National Park and Wildlife Sanctuary (Gujarat).
- Barda Wildlife Sanctuary has emerged as a "second home" for lions.
- IUCN Status: Vulnerable.
- Listed in Schedule I and IV of Wildlife (Protection) Act 1972, in Appendix I of CITES.
- Characteristics of Asiatic Lion:
 - Asiatic lions are slightly **smaller** than African lions.
 - A distinctive characteristic seen in Asiatic Lions (rarely in African Lions) is a longitudinal fold of skin running along its belly.
 - Males have only moderate mane growth at the top of the head, so that their ears are always visible.
 - Lions do not have a particular breeding season.



5.6.7. LADAKH'S SNOW LEOPARD POPULATION

Study by Ladakh's Department of Wildlife Protection has estimated 477 snow leopards in Ladakh.

• Ladakh has one of the world's highest densities of Snow Leopard, representing 68% of India's species population.

Key Highlight of Study

- Area: Globally highest extensive densities in Hemis National Park, Kargil, and Leh, making one of the world's largest contiguous populations.
- Factors for high density:
 - **Resource-rich grasslands** with a moderate climate and greater availability of prey.
 - Less human disturbance as 61% of snow leopards in Ladakh were found to co-exist alongside human populations.
 - Cultural reverence for wildlife among Ladakh's communities, economic benefits from Snow Leopard tourism and conflict management strategies.

About Snow Leopards (Panthera uncia)

- Snow Leopard Conservation Initiatives

 Project Snow Leopard India

 International Big Cat Alliance

 Global Snow Leopard and Ecosystem Protection Programme

 Bishkek Declaration 2017 & Samarkand Resolution 2024
- **Geographical Spread:** Flagship species in the mountainous regions of South and Central Asia, spanning 12 countries.
 - In India, found in Jammu and Kashmir, Ladakh, Himachal Pradesh, Uttarakhand and Sikkim in Western Himalayas and Arunachal Pradesh in Eastern Himalayas.

Conservation status:

- IUCN Red List: Vulnerable.
- o CITES Appendix I and CMS Appendix I
- Schedule I of the Wildlife (Protection) Act, 1972.

- Habitat: Steep, rugged terrains with rocky outcrops and ravines at an elevation of 3,000-5,000 metres.
- **Characteristics:** Having **smokey-grey fur** patterned with dark-grey to black rosettes, they are **solitary animals**, most active at dawn and dusk.

5.6.8. OPERATION OLIVIA

Operation Olivia has shielded over 8-lakh olive Ridley turtles on Odisha's Gahirmatha coast.

About Operation Olivia

- Initiated: In 1980s, by the Indian Coast Guard & It is conducted every year from November to May.
- The operation focuses on: Gahirmatha Beach, Rushikulya River Mouth, and Devi River Mouth.
- These coastal zones witness the arrival of over 800,000 Olive Ridley turtles **annually for mass nesting called arribada.**

About Olive Ridley Turtles

- It has a circumtropical distribution, with nesting occurring through-out tropical waters (except the Gulf of Mexico).
- IUCN Status: Vulnerable; CITES: Appendix I.

5.6.9. TSARAP CHU CONSERVATION RESERVE

State Government of Himachal Pradesh notified Tsarap Chu Conservation Reserve (India's largest) in Spiti Valley.

About Tsarap Chu

- It is the location for the confluence of the Unam River and Charap Nala.
- It is bounded by the **UT of Ladakh** to the north, the **Kibber Wildlife Sanctuary** extending up to Malang Nala and Lungar Lungpa to the east, **Kabjima Nala** to the south and **Chandratal Wildlife Sanctuary** to the west.
- It is particularly known for the **snow leopard**, often called the 'ghost of the mountains'.
- **Other species**: Tibetan wolf, bharal (blue sheep), Himalayan ibex, kiang (wild ass), and the Tibetan argali, rare bird species such as Rose Finch, Tibetan Raven, etc.

5.6.10. YALA GLACIER DECLARED DEAD

Glaciologists and local communities mourned the loss of Nepal's Yala glacier after it has **shrunk by 66%** since the 1970s, making it among Nepal's first likely to be declared dead.

Glacier Funeral

- It is a symbolic ceremony held to mark rapid disappearance of glaciers due to climate change.
- Other major glaciers declared dead: Pizol Glacier, Switzerland (2019); Clark Glacier, US (2020); Ayoloco glacier, Mexico (2021); etc.
 - The world's first funeral was held for Okjokull glacier in Iceland in 2019.

Consequences of Glacial Loss

- Accelerates global warming: Reduced Glaciers will have less albedo effect and therefore will increase heat absorption.
- Accelerates sea level rise: According to a Nature study, melting glaciers have caused nearly 2 cm to global sea level rise since 2001.
- **Disrupted water cycles:** Nearly **three-quarters of Earth's freshwater** is stored in glaciers. Their rapid melting **threatens water security** and endangers **biodiversity**.
- Natural disasters: It increases risks of Glacial Lake Outburst Floods (GLOFs) and avalanches.

Initiatives for conservation of Glaciers Global

- UN Initiatives
 - \circ $\,$ 2025 designated as the International Year of Glaciers' Preservation.
 - \circ $\,$ March 21 to be observed annually as World Day for Glaciers.
- UNESCO Intergovernmental Hydrological Programme
- Himalayan Adaptation Network by IUCN
- Living Himalayas Initiative by World Wide Fund for Nature.
- India's Initiatives
- National Mission for Sustaining the Himalayan Ecosystem.
 - Network Programme on the Himalayan Cryosphere
 - Indian National Centre for Ocean Information Services (INCOIS): It monitors glacier-related events and issues GLOF alerts.
 - Himansh Research Station tostudies the dynamics and the rate of change of Himalayan glaciers.
 - \circ $\,$ Missions to Arctic & Antarctic e.g., IndARC (2014).

5.6.11. SOLAR PANEL EFFICIENCY NORMS

Ministry of New And Renewable Energy eased solar panel efficiency norms for off-grid rural projects.

Solar modules with comparatively lower efficiency can now be included in the government's **Approved List of Models** and **Manufacturers (ALMM).**

• ALMM: It is a list of models and manufacturers of solar photovoltaic (PV) modules approved by the MNRE.

Key Changes in Solar Efficiency Norms (May 2025 Amendment)

- Efficiency Standards Reduced:
 - Previous (Off-grid <200W) Efficiency: Crystalline silicon at 19% and Cadmium Telluride (CdTe) at 18%
 - New Standard: Both technologies at 18% efficiency.
- Scope of Change: Applies only to off-grid solar applications below 200W, such as: Solar lanterns, Micro solar grids, Streetlights, Small fans and appliances
 - o Does not affect larger systems (e.g., rooftop solar, pumps)
 - **An off-grid solar system**: It generates electricity from sunlight and stores it in batteries, allowing it to operate independently of the power grid.
- Creation of a New Category: Introduction of Distributed Renewable Energy (DRE) category to support smaller manufacturers & Wider rural electrification.
 - **Distributed Renewable Energy (DRE):** It refers to electricity generated from renewable sources, like the sun or wind, near the point of use.

Concerns

- Risk of lower energy output per unit area
- Faster degradation of panels may impact long-term reliability
- Need for strict quality enforcement to avoid market saturation with substandard modules.



5.6.12. WORLD'S FIRST COMMERCIAL-SCALE E-METHANOL PLANT OPERATIONALISED IN DENMARK

E-methanol offers a viable path for **reducing emissions in hard-to-abate sectors** such as **shipping and chemical manufacturing.**

What is e-methanol (or electro-methanol)?

- It is a low-carbon energy produced by combining green hydrogen with captured carbon dioxide.
- E-methanol production typically involves three key steps:
 - **Green hydrogen generation:** Renewable energy-powered water electrolysis creates the hydrogen feedstock.
 - CO2 capture: Carbon dioxide is captured from industrial flue gases (e.g. steel mills or cement plants) or directly from the air reducin



- cement plants) or directly from the air, reducing overall emissions at the source.
- **Methanol synthesis**: The hydrogen and CO2 are combined in a catalytic reactor under pressure, yielding methanol with minimal by-products.
- **Benefits:** Can be used without a change in infrastructure; Stable (can be stored at room temperature and ambient pressure); versatile (can be used as other fuels).
- Applications: Apart from the shipping industry, its derivatives gasoline and kerosene provide solutions for road and air transport.
- **Challenges:** E-methanol remains significantly more expensive than fossil-based methanol due to high renewable electricity costs and production inefficiencies.

5.6.13. RIMES

Declaration on Disaster Preparedness has been adopted at the 4th Ministerial Conference of **Regional Integrated Multi-Hazard Early Warning System (RIMES)**, held in **Colombo, Sri Lanka**.

About Regional Integrated Multi-Hazard Early Warning System (RIMES), 2009

- It is an **intergovernmental body** that provides early warning services, disaster risk reduction strategies, and capacity building to its Member States.
 - It evolved from the efforts of countries in Africa, Asia and the Pacific, in the aftermath of the 2004 Indian Ocean tsunami, to establish a regional early warning system.
- Membership: It has 22 member states and 26 collaborating states.
- It operates from its regional early warning center located at Asian Institute of Technology in Thailand.

5.6.14. BANANA MUSA INDANDAMANENSIS

An infructescence of about 4.2 metres has been recorded in a species of wild banana Musa indandamanensis, making it the longest infructescence recorded in bananas.

• **Infructescence** is a group or cluster of fruits arranged on an axis/stem that is composed of a main stalk, and often having a complex arrangement of branches.

About Musa indandamanensis

- **Discovery:** First recorded from a remote tropical forest near Krishna Nala reserve forest in the Andaman and Nicobar islands in 2012.
- Characteristics:

It bears unique green flowers and fruit bunch lux (axis) thrice the size of a regular banana species.
 It is about **11 metres high**, whereas the usual banana species is about three to four metres high.

• **Benefits:** It can provide natural genetic resource for plant breeders to develop high yielding and disease resistant varieties.

5.6.15. ATMOSPHERIC MEMORY

A recent study found that the atmospheric memory, not just sunlight, drives the onset and retreat of monsoons.

Key Findings

- Atmosphere stores **physical information in the form of water vapor**, thereby controlling the **onset and withdrawal of the monsoon**.
 - Earlier assumption was that this seasonal pattern of monsoon was primarily as an **immediate response to** changes in solar radiation.
- The state of atmosphere depends on **its seasonal history**: if it's already raining, the rain persists. But if it has been dry, it is hard to initiate rainfall. This behaviour is called **bistability**.
- At the same level of solar radiation, the atmosphere can **either be dry or rainy**, depending on the preceding state.



You can scan this QR code to practice the Smart Quiz of Environment at our open test online platform for testing your understanding and recalling of the concepts.





6. SOCIAL ISSUES

6.1. HUMAN DEVELOPMENT REPORT 2025: WIDENING INEQUALITY

Why in the News?

The **United Nations Development Programme** released its **Human Development Report 2025** which appreciated **India** for its **progress** in human development but also warned about **rising inequality**, particularly significant **income and gender disparities**.

Key Findings of the Report

- Human Development Index (HDI)
 - **Global: Widening gap in inequality** between countries with **low** Human Development Index (HDI) scores and those with **very high HDI scores** for the fourth consecutive year.
 - > Top 3 ranked countries: Iceland, Norway, Switzerland
 - India: India's rank in HDI improved from 133 in 2022 to 130 out of 193 countries in 2023.
 - > India's HDI value rose from 0.676 in 2022 to **0.685 in 2023**, placing India in the **medium human development** category and bringing it closer to the high human development threshold (HDI ≥ 0.700).
 - > Since **1990**, India's HDI value has **soared by over 53%**, outpacing global and South Asian averages.
- Inequality-adjusted Human Development Index: India faced a 30.7% loss in human development due to glaring inequality in the country.
 - In India, the **poorest 40%** population has an **income share of 20.2%** whereas the **richest 10%** hold **25.5%** of the income share.
- Multidimensional Poverty Index (MPI): 16.4% population in India is living under multidimensional poverty whereas 4.2% population is living under severe multidimensional poverty.
- **18.7%** of the population is **vulnerable to multidimensional poverty.**
- Gender Inequality Index (GII): India is ranked 102nd out of 193 countries.
 - India's female (aged 15 and above) Labour Force Participation Rate (LFPR) is 35.1% compared to male LFPR which is 76.4%.



Inequality and its Measurement

- Inequality can be defined as the state of not being equal, especially in status, rights, and opportunities.
- There are various types of inequalities. E.g. Income inequality, social inequality, inequality of opportunities, inequality of outcomes etc.
- Measurement of Inequality:
 - **Gini-Coefficient:** A widely used method to measure **income and consumption inequalities,** it measures the **degree of concentration** in the **inequality** of a variable in a distribution of its elements.

- > It ranges between 0 and 1 where 0 means perfect equality and 1 means complete inequality.
- > The Gini coefficient is measured based on the **Lorenz curve.**
 - ✓ Lorenz curve shows the deviation from perfect equality. The greater the curvature, greater is the inequality.
- Palma ratio: It is a measurement of inequality calculated by dividing the total hourly wages of the top 10% of wage distribution by total hourly wages of the bottom 40% of wage distribution.



Reasons for persisting Inequality in India

- Socio-cultural disparities: Persistent Social Inequalities based on caste, gender, etc. continue to perpetuate economic disparities.
 - Gender Pay Gap: In India, men earn 82% of the labour income, whereas women earn just 18%. (World Inequality Report 2022).
 - Lack of quality Education and Healthcare: It perpetuates intergenerational poverty and limits economic mobility, especially in rural areas and among marginalized communities.
 - > E.g. Lack of equitable access to quality education traps the poor population in low-paid jobs; out-ofpocket-expenditure on health perpetuates poverty
- Nature of economic development: Jobless growth, problem of 'missing middle' in Indian economy, sectorial imbalances (Aggregate output of agriculture was 15% in 2019, while accounting for 42% of employment), etc.
 - **'Missing middle'** problem refers to disproportionately **low number of small and medium-sized enterprises** (SMEs), compared to the **abundance of micro-enterprises and large corporations**.
 - **Rural-Urban divide**: Average Monthly Per Capita **Consumption Expenditure** is Rs. 4,122 in rural and Rs. 6,996 in urban India. (Household Consumption Expenditure Survey 2023-24).
- **Labour policies:** Reduced worker bargaining power resulting in low wages (e.g., rise of gig and informal platform worker).
 - Further, **tax policies also tend to favour capital gains over wages** which contribute to widening income gaps.
 - > E.g., **reduction in tax rates on Long-term Capital Gains (LTCG)** makes wealthier individuals, often earning from capital markets or startup equity, pay lower effective tax rate than many salaried professionals.
- Governance issues: Limited financial resources, inefficient utilization of available resources, corruption and poor implementation of policies and programs.
 - E.g., vested interests and **resistance to structural reforms**, such as land reforms, labour reforms, and progressive taxation.
- **Other factors: Technological divide,** conflicts (e.g. left-wing extremism), climate shocks (e.g. frequent extreme weather events), sovereign debt crisis, COVID-19 pandemic disruption etc.

Way Forward

- **Policy making:** Formulating **National Inequality Reduction Plans (NIRPs),** promoting **progressive taxation** (higher tax rates for those with higher income/wealth), etc.
 - Promoting a **localized approach** to planning and implementation E.g., **Local-level inequality** within rural villages and urban blocks accounts for the **bulk of overall inequality in India.**
- Inclusive Wealth approach: Inclusive Wealth refers to a nation's total wealth, which includes financial assets as well as natural resources, human, and social capital.
 - Addressing Social and Cultural Barriers that perpetuate inequality, such as caste-based discrimination and gender disparities. E.g., Gender Budgeting.
- **Gender equity:** Encourage female workforce participation through safer workplaces, childcare facilities, and flexible jobs; effective enforcement of equal property rights for women, etc.
- Access to Education and Healthcare: Improve public school infrastructure, teacher quality, rationalization and reforms in affirmative action policies for marginalized communities, etc.

- Aligning vocational training with market demand to improve employability across socio-economic groups.
- Strengthening Social Security Measures: Cash transfers, subsidies, and pension schemes, to provide a safety net for the economically disadvantaged.

Conclusion

Addressing inequality in India demands a **whole-of-the-society approach** — combining **government policy, civil society efforts**, and **private sector accountability**. Equity must be embedded in the design, delivery, and evaluation of all development initiatives.

6.2. SAMPLE REGISTRATION SYSTEM (SRS) REPORT 2021

Why in the News?

The **Sample Registration System (SRS) Report 2021** was released by the **Registrar General of India (RGI)** containing data on fertility and mortality indicators for India and bigger States/UTs.

About SRS

- Sample Registration System (SRS) is a large scale demographic survey for providing reliable estimates of birth rate, death rate and other fertility and mortality indicators at the National and Sub-National levels.
- The **SRS sample** is **revised every ten years** based on the latest census frame.

Key Findings of the SRS Report 2021

Parameters and Definitions	Trends highlighted by SRS Report 2021
Crude Birth Rate (CBR)	• DECLINED by 11% from 21.8 in 2011 to 19.3 in 2021
CBR = (Number of live births during the year/ Mid-year population) X 100	• States: Maximum: Bihar (25.6); Minimum: Kerala (12.9)
Population Composition (percentage of total population)	 Age group 0-14: Gradual DECLINE from 36.3% (1991) to 24.8% (2021) Economically active population (15-59 years): INCREASED (57.7% (1991) to 66.2% (2021)) Elderly population: INCREASED (60+ years- 9%; 65+ years- 5.9%) Mean age at effective marriage for Females: INCREASED (19.3 years in 1990 to 22.5 years in 2021) Mean age at effective marriage for J990 to 22.5 years in 2021)
Maternal Mortality Ratio (MMR) Number of maternal deaths during a given period per 100,000 live births during the same period. Child Mortality	 Maternal Mortality Ratio (MMR) DECLINED by 37 points from 130 per lakh live births in 2014–16 to 93 per lakh live births in 2019–21. [SDG target of MMR (<=70 by 2030)] Neonatal Mortality Rate (NMR) DECLINED from 26 per 1000 live births in 2014 to 10 per 1000 live births
• Neonatal Mortality Rate (NMR): Number of neonatal deaths that from birth to 29 days per 1,000 live births.	 DECLINED from 26 per 1000 live births in 2014 to 19 per 1000 live births in 2021. [SDG target of NMR (<=12 by 2030)] States: Lowest: Kerala; Highest: Madhya Pradesh

Infant Mortality Rate	Infant Mortality Rate (IMR)		
(IMR): Number of infants	• DECLINED from 39 per 1000 live births in 2014 to 27 per 1000 live births		
deaths from birth to the 1 year	in 2021.		
old per 1,000 live births.	• States: Lowest: Kerala (6); Highest: Madhya Pradesh (41)		
Under-five Mortality	• Despite this decline, one in every 37 infants at the National level die		
Rate(U5MR): Number of deaths	within one year of life.		
of children under 5 years of age	Under-five Mortality Rate(U5MR)		
per 1,000 live births.	• DECLINED from 45 per 1000 live births in 2014 to 31 per 1000 live births		
	in 2021. [SDG target of U5MR (<=25 by 2030)]		
	States: Lowest: Kerala; Highest: Madhya Pradesh		
Sex Ratio at Birth	• INCREASED from 907 in 2018-20 to 913 in 2019-21.		
Number of females per 1000 males	States: Highest: Kerala (962); Lowest: Uttarakhand (852)		
at birth.	• Rural (2019-21): 912; Urban (2019-21): 918		
	Sex Ratio at Birth 🥑		
	920		
	910		
	900		
	300		
	890		
	880		
	2014-16 2015-17 2016-18 2017-19 2018-20 2019-21		
	Total — Rural — Urban		
Total Fertility Rate (TFR)	Total Fertility Rate (TFR)= 2.0		
Average number of children a woman	DECLINED during 2016-2021 at the National level.		
would have at the end of their	• States: Highest: Bihar (3.0); Lowest: Delhi and West Bengal (1.4)		
reproductive period.	• Replacement level TFR , viz. 2.1 , has been attained at the National level		
	along with 16 States/UTs .		
	• Rural: 2.2; Urban: 1.6		
Life-expectancy at birth	• 69.8 years (for period 2017-21), registering a decline of 0.2 years from		
	2016-20.		
	• Life expectancy for males has been estimated at 68.2 years and that for females, at 71.6 years .		
Institutional Deliveries	• In 2021 , ~ 91.1 % of the deliveries was institutional including Government		
	and private hospitals.		
	• Urban areas: 95.5%; Rural areas: 89.7%		

Conclusion

Ensuring improvement in maternal and child health will ensure a healthy present and future generation, contributing to the demographic dividend and development of India. Effective implementation of schemes, public awareness, developing quality infrastructure and services will ensure this.

Scan the QR code to know more about Statistical System in India



Weekly Focus #109 - Indian Statistical System: Decoding Data to Drive Development

6.3. URBAN POVERTY

Why in the News?

Odisha government launched a collaborative initiative **'SAHAYOG'** to facilitate **access to government welfare schemes** for the urban poor.

About SAHAYOG initiative

- Aim: To improve the living standards of the economically backward through various government schemes.
- **Objective: Identifying eligible beneficiaries in urban poor** communities and connecting them to appropriate **schemes** through mass awareness, doorstep delivery of services etc.
- In the initial phase, a **door-to-door survey** will be conducted in 44 urban areas of 8 districts to **identify and register** the deprived beneficiaries of 13 schemes.

Current Status of Urbanization and Urban Poverty in India

- Urban population nearly doubled from 17.29% (1951) to 31.16% (2011), growing from 62 million to 377 million people.
- More than 50% of India's population (877 million) will live in our cities and towns by 2050. (UN)
- According to the latest World Bank Poverty & Equity Brief,
- Extreme poverty in urban centres reduced from 10.7% (2011-12) to 1.1% (2022-23).
- As per the poverty line for **lower-middle-income countries** (3.65 US dollars per day), **urban poverty** dropped from **43.5%** (2011-12) to 17.2% (2022-23).
- India's consumption-based Gini index improved from 28.8 in 2011-12 to 25.5 in 2022-23, indicating a reduction in income inequality.
- **Urban unemployment fell** to 6.6% in Q1 FY24/25, the lowest since 2017-18.

Difference between urban and rural poverty

- Access to Basic Amenities: Urban poverty is distinguished by inadequate housing and lack of basic services like sanitation, while rural poor face issues related to security of tenure on land.
- Living conditions: Urban poor face issues of congestion, lack of proper hygiene leading to a higher risk of disease and crime, whereas rural poor face issues related to lack of pucca houses, caste discrimination, etc.
- **Psychological impact of poverty:** Poverty is **more visible in urban areas** compared to rural due to greater feeling of **relative deprivation and social exclusion.** E.g. slums like Dharavi coexisting with skyscrapers in Mumbai.
 - Urban poor also face issues like **segregation**, **loneliness** and related anxiety. Rural poor face a more **culturally institutionalized** impact of poverty with stronger linkages to **caste or gender**.
- Economic structure: Rural economy is primarily dependent on agriculture whereas, urban economy is more diverse and complex. Thus, urban economy provides wider economic opportunities but also makes urban poverty more complex and multi-faceted.



Reasons for persistence of Urban Poverty

- Lack of Planned Urban Development: Haphazard urbanization, rural-urban migration and growing urban population, and lack of accounting for urban poor in **policy** formulation. E.g. lack of affordable housing projects
- **Regional disparity in urbanization: Insufficient development of Tier II and Tier III cities** has led to excessive population pressure on megacities like Delhi, Mumbai, etc.
- Inaccessibility to social security: Many poor migrants in urban areas lack proof of residency or identity, which excludes them from government welfare programs and traps them in a cycle of poverty.
- Vicious cycle of poverty: Poverty limits access to opportunities for socio-economic mobility like education, employment etc. which perpetuates inter-generational poverty.

Government Initiatives for eliminating Urban Poverty

- One Nation One Ration Card: Aadhaar-based national ration card portability scheme to ensure food security for all, including internal migrants.
- Swachh Bharat Mission-Urban 2.0 (SBM-U 2.0): A sanitation scheme for the construction of Individual Household Latrines (IHHL) for urban households.
- **Pradhan Mantri Awas Yojana-Urban (PMAY-U):** To provide **housing** to EWS/LIG and MIG categories including slum dwellers.
- Deendayal Antyodaya Yojana National Urban Livelihoods Mission (DAY-NULM): To enable urban poor to access gainful self-employment and skilled wage employment opportunities.
- PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi): A special micro-credit facility launched by ministry for providing affordable loans to street vendors.
- **Others:** Atal Mission for Rejuvenation and Urban Transformation 2.0 (AMRUT 2.0), Smart Cities Mission, etc.

Way Forward

- Inclusive urbanization: Decentralize decision-making with people's participation for inclusive urban development planning. Promote mixed-use development and inclusive zoning policies to prevent the formation of ghettos and ensure access to employment opportunities
 - E.g., **role of self-help groups** in slum rehabilitation and redevelopment; **Kudumbashree** (a women's community network) involved by **Kerala** in the implementation of the **National Urban Livelihoods Mission (NULM).**
- **Development of Tier-II and Tier-III cities:** Promote **balanced regional development** by incentivizing economic activities in smaller towns and cities to reduce pressure from megacities.
 - Improve rural infrastructure and employment opportunities to reduce distressed migration to urban centres.
- **Sustainable urbanization:** Role of **Urban Local Bodies** in prioritizing **sustainability** in planning and program implementation. E.g., Indore's cleanliness drive under SBM.
- Empowerment of urban poor: Encourage skill development, growth of labour-intensive industries and MSMEs through improved access to credit, business development services, and market linkages.
- **Targeted delivery of social security programmes:** Promoting **portability**, correcting **inclusion-exclusion errors** and improving monitoring of scheme implementation.

Conclusion

By 2050, Indian cities are expected to contribute more than 75% of our GDP and about 60% of our Green House Gas emissions. Thus, it is vital to effectively tackle the issue of urban poverty for sustainable development of our urban areas. This will contribute to the goal of 'Viksit Bharat' and make India a \$5 trillion economy.

6.4. MIZORAM ACHIEVES FULL FUNCTIONAL LITERACY

Why in the News

Recently, the Chief Minister of Mizoram officially declared Mizoram a fully literate state, making it the first state in India to achieve full functional literacy.

More on the News:

• Mizoram crossed above 95% literacy rate (98.20% as per the PLFS Survey 2023-24).

- Earlier, in June 2024, Ladakh became the first administrative unit to declare full functional literacy.
- Goa has become the second state to achieve full functional literacy.
- According to the **Ministry of Education** above **95% literacy** rate is considered equivalent to Full literacy.
- These developments are due to the implementation of ULLAS Nav Bharat Saaksharta Karyakram

Note* Kerala's declaration of full literacy in 1991 was based on the National Literacy Mission(>90% literacy rate).

Literacy Vs Functional Literacy

- Literacy: According to the Office of the Registrar General of India, a person aged 7 years and above who can read and write with understanding in any language is considered literate.
- **Functional Literacy:** The ability to read, write, and comprehend information in a way that allows an individual to function effectively in their daily life.
 - This includes being able to read and understand basic instructions, fill out forms, use technology, and make informed decisions based on written information.

Literacy in India according to Periodic Labour Force Survey (PLFS) 2023-24

- Overall literacy rate (age seven and above): 80.9%
- Urban vs Rural: Literacy in urban India stands at 88.9%, while rural areas lag behind at 77.5%.
- Gender divide: Male literacy hits 87.2%, while female literacy is 74.6%



About ULLAS - Nav Bharat Saaksharta Karyakram or New India Literacy Programme (NILP)

- **Defined literates:** Learners who can read, write, do basic math, and have digital and financial literacy (not just sign or write their names).
- Type: Centrally Sponsored Scheme aligning with the National Education Policy (NEP) 2020.
- Target: 5 five crore learners, with 1 crore learners per year by using "Online Teaching, Learning and Assessment System (OTLAS)".
 - OTLAS is a computer application embedded in the Web Portal/Mobile App under ULLAS developed by the National Informatics Centre (NIC)
- Duration: FY2022- 23 to 2026-27.
- Ministry: Ministry of Education.
- Target Group: Adults aged 15 and above from all backgrounds who missed formal schooling.
- **Components:** Foundational Literacy and Numeracy, Critical Life Skills (like financial literacy, digital literacy), Basic Education, Vocational Skills, and Continuing Education.
- Implementation: Through volunteerism, promoting social responsibility and a sense of duty or 'Kartavya Bodh'.

- **Samajik Chetna Kendras** are established by utilizing available space in schools, local cultural centres, community halls, etc., with schools acting as the unit of implementation.
- Use of Regional Languages: To access educational content via the DIKSHA Portal and the ULLAS Mobile App/Portal.
- Assessment & Certification: FLNAT (Foundational Literacy and Numeracy Assessment Test) is conducted twice a year—or on demand—at local schools.

Other initiatives for Literacy:

National Literacy Mission (NLM): Launched by the Government of India in 1988 to eradicate illiteracy and promote functional literacy among adults.

Saakshar Bharat Mission: Aimed at achieving 80% national literacy level and reducing the gender gap (between male and female) of literacy to the level of 10 percent points.

NIPUN Bharat Mission (Under NEP 2020): To achieve universal foundational literacy and numeracy in primary school by 2025.

6.5. NEWS IN SHORTS

6.5.1. CARE ECONOMY AND DIGITALISATION

Since the onset of the COVID-19 pandemic, the care economy has undergone a significant transformation through **rapid digitalisation**, creating **new economic and social opportunities for women**.

About Care Economy

- As per the UN Women, the care economy entails the production and consumption of goods and services necessary for the physical, social, mental and emotional well-being of care-dependent groups, such as children, the elderly, the ill and people with disabilities, as well as healthy, prime working-age adults.
- It includes both:
 - **Paid care work:** Performed by nurses, domestic workers, educators, etc.
 - **Unpaid care work:** Tasks like cooking, cleaning, and caring for children and the elderly, often performed at home.
- A large share of care works—both paid and unpaid—is **performed by women**. However, it remains largely **unrecognized and undervalued**, as it is typically excluded from GDP calculations and economic policymaking.
 - Women, on average, undertake approximately three times more unpaid care work than men. In India, they do nearly eight times more.
- The digital care economy reimagines conventional models of caregiving by integrating them with apps, online marketplaces, care management software, and remote monitoring.

How digitalisation of care economy can benefit women?

- Economic Growth: As per United Nations data, investment in care infrastructure and services could create 300 million jobs by 2035, with 70–90% of these jobs expected to benefit women.
 - For example, Urban Company, which provides instant domestic services like cooking and cleaning at home, is one of India's largest employers of female gig workers.
- Addressing Gender Disparities: Digitalisation of care economy can lead to increased flexibility and autonomy (on demand service), higher and more stable income (digital transactions), convenience and learning opportunities (work from home), thus, empowering women with new skills and career development prospects.
- Enhancing Access and Efficiency: For instance, in India, platforms for childcare like Klay and Broomees offer ondemand babysitting services, and others like Khyaal and Goodfellows offer on-demand assistance for elder care

Conclusion

Digitalisation of the care economy can empower women and formalise care work, but **challenges like digital gaps**, social security, and bias must be addressed through a gender-responsive, rights-based approach for inclusive growth.

6.5.2. MATERNAL MORTALITY RATIO (MMR)

Office of the Registrar General (Ministry of Home Affairs) released Special Bulletin on MMR in India 2019-21

- MMR is the number of maternal deaths per 1,00,000 live births in a given time.
 - o India has committed to the UN target for Sustainable Development Goal (SDG) for MMR at 70 by 2030.

Key Highlights

- India's MMR dropped to 93 (from 103 in 2017–19).
- Best-Performing States: Kerala (MMR 20), Telangana (45), Tamil Nadu (49), etc.
- **Poor Performance by Empowered Action Group (EAG) States:** Madhya Pradesh (175), Assam (167) and UP (151) still report high MMR.

6.5.3. INITIATIVES FOR AGEING WITH DIGNITY

The President of India launched initiatives for senior citizens at the 'Ageing with Dignity - Initiatives for the Welfare of Senior Citizens' event.

Initiatives launched

- Senior Citizen Welfare Portal: A digital platform for elderly citizens, providing easy access to government schemes, healthcare benefits, and welfare services.
- Senior Citizen Homes: Supported under the Ministry of Social Justice & Empowerment's programme aligned with the Maintenance and Welfare of Parents and Senior Citizens (MWPSC) Act.
- MoU with Brahma Kumaris: Focuses on promoting emotional balance, mindfulness, and intergenerational bonding.

Scan the QR code to know more about ageing society in India

Weekly Focus #84- Towards Empowered Ageing in India



6.5.4. GLOBAL NETWORK OF AGE-FRIENDLY CITIES AND COMMUNITIES (GNAFCC)

Kozhikode city has been honoured with a membership in the WHO's GNAFCC.

About GNAFCC

- Established: 2010
- Members: 1300 members from 51 countries.
- Aim: To connect cities, communities and organizations worldwide with the common vision of making their communities great places to grow older in.
- Objectives:
 - Inspire change by showing what can be done and how.
 - o Connect cities and communities worldwide to facilitate the exchange of information, knowledge and experience.
 - Support cities and communities to find appropriate innovative and evidence-based solutions.

6.5.5. GLOBAL REPORT ON INTERNAL DISPLACEMENT (GRID) 2025

GRID 2025 was released by the Internal Displacement Monitoring Centre (IDMC).

• Internal Displacement (ID) refers to the forced movement of people within their country while Internally Displaced **People (IDP)** are people forced to flee their homes due to conflict, violence, or disasters without crossing International borders.

Key Findings

- Internally displaced people (IDPs) at the end of 2024: 83.4million (73.5 million due to conflict and violence and 9.8 million due to disasters).
 - o 25% of all disaster displacements globally were reported in the United States.

India: Internal displacements by conflict and violence (1,700) and Internal displacements by disasters (5.4 millions).



You can scan this QR code to practice the Smart Quiz of Social Issues & Social Schemes at our open test online platform for testing your understanding and recalling of the concepts.





7. SCIENCE AND TECHNOLOGY

7.1. SATELLITE INTERNET SERVICES

Why in the News?

Indian telecom companies Airtel and Jio signed a deal with SpaceX to bring Starlink's satellite internet services to India.

About Satellite Internet

- **Definition:** Satellite internet or satellite broadband, is a **wireless internet connection** provided through communication satellites **orbiting the Earth.**
- Difference: Unlike land-based internet services such as fiber, cable, or DSL, it doesn't rely on wires to transmit data.
- **Infrastructure:** Satellite internet system architecture generally includes three segments:
 - Space Segment: It is mainly a constellation system composed of several communication satellites, which is responsible for receiving and forwarding satellite signals and providing satellite signal coverage to users.
 - > Satellites can be positioned in various types of orbits based on the demand.



- Ground segment: Includes satellite measurement and control networks, gateway stations, etc., and mainly plays the role of connecting the satellite Internet and ground communication networks.
- User segment: Includes various communication terminals used by users.

Variana Turnes of Orbits and Catellit

Various Types of Orbits and Satellite Internet services						
	Geostationary Ea	arth Medium Earth orbit (MEO)	Low Earth orbit (LEO)			
Distance f	*om ~35,786km	~2,000km-35,786km	~160km-2,000km			
🗟 Latency	Medium latency	Low latency	Very low latency			
Cost	Nery high cost setup	Mid-high cost setup	Comparatively low cost setup			
Earth cove	rage Very large	Large	Small			
Antenna speed Stationary antennas (three satellites for global coverage)		1-hour slow tracking (six satellites for coverage)	10-minute fast tracking (100s-1,000s satellites needed for coverage)			
Applications Weather data, broadcast TV, imagery, low-speed data communication			Remote sensing, human space flight, data communication			
Players us this orbit	ng Jio Space Technology Limite and MEO satellite constellation	Jio Space Technology Limited (will use a combination of GEO and MEO satellite constellations) Starlink, OneWeb, Projection Starlink,				

Various prominent Satellite Internet projects in the world

- **Project Kuiper: By Amazon** is making a significant push into the satellite internet market, aiming to deploy over 3,200 LEO satellites to deliver affordable, high-speed broadband globally.
- Starlink: Launched in 2019 by SpaceX, Plan to have 42,000 satellites in low earth orbit.
- **OneWeb:** By French satellite operator Eutelsat, and currently operates the world's second-largest satellite constellation fleet after SpaceX.
- **Qianfan constellation:** Qianfan is a planned **Chinese low-Earth orbit satellite internet megaconstellation** to create a system of worldwide internet coverage.
 - It was **created by Shanghai Spacecom Satellite Technology (SSST)**, a firm backed by the Shanghai Municipal People's Government and the Chinese Academy of Sciences.

Significance of Satellite Internet services

- To bridge the digital divide in remote areas: Suited for unconnected areas or areas with unreliable connectivity.
 Nearly 40% of India's 1.4 billion people still don't have internet access, with rural areas making up most of the cases.
- Connectivity during Disaster: Can be used at a temporary location like a construction site or emergency shelter during disaster, or on moving objects like aircraft, ships, trains, and more.
- **Useful in digital economy:** E.g. Use in development of platform economies, electronic consumption, digital trade, and digital infrastructure.
- Strategic autonomy: Satellites are less prone to accidental cuts, and geopolitical tensions.
- Military Conflicts: E.g. Use of Starlink Services in Russia–Ukraine conflict.

Issues about Satellite Internet services

- **Concerns for internal security:** In the wake of the Pahalgam attack, NIA suspect that terrorist **may have used satellite phones** to contact each other and their bases in Pakistan.
- Issues of Data Privacy and Digital sovereignty: Which data is being collected, how is it stored and who has access rights?
- Lack of effective control: Private players led borderless global network and information space by this system presented disruptive challenges to regulatory ecosystem.
- **Monopolistic Tendencies:** SpaceX, with its extensive satellite network, risks forming a monopolistic market structure.
- Satellite Latency: Satellite internet typically has higher latency compared to traditional wired connections due to the distance data must travel to and from the satellite.
 - However, Low Earth Orbit (LEO) systems like Starlink aim to reduce this latency, achieving speeds in the 25-50 millisecond range.
- **Atmospheric changes:** Aluminum in satellites produces aluminum oxide, also known as alumina, during burn-up. Alumina is known to cause ozone depletion and could alter atmosphere's ability to reflect heat.
- Licensing and Spectrum Pricing: Complex negotiations and inter-ministerial consultations are required for the VSAT license.
 - Spectrum pricing and conditions, especially for Ku and Ka bands, are under negotiation.
- **Other Issues:** Weather can affect Satellite internet, High cost associated with its deployment and operation, Increase in **space junk**, Astronomical Interference etc.

Way forward

- **Pilot programs:** Like in remote areas, such as oil fields or desert communities, can demonstrate feasibility and build public confidence.
- Comprehensive regulatory frameworks: India must establish clear policies for licensing, data governance, and spectrum allocation.
- **Collaborating with private operators: Incentives** such as **tax breaks and grants** will encourage private players and ensure alignment with both national security objectives and broader economic goals.
- Hybrid models: To maximize efficiency, hybrid models combining satellite and terrestrial networks can be used.
- **Other way forwards:** Prioritize integrating rural and remote areas, Stronger regional and diplomatic initiatives etc.

Related News:

Department of Telecommunications (DoT) issued **security instructions** through amendments to the Unified License (UL) for the Global Mobile Personal Communications by Satellite (GMPCS) authorization, for satellite internet services.

Key Security Instructions through amendments

- **Security clearance:** The Licensee shall require such clearance for specific gateway/ hub locations in India and compliance to monitoring/ interception facilities.
- The Monitoring and Lawful Interception: Licensee should fulfill conditions for security aspects including monitoring; and there shall be Centralized Monitoring System (CMS) for the same.
- **Restrictions:** Licensee shall be able to implement service restriction/denial to any subscriber or geographical area during hostilities.
- **Special Monitoring Zones (SMZs):** Areas within 50 km of international borders and Exclusive Economic Zones (EEZ) up to 200 nautical miles must be designated as SMZs for monitoring of use activities.
- **Geo-fenced coverage:** No User Terminal (UT) shall be able to access the network from outside the geo-fenced coverage area and/or through gateway situated outside India.
- **NavIC based positioning system:** The Licensee may ensure provisioning of NavIC based positioning system in their User Terminals with a transition plan to implement NavIC in a time-bound manner by 2029.
- Data Centre: The licensee shall ensure that the Data Centre is based within Geographical boundary of India.

7.2. DEEPFAKES

Why in the News?

Recently, the US enacted Take It Down Act" to tackle harmful deepfakes online.

What are Deepfakes?

- About: Deepfake is a video, photo, or audio recording that seems real but has been manipulated with AI blurring the line between reality and manipulation.
- Technology: deep learning techniques are used for making such videos
 - Deep learning represents a subset of machine learning which are themselves a subset of artificial intelligence.
 - It involves replacing faces, manipulating facial expressions, synthesising speech, appearing to say or do things not actually done.
- Potential Applications:
 - Entertainment (creative effect in movies);
 - **E-commerce** (creating customers likenesses for virtual trial of clothes);
 - **Communication** (Speech synthesis for speaking in another language), etc.
- Regulation:
 - India: India lacks specific laws for deepfakes and Al-related crimes, but provisions under some existing legislations offers both civil and criminal relief.
 - Global:
 - > **EU's Artificial Intelligence Act (AI Act)**, is designed to foster trustworthy AI.
 - > Italy: Both the Italian Constitution and the Civil Code prohibits the unauthorised use of a person's likeness.
 - > 23 **states of USA** have passed legislation addressing deepfakes (as of September, 2024). Similar legislations in other countries are:



Concerns associated with Deepfakes

- National Security Risk: Fake videos may spark violence, disrupt investigations, or create false alibis.
- Erodes Trust in Democracy: Fake political content can mislead the public and harm democratic processes.
- Victimising Women: Approximately 90-95% of deepfake videos since 2018 were primarily based on nonconsensual pornography.
- **Cyberbullying: Rumours** can spread faster when coupled with fake images or videos impacting a person's reputation.
- Identity Theft: Creating fake identification documents, causing cybercriminals to impersonate individuals or gain access to secure systems.
- Lack of Awareness: Even when a deepfake video is detected it would be ineffective in containing misinformation due to lack of awareness among people.
- Costly Computation: Huge investment is needed to tackle vast datasets and employ advanced computation resources, especially for detecting videos vis-à-vis images.

Initiatives that tackle Deepfakes in India

Legal Framework

- Information Technology Act, 2000 (IT Act): Applicable to information generated using Artificial Intelligence (AI) tools.
- Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (IT Rules, 2021): Address various emerging issues on the cyberspace.
 - Provides for **Grievance Appellate Committees** allowing users and victims to appeal online.

Institutional

- Indian Computer Emergency Response Team (CERT-In): Published an advisory on deepfake threats and suggests measures to stay protected.
 - Operates the **Cyber Swachhta Kendra** (Botnet Cleaning and Malware Analysis Centre).
 - Provides leadership for **Computer Security Incident Response Team-Finance Sector (CSIRT-Fin).**
- Indian Cyber Crime Coordination Centre (I4C): Deals with cyber-crimes in a comprehensive and coordinated manner.
- National Cyber Crime Reporting Portal: Operationalised a toll free Helpline number 1930.

Way Forward on dealing with the issues of Deepfakes

- Enhanced Regulation: Create a well-defined legal framework based on real-world harms caused by AI. Focus on proactive action, not just post-incident responses. Current Indian IT Rules only act after harm is done. Victims bear the burden of filing complaints—this needs reform.
- Build Strong Institutions: Set up agencies with clear safety standards to protect people and reduce misuse.
- Technological Advancements: Sophisticated algorithms, including new methods that can identify deepfakes based on their context, metadata or other factors.

- E.g., Massachusetts Institute of Technology (MIT) created a **Detect Fakes website** to help people identify deepfakes by focusing on **small intricate details.**
- Cyber Literacy: Promote media literacy and critical thinking incorporating digital trust to protect all stakeholders' interests and uphold societal expectations and values.
- **Stakeholders' Collaboration:** Introduce clear procedural guidelines and effective penalties by incorporating suggestions from all stakeholders, like law enforcement, judicial authorities, etc.

7.3. GENE EDITING

Why in the News?

A research team from USA has developed and safely delivered a personalized gene editing therapy to treat an infant with a life-threatening, incurable genetic disease.

More on the News

- The infant was diagnosed with a genetic metabolic disorder called carbamoyl phosphate synthetase 1 (CPS-1) deficiency.
 - CPS1 deficiency is characterized by an **inability to fully break down byproducts** from protein metabolism in the liver, causing **ammonia to build up to toxic levels** in the body.
 - It can cause severe damage to the brain and liver. Treatment includes a low protein diet until the child is old enough for a liver transplant.
- The team of researchers customized a therapy using the gene-editing platform CRISPR, which allowed correction of a specific gene mutation in the baby's liver cells that led to the disorder.

About Gene Editing

- Gene editing is a technology that can change DNA sequences at one or more points in the strand.
- It also involves **removing or changing a single base** or insert a new gene altogether.
 - The process involves three major steps that include insertion, deletion, and modification of the gene of interest.

Types of Gene Editing

- Somatic genome editing: It refers to the alteration of cells that cannot contribute to gamete formation and thus cannot be passed on from the individual to offspring.
 - Targeted cells: Non-reproductive cells like skin, liver, kidney, muscle cells.
- **Germline genome editing: Germline genome editing** is genetic modification of reproductive cells or embryos that creates changes which can potentially be passed down to future generations.
 - Targeted cells: Reproductive cells like Germ cells, embryos, or gamete-producing cells.

Feature	ZFNs (Zinc Finger Nucleases)	TALENs (Transcription	CRISPR-Cas9
		Activator-Like Effector	
		Nucleases)	
Components	Zinc finger proteins (targeting) +	TALE proteins (targeting) + Fokl	Guiding RNA molecules +
	Fokl enzyme (cutting)	enzyme (cutting)	Cas9 enzyme (cutting)
Function	Zinc finger proteins bind	TALE proteins bind specific DNA	RNA guides Cas9 to cut
	specific DNA sequences; Fokl	sequences; Fokl cuts DNA	specific DNA locations
	cuts DNA		

Techniques used for Gene Editing



Purpose	Cuts DNA at precise locations	Cuts DNA at precise locations	Inserts, deletes, or modifies
			genes with high precision
Origin	Zinc finger protein	TALE proteins from plant bacteria	Bacterial immune system
			against viruses
Key Feature	First of the "genome editing"	Easier to design and program than	Faster, cheaper, more
	nucleases	ZFNs	accurate, easier to use

Challenges Associated with Gene-Editing

Ethical Concerns

- Embryo Research Ethics: Many people hold deep moral or religious convictions that human embryos represent human life that deserves protection.
 - From this perspective, using embryos for research purposes, which **may involve manipulating, experimenting on, or ultimately destroying them** is ethically problematic or even morally unacceptable.
- Informed Consent: There is debate about whether truly informed consent is possible for germline therapy, since the patients affected are embryos and future generations who cannot consent for themselves.
- Justice and Equity: Like many new technologies, there's concern that genome editing will only be accessible to wealthy individuals, potentially increasing healthcare disparities.

	Gene Editing Rev		
🛃 Medical	Agriculture	Materials	Environment
HIV Treatment ZFN immune modification for HIV resistance	Drought Rice Pusa DSTI variety with drought tolerance	Spider Silk Production Modified silkworms create	Better Biofuel Production Makes microbes survive harsh condition for cheaper fuel
Cancer Therapy Altered immune cells attack 3 cancer types	Vitamin A Banana Bananas with enriched nutrition	steel-stronger silk Sustainable	Reduce carbon pollution Creates cleaner renewable energy alternatives Track Environmental Changes Builds better pollution monitoring tools
	Hornless Cattle Eliminates de-horning pain	Biofuels Engineered algae produce fuel	
Sickle Cell Corrects axygen transport mutations	Flu-Resistant Chickens Decoy' molecules prevent bird flu	lipids	
Drug Discovery Speeds up development process	High-Oleic Groundnut Groundnut with enhanced oil quality varieties	Drug Delivery Algae-derived particles for targeted medicine	

Safety concerns

- Safety Issues: The primary concern centers on off-target effects (edits occurring in unintended locations) and mosaicism (where only some cells carry the genetic edit while others don't).
 - Due to these risks, researchers and ethicists generally **agree that germline genome editing should not be used clinically for reproductive purposes** until it's proven safe.
- Regulatory Inconsistency: Experts fear that varying global regulations on gene editing could lead to controversial uses like designer babies.

Conclusion

Gene editing technologies offer revolutionary potential to treat incurable genetic diseases, improve agriculture, and address environmental challenges.

Know the term

- > Deoxyribonucleic acid (DNA): It is the heredity material found in humans and all living organisms.
- Gamete: It is the mature reproductive or sex cell that contains a haploid number of chromosomes (i.e., 50% of the genetic material or only one set of dissimilar chromosomes) and is capable of fusing with another haploid reproductive cell to form a diploid zygote.
- > Chromosomes: They are a collection of tightly coiled DNA that are located in the nucleus of virtually every cell of our body.
- Embryo: It is the early stage of development of a multicellular organism, from fertilization until it becomes a fetus.
- Gene: Gene is the fundamental unit of DNA that encodes all the genetic information in the form of nucleotides.
- > Genome: The entire set of DNA present in a cell is called a genome.

However, realizing this promise **requires careful navigation of ethical concerns around safety, equity, and consent, particularly for germline editing** that could affect future generations.

7.4. NEWS IN SHORTS

7.4.1. ISRO'S 101ST MISSION FAILS AS PSLV ROCKET SUFFERS MALFUNCTION

ISRO's 63rd PSLV mission (PSLV-C61/EOS-09) failed due to a **technical malfunction during the third stage** of the **PSLV rocket.**

• Since its first flight, Polar Satellite Launch Vehicle (PSLV) has **failed only twice** - inaugural flight in 1993 and again in 2017.

About PSLV-C61/EOS-09 Mission

- PSLV-C61 was meant to carry the EOS-09 (Earth Observation Satellite-09) into a Sun-Synchronous Polar Orbit (SSPO).
- It was launched from the First Launch Pad at Satish Dhawan Space Centre in **Sriharikota**.
- EOS-09 is an advanced Earth observation satellite, equipped with C-band Synthetic Aperture Radar (SAR) technology.
- **Objective:** To provide **continuous and reliable remote sensing data** for operational applications across various sectors.
 - This satellite can capture high-resolution images of the Earth's surface in any weather, day or night.

About PSLV

- It is India's third-generation launch vehicle, developed by ISRO.
- It is a four-stage vehicle and first Indian launch vehicle to be equipped with liquid stages.
- Achieved **first successful launch** in October 1994 and earned the title **"the workhorse of ISRO"** for its consistent performance.
- Capable of launching satellites into LEO, Geosynchronous, and Geostationary orbits, like satellites from the IRNSS Constellation.
 - Successfully launched major missions like **Chandrayaan-1 (2008)** and **Mars Orbiter Spacecraft (2013)**.

7.4.2. WORLD HEALTH ASSEMBLY (WHA) ADOPTED WORLD'S FIRST PANDEMIC AGREEMENT

- It is the second international legal agreement negotiated under Article 19 of the World Health Organization (WHO) Constitution, (first being the WHO Framework Convention on Tobacco Control, 2003).
 - As per **Article 19**, WHA (with two-thirds vote) has the authority to adopt conventions/agreements on any matter within its competence.

Key Highlights of the Agreement

- Strengthen Pandemic prevention and surveillance: As per International Health Regulations (IHR), 2005.
 - IHR aims to prevent, control and provide a **public health response** to the **international spread of disease.**

0

- Global Supply Chain and Logistics Network: Provide access to pandemic-related health products during public health emergencies of international concern.
- Sustainable Financing: Coordinating Financial Mechanism under the IHR to be used for its implementation.
- Pathogen Access and Benefit Sharing system (PABS): A process to draft and negotiate PABS through an Intergovernmental Working Group (IGWG) was launched.
 - \circ $\,$ $\,$ The result of this process is to be considered at WHA next year.
 - PABS deals with the **rapid** and **timely sharing of materials** and **sequence information** on pathogens with pandemic potential.
 - Pharmaceutical manufacturers participating in PABS to provide WHO with rapid access to 20% of real time production of significance of the Agreement

One Health approach:

Recognizing

interconnectedness

in the health of

people, animal

and environment.

- their vaccines, therapeutics, and
- diagnostics.
 Enforcement: Once the PABS is adopted, the agreement would

be open for signature and ratification by states.

o It would be enforced after 60 ratifications.

7.4.3. THE 1ST STATE OF THE WORLD'S ANIMAL HEALTH REPORT

Global Solidarity: Fill

gaps and inequities in

global pandemic

prevention,

preparedness, and

response.

Released by the World Organization for Animal Health (WOAH), the report provides the first comprehensive global overview of animal health in a changing world.

- Headquartered in **Paris**, WOAH was founded in **1924** as the **Office International des Epizooties** (renamed as WOAH in 2003).
- It focuses on transparently **disseminating information on animal diseases**, improving animal health globally and thus builds a safer, healthier and more sustainable world.

Key Findings

- Shifting Disease Patterns: Infectious animal diseases are expanding into new geographical areas, with nearly 47% having zoonotic potential (i.e., transmittable from animals to humans).
 - E.g., Peste des Petits Ruminants (affects sheep & goats), traditionally confined to developing nations, has now re-emerged in **Europe**.
- Rising Diseases Intensity: Diseases like African swine fever, avian influenza, and foot-and-mouth disease are increasing in frequency & intensity, disrupting agrifood systems and threatening food security, public health, and biodiversity.
- Drivers of Disease Spread: Climate change & expanding global trade are identified as major drivers.
- Antimicrobial Resistance (AMR): By 2050, AMR is projected to cause livestock losses that jeopardise the food security of 2 billion people & result in a US\$ 100 trillion economic loss.
- Recommendations:
 - Ensure equitable access to safe, effective vaccines, alongside other control measures like improved hygiene & biosecurity measures.
 - Investments to strengthen national Veterinary Services, greater global & regional coordination, improved disease surveillance systems etc.

7.4.4. TRACHOMA

India was awarded the Certificate of **Elimination of Trachoma** as a Public Health Problem by the **World Health Organisation (WHO).**

• India was declared the 3rd (after Nepal and Myanmar) Southeast Asian region country to have eliminated Trachoma in 2024.



BIRIE

Whole-of-government

and whole-of-society

approaches: Including

coordination with the

Indigenous people and

local communities.

About Trachoma

- Cause: It is an eye disease caused by the bacterium Chlamydia trachomatis.
 - It is categorized as a Neglected Tropical Disease by the WHO.
- Impact: Irreversible blindness.
 - **Repeated episodes** may cause the eyelashes to be drawn in, **rubbing the eye surface causing permanent** corneal damage.
- Spread: Personal contact or through flies.
- Indian Initiative: Trachoma control program integrated under the National Program for Control of Blindness and Visual Impairment (NPCBVI) in 1976.

7.4.5. LIQUID CARBON

Scientists studied the structure of liquid carbon for the first time using in situ X-ray diffraction

About Liquid carbon

- So far, **only very little was known about carbon in its liquid form** because in this state it was practically impossible to study in the lab.
 - Under normal pressure, carbon does not melt but immediately changes into a gaseous state.
 - It only becomes liquid at around 4,500°C and under very high-pressure conditions in which no container can survive.
- It can be found, for example, in the interior of planets.
- It can play an essential role in future technologies like nuclear fusion.



8. CULTURE

8.1. SUSHRUTA AND CHARAKA

Why in the News

The Vice-President unveiled the statues of Sushruta and Charaka in Goa, highlighting the importance of drawing inspiration and motivation from their lives and contributions.

About Sushruta:

- Believed to have flourished around 600 BCE in the ancient city of Kashi.
- Believed to be a disciple of **Divodasa from the Gurukul of Dhanwantri**.

Significant Contributions:

- Author of Sushruta Samhita:
 - It can be divided into two parts, the original tantra is **pūrvārdha having five sections**, and the later **half uttaratantra, is added afterwards**.
 - One of the **Great Trilogy of Ayurvedic Medicine** (Others being Charaka Samhita by Maharishi Charaka and Astanga Hridaya by Vagabhata).
- Known as "The Father of Surgery":
 - **Mentions Eight types of Surgical procedures in Sushruta Samhita:** chedya (excision), lekhya (scarification), vedhya (puncturing), esya (exploration), ahrya (extraction), vsraya (evacuation), and sivya (suturing).
- One of the first to study human anatomy: He described the study of anatomy in detail in the Sushruta Samhita, utilising a dead body as an aid.
- **"The Father of Plastic Surgery"**: Pioneered nose reconstruction using cheek flaps, repair of cut earlobes, piercing of earlobes, repair of cut lips, and the utilisation of skin grafting techniques.
- Medical Ethics: Established the original code of medical ethics as a teacher of medicine at Benares University.

About Charaka:

- He is believed to have lived between the 2nd century BCE and the 2nd century CE in North West India.
- He was the royal physician in the Kushan Kingdom and is known as the "father of Indian medicine".

Significant Contributions:

- Author of Charaka Samhita
 - The source of Charak samhita is identified as the Agnivesha Tantra composed by Agnivesha.
 - o It is divided into eight portions, known as **ashtanga sthanas**.
 - It is a comprehensive treatise that remains one of the **foundational texts of Ayurvedic medicine:**
 - It catalogued medicinal plants and documented their therapeutic properties.

• Direct impact of Acharya Charak's knowledge in modern medical science

- **Tridosha theory:** Three doshas, or principles, are responsible for a body's functionality, i.e. movement (Vata), transformation (Pitta), and lubrication and stability (Kapha).
 - > This theory dictates that disease originates from the imbalance of the Tridosh.
- Ayurvedic medicines: Discussed various medicines in Charak Samhita which are used in the treatment of diseases.
 - > Even in modern medical sciences, many ayurvedic medications are being used appropriately, like **Ashwagandha, Tulsi, Triphala, etc.**
- **Yog:** Acharya Charak considered yog, useful for health and soul and described it in detail in Charak Samhita.

8.2. NEWS IN SHORTS

8.2.1. KARNI MATA TEMPLE

Prime Minister visits Karni Mata temple in Rajasthan.

About Karni Mata Temple

- Located in Bikaner district, Rajasthan.
- Dedicated to Karni Mata, believe is an incarnation of Goddess Durga.
- Establishment: Rao Jaitasi built this temple, to commemorate the victory of Bikaner King over the Mughal King Kumaran.
- Religious Sect: The temple belongs to Shakta Sampradaya.
- Unique Feature: In the whole world this is a unique temple where thousands of rats freely move out.
- Despite the presence of the rats in great numbers, there was no incidence of plague at all.

8.2.2. GALLANTRY AWARDS

President conferred Kirti Chakras and Shaurya Chakras to the personnel of the

- Armed Forces,
- Central Armed Police Forces and
- State/Union Territory Police.

About Gallantry Awards

- Wartime awards: Param Vir Chakra, Maha Vir Chakra, and Vir Chakra which were established in 1950.
- Peacetime awards: Established in 1952, Ashoka Chakra Class-I, Class-II, and Class-III, but renamed as Ashoka Chakra, Kirti Chakra, and Shaurya Chakra (respectively) in 1967.
- Announcement is made Twice a year: On Republic Day and Independence Day.
- Order of Precedence: Param Vir Chakra, Ashok Chakra, Maha Vir Chakra, Kirti Chakra, Vir Chakra and Shaurya Chakra.
- They could be awarded **posthumously** also.

8.2.3. MAJOR DHYAN CHAND KHEL RATNA AWARD

Satwiksairaj Rankireddy & Chirag Shetty received the Major Dhyan Chand Khel Ratna award.

• **The badminton pair** reached the No. 1 rank in Badminton World Federation rankings in 2023 & clinched Asian Games gold medal in Hangzhou.

About Major Dhyan Chand Khel Ratna Award

- Nodal Ministry: Ministry of Youth Affairs and Sports
- Genesis: Established in 1991–92 as the Rajiv Gandhi Khel Ratna, it was renamed the Major Dhyan Chand Khel Ratna Award in 2021.
 - It is considered India's highest sporting honour.
- **Objective:** To recognize the **most outstanding performance by a sportsperson** over the preceding 4 years.
- Eligibility: Only performances in recognized international events are considered.
- Award: ₹25 lakh cash prize, Medal and a certificate of honour.

8.2.4. PULITZER PRIZE

The New York Times won four Pulitzer Prizes and The New Yorker three for journalism in 2024.

About Pulitzer Prize

- The Annual Pulitzer Prize is an esteemed set of awards presented annually by Columbia University in New York City.
- Pulitzer Prizes were established by **Joseph Pulitzer**, a Hungarian-American journalist and newspaper publisher, who left money to Columbia University upon his death in 1911.
- It recognizes outstanding achievements in journalism, letters, and music.
- It was first awarded in 1917.

8.2.5. METRE CONVENTION

The Department of Consumer Affairs commemorated **World Metrology Day 2025,** marking the **150th anniversary of the Metre Convention.**

About Metre Convention

- Genesis: Signed on 20 May 1875, and amended in 1921.
- **Purpose:** Includes **convention and its annexed regulation** (commonly known as the "Metre Convention") to assure the **international unification** and **improvement of the metric system.**
 - Created an International Organization, International Bureau of Weights and Measures (BIPM) to develop and maintain a universal measurement system.
- Significance: International collaboration in metrology, global uniformity of measurements for research, trade, etc.
- Members: 64 Member States and 37 Associate States (India is a member).



You can scan this QR code to practice the Smart Quiz of Culture at our open test online platform for testing your understanding and recalling of the concepts.





9. ETHICS

9.1. RIGHT TO DIE WITH DIGNITY

Introduction

A 3-year-old girl from the Jain community, battling terminal brain tumour, died through the practice of Santhara (fasting unto death). Concern has been raised weather the child was able enough to make informed decision.

Additionally, **France** approved a Bill that allows adults suffering from unbearable and incurable illnesses to choose **assisted dying** (medical personnel assists a person to die). The above incidents highlight the principles of **Right to Die** with **Dignity**.

About the Right to Die with Dignity

- Meaning: It refers to the idea that terminally ill individuals should have the right to make their own end-of-life decisions, like determining the pain and suffering they should endure.
 - Euthanasia (means "good death") is an essential means to realise this right for a terminally ill person. It is of two types
 - > Active: Killing a patient by active means like administrating lethal drug. It is illegal in India.



- > **Passive:** Intentionally letting a patient die by **withholding artificial life support** such as a ventilator or feeding tube.
- Status in India:
 - In 2011, the Supreme Court in Aruna Shanbaug Case vs. Union of India allowed passive euthanasia for the first time.
 - In Common Cause vs. Union of India & Anr. (2018) case, the Supreme court ruled that the right to life under Article 21 of the Constitution encompasses the 'Right to die with dignity' and upheld legality of passive euthanasia and laid down procedure for living wills in India.

Key Stakeholders and Associated Ethical Issues

Terminally Ill Patients and Their Families	Patients often experience unbearable physical pain, and suffering by seeing their families suffer emotionally and financially.
and men ramines	families suffer emotionally and financially. Families may struggle with emotional conflict the desire to relieve their loved one's
	suffering while coping with grief of loss of life.
Healthcare Providers	Medical professionals are committed to alleviating suffering but are also bound by
(Doctors, Nurses,	the Hippocratic Oath ("do no harm").
Palliative Care	They face moral dilemmas about respecting patient autonomy versus preserving life.
Professionals)	
Legislators and	Protecting rights and autonomy of the patients and their families including patients right
Policymakers	to die with dignity while also preventing potential for misuse.
Society at large	Society values the sanctity of life and the collective responsibility to protect its most vulnerable members.
	However, evolving views on personal autonomy and dignity challenge traditional norms.

Ethical Dilemma involved in Right to Die with Dignity

- Quality of Life vs Sanctity of Life: Is survival meaningful when pain or loss of dignity overwhelms life?
- Constitutional Morality vs Respect for Autonomy: Should personal choice override legal and moral constraints?
- Palliative Care vs Justice: Should we rely only on care, or allow dignified death where care fails?
- Non-maleficence vs Principle of Double Effect: Should doctors provide relief from pain even if it shortens life?

Arguments in Favor of Right to Die with Dignity

- **Quality of Life:** Quality of life **transcends simple survival**, encompassing psychological well-being, cognitive function, and the capacity for meaningful relationships
 - \circ $\;$ Life with unbearable pain or loss of function may not be worth continuing.
- **Respect for Autonomy:** Autonomy represents the cornerstone of human moral agency. Competent individuals should have the right to choose death.
 - o Bhishma Pitamah (Bhagwat Gita) opted for Iksha Mrityu and Socrates chose death over exile.
- **Principle of Double Effect:** It is **acceptable** for a doctor to prescribe drugs with the **intention** to **relieve pain**, despite knowing that the drugs will shorten the patient's life.
- Justice: When curative medicine fails and palliative care cannot adequately control suffering, continuing treatment may cause more harm than good.
 - Justice demands **equal access to compassionate end-of-life options**. Prolonged period of emotional and financial strain are damaging for the person and family.

Arguments Against Right to Die with Dignity

- Sanctity of Life: It considers human life as an intrinsic good, of irreducible value making it always impermissible to kill an innocent human.
 - E.g., Buddhism preaches the sacredness of life through the concept of Ahimsa (Non-violence) and no harm.
- Constitutional Morality: Religious practices even if they constitute an essential part should not infringe the principle of Right to Life.
 - E.g., Freedom of religion under Article 25(1) is made subject to public order, morality and health.
- **Palliative Care:** Good care can manage suffering without euthanasia. **Also, medical science is evolving everyday.** What is incurable today may be curable tomorrow.
- Non-maleficence: The principle of non-maleficence (do no harm), underlines the importance of not causing harm to the patient.
 - The principle is also in consonance with the **Hippocratic Oath** of medical professionals, that aims at **not doing** harm.
- **Contradicts Kantian Philosophy:** As per Kant, **preserving life** is the **universal duty.** Life has intrinsic value; ending it undermines moral duty.
- **Potential for Misuse:** In case of **minor** (young and sensitive individual) and **terminally ill patients** (lacking rational mind), autonomy principle could be abused.
 - Further, **physicians** might pressure the patients to **opt for death** to cover up their medical mistakes.

Way Forward on Ensuring the Right to Die with Dignity

- Establishing Interpretative Dialogues: Regular communication facilitates understanding the patient's opinion towards their life, health, and sickness.
- Effective Regulation: Practice of Euthanasia should be effectively regulated to ensure it is performed only under hospital settings with the certification of at least 2 physicians.
 - o It must be **actively documented** to justify its execution after analysing all other medically available alternatives.
- **Prevent Misuse:** Before executing euthanasia, there should be a **thorough psychological evaluation, counselling, wait period**, to ensure that the patient is not improperly influenced.
- **Care Ethics Approach:** Apply a care-based approach, especially for **minors and mentally vulnerable patients**. Focus on understanding lived experiences and responding to emotional needs with empathy.

Conclusion

Medical advances may extend life, but they cannot always relieve suffering. When pain becomes unbearable, the **right to die with dignity** deserves thoughtful consideration—supported by strong ethical guidelines and strict regulations to prevent misuse.

As physicist **Stephen Hawking** rightly said:

"I believe those who suffer from a terminal illness and experience great pain should have the right to choose to end their own life, and those who assist them should be free from prosecution."

This reflects a compassionate, humane approach to one of the most profound moral questions of our time.

Check Your Ethical Aptitude

You have been recently appointed to the position of **Chief Medical Officer** in a remote district. You encounter the case of a woman who had recently been diagnosed with **cervical tumor** and had spent most of her life abused by her drunkard husband. Her tumor has reached **last stage** of its severity causing excruciating pain and helplessness. Even her family is **not very considerate** about her well-being. Under such circumstances, she expressed her desires for **medically assisted dying.** However, the people of the area are highly religious and if a word of such an act spread, then there could be an unrest. The situation has put you into a **difficult position** where on one hand is the suffering of a helpless woman while on the other hand is the issue of civil unrest.

Based on the above case study, answer the following questions:

- 1. Mention some arguments in favor and in against on subjecting the woman to medically assisted death.
- 2. What are the key ethical dilemmas involved under such situations?
- **3.** What is the legal status of the right to die with dignity in India? How does the Jain religious practice of Santhara aim to promote this right?

9.2. ETHICS OF BUSINESS DOWNSIZING

Introduction

Microsoft announced the layoff of **3% of its global workforce**, impacting thousands of employees across all levels, teams and geographies. Along with this, Google, Amazon, IBM, etc., have been on a layoff spree impacting around 60,000 global workforce.

Such measures were largely necessitated due to Aldriven re-organisation and to remove the unnecessary layers of management. Mass layoffs or downsizing have a far-reaching implication not just for the employees but for the entire society prompting its ethical analysis.



Automation, Mergers and Acquisitions, Job Outsourcing, etc. are key driving factors for such downsizing.

The downsizing which is aimed at productivity, profits, competitiveness, etc. is being seen as contradictory to Business Ethics

About Business Ethics

- Meaning: It is a crucial dimension of the modern corporate culture guiding individuals, firms, and business enterprises.
- **Features: Set of principles and values** like trust-building, equitable competition, integrity, legality, corporate governance, and personal moral development, etc.
- Nature: It does not adhere to statutory and regulatory requirements, and is characterized by moral rectitude, and a commitment to societal well-being.
 - Guided by the **elements** of **Virtue Ethics** (positive traits that guides the actions of the individuals).
 - E.g., Companies like **Infosys** have come up with a **Code of Conduct and Ethics** to guide good judgement in business.

Responsibility of a Business towards various stakeholders:



Consumers	 Serves as a preventive mechanism, thwarting businesses from engaging in unjust or deceptive practices that could potentially harm consumers. Apple provides Advanced Data Protection (ADP) feature to its iCloud services bringing end-to-end encryption.
Society	 Business serve as a basis for promoting equitable and honest competition. As Ratan Tata had once remarked 'Business need to go beyond the interest of their companies to the communities they serve'.

Ethical Dilemmas involved in Business Downsizing

- Utilitarianism Vs Kantian Capitalism: The utilitarian approach considers downsizing as the least harmful option to avoid bankruptcy (Greatest Good for the Greatest Number).
 - However, Kant's idea of **moral firm** does not favour treating employee as an means (through layoff) to achieve an end (stakeholder interests, profit, etc.).
- Individualism Vs Corporate Social Responsibility (CSR): The primary goal of a company is to maximize profits that justifies downsizing (Individualist view).
 - Downsizing impacts the **CSR imperative** that demands goodwill for the people in the community including their employees.
- **Deontological Vs Teleological Perspective: Deontological Approach** to businesses offers **moral duty** to guide actions transcending mere gain and profit maximization.
 - Consequential or Teleological approach focuses only on the good outcome of an action.
- Ethical Relativism Vs Universalisation of Justice: While ethical relativism rules out the existence of any right set of principles applicable to all, justice demands fairness for all without any discrimination.

Way Forward on dealing with Business Downsizing

- Measure of Last Resort: Business Management should first explore alternative options like reducing marketing spend, cutting travel costs, freeze on hiring, etc.
 - Companies should also evaluate the **consequences of downsizing**, i.e., its impact on the local unemployment rate, existing organisational culture, etc.
- Voluntary Layoffs: A strategy to let employees accept voluntary layoffs in exchange of attractive severance packages or giving them the opportunity to transfer skills to a new career.
- **Upholding Business Code of Conduct and Ethics:** Imbibing values of integrity, honesty, transparency, compassion, etc., ensuring they guide the business environment.
 - E.g., **Howard Schultz** (Former CEO, Starbucks) offered health insurance to eligible full- and part-time workers, including all domestic partners of employees in 1988.
- Agile Talent Strategy: Companies can bolster the long-term career prospects of employees by investing in ongoing career development and a culture of continuous learning.
 - E.g., Companies like Amazon offer **'Education as a Benefit Programme'** to its employees offering them career growth.
- Aiding Displaced workers: Proactively help terminated workers find new meaningful employment by leveraging community colleges, alumni networks, etc.
 - Nokia's Bridge Programme helped 60% of its employees laid off in 2014.

Conclusion

Before going for a large scale downsizing, there is a need for the management to hard look at all other **possible options.** Further, there is a need to **upskill** the employees on the future technologies that would also help in the future growth of the company. Along with this, instilling a culture of **habitual inclination** towards **good business conduct** and **practices** should be advanced by way of socialization, regular communication and interaction with all business stakeholders.

Check Your Ethical Aptitude

You are currently working as a **CEO** of an e-commerce firm. With the advent of automation, your company has automated a number of operations to **AI-enabled technologies.** This has caused **huge expenditure** on one hand while on the other hand, there are employees whose work has been rendered redundant. The board of the company has therefore decided to go for downsizing causing lay off of around 250 employees. You have been tasked to communicate the news with the selected employees, some of them having a great personal and professional rapport with you.

Based on the above case study, answer the following questions:

- 1. Identify the ethical dilemmas faced by you in the above case.
- 2. What are the key responsibilities of a business towards various stakeholders?
- 3. Suggest measures that you can recommend to the company's board to be taken before going for downsizing.



10. SCHEMES IN NEWS

10.1. ATAL PENSION YOJANA

Why in the News?

Atal Pension Yojana (APY) completed 10 years.

Oł	ojectives	Fe	atures
•	To encourage voluntary savings for	•	Ministry: Ministry of Finance
	retirement by offering defined	•	Launched in: 215
	pension benefits, linked to the age of	•	Implementing agency: Pension Fund Regulatory and Development
	joining and amount of contribution.		Authority (PFRDA) under the National Pension System (NPS).
•	To create a universal social security	•	Type: Central Sector Scheme
	system for all, especially the poor,	•	Eligibility:
	under-privileged and workers in the		• APY is open to all bank account holders in the age group of 18
	unorganized sector.		to 40 years who are not income tax payers.
•	To provide financial security in old age		 All eligible family members can join scheme.
		•	Benefits:
			o Guaranteed Monthly Pension: Lifelong pension between
			₹1,000 to ₹5,000 from age 60 until death.
			• Family Pension Provision: In case of death of subscriber,
			spouse receives the pension; nominee gets corpus.
			• Premature death of the subscriber (before 60 years of age):
			Spouse can continue contribution to APY account.
		•	Payment: Subscribers can make contributions to APY on monthly/
			quarterly / half-yearly basis. Depending upon the intended/desired
			monthly pension and the age of subscriber at entry.
		•	Exit and Withdrawal Options
			• Exit at age 60: Full pension begins.
			• Exit before age 60: Permitted only in cases of death or terminal illness.
			 Voluntary Exit: Allowed, but the subscriber only receives the
			contribution made (with interest) and government co-
			contribution (if any) is forfeited.
		•	Government Co-contribution (for Early Joiners): For eligible
			subscribers who joined between 1 June 2015 and 31 March 2016 (The
			scheme is continued but without Government Co-contribution).
			• The government co-contributed 50% of the total contribution or
			₹1,000 per annum (whichever is lower) for 5 years.
			• This applied only to subscribers not covered under any statutory
			social security scheme and not income taxpayers at the time.
		•	Achievements in ten years:
			\circ $$ Females constitute around 47% of total subscribers enrolled
			under Scheme
			\circ As on April 2025, more than 7.66 crore individuals have
			subscribed to the scheme.

10.2. PRADHAN MANTRI JEEVAN JYOTI BIMA YOJANA

Why in the News?

Pradhan Mantri Jeevan Jyoti Bima Yojana completed 10 years.

Objectives	Features	
• A one-year cover term life	Ministry: Ministry of Finance	
insurance scheme offering	Type: central Sector Scheme	
life insurance cover for	• Nature: Life insurance scheme (life cover up to age 55)	
death due to any cause.	• Premium rate: Rs. 436 per annum. It will be auto-debited in one instalment.	
	Conditions:	
	 A bank or post office account, and 	
	 Consent to enable auto debit of premium 	
	\circ In case of multiple bank / Post office accounts held by an individual, the	
	person is eligible to join the scheme through one bank/ Post office account	
	only.	
	Key features	
	• Universal Access: Open to all eligible account holders in the age group of	
	18 to 50 years, including NRIs (claims paid in INR).	
	 No Medical Examination: Simple, hassle-free process. 	
	• Covers All Causes of Death: Including natural, accidental, and even during natural disasters or pandemics.	
	 Covered death after the first 30 days of enrolment, deaths due to accidents will be exempted 	
	• Pro-rata Premiums: If you enroll mid-year, you pay only for the remaining months.	
	• Coverage: ₹ 2lakh (term insurance), renewable from year to year.	
	• Implementing agency: Life Insurance Corporation and all other life insurers	
	who are willing to join the scheme and tie-up with banks for this purpose.	
	• Impact: 23+ crore enrolled; 9 lakh families received claims.	
	• Major beneficiaries: 53% women and 74% from rural areas.	

10.3. PRADHAN MANTRI SURAKSHA BIMA YOJANA

Why in the News?

Pradhan Mantri Suraksha Bima Yojana completed 10 years.

Objectives	Features
• An Accident Insurance	Ministry: Ministry of Finance
Scheme offering accidental	Type: Central Sector Scheme
death and disability cover	• Eligibility: Citizen (including NRIs) in the age group 18 to 70 years
for death or disability on	• Premium rate: ₹ 20 per annum per member
account of an accident.	• Enrolment period: The cover shall be for one-year period stretching from 1st
	June to 31st May
	• Implementing agency: The scheme is offered / administered through the
	Public Sector General Insurance Companies (PSGICs) and other general
	insurance companies willing to offer the product with necessary approvals on
	similar terms, in collaboration with participating Banks.
	\circ Participating banks are free to engage any such general insurance
	company for implementing the scheme for their account
	holders/subscribers.

•	Conditions:
	 A bank or post office account, and
	 Consent to enable auto debit of premium.
•	Coverage:
	\circ ₹ 2 lakh for accidental death or total permanent disability.
	\circ ₹ 2 lakh for total and irrecoverable loss of both eyes or loss of use of both
	hands or feet or loss of sight of one eye and loss of use of hand or foot
	\circ ₹1 lakh for partial permanent disability.
	\circ ₹1 lakh for total and irrecoverable loss of sight of one eye or loss of use of
	one hand or foot
•	Other key features
	 Natural calamities are also covered under PMSBY.
	• Individuals who exit the scheme at any point may re-join the scheme in
	future years by paying the annual premium.
•	Online Jan Suraksha Portal: Digitization and simplification of enrolment and
	claims.
•	Impact: 44+ crore enrolled since launch.
	• Major beneficiaries: 50.16% women and 72.24% from rural areas.

10.4. NATIONAL SCHEME FOR UPGRADATION OF INDUSTRIAL TRAINING INSTITUTES (ITIS)

Why in the News?

Union Cabinet has approved the National Scheme for Industrial Training Institute (ITI) upgradation and the Setting up of five (5) National Centres of Excellence for Skilling as a Centrally Sponsored Scheme.

Objectives	Features	
 Objectives To make vocational training a central pillar of India's industrial and economic growth, especially in emerging sectors such as electronics, automotive, and renewable energy. Addressing the rising demand for skilled workforce Enhancement of knowledge and skills of ITI instructors, strengthening curriculum development, capacity building etc. 	 Ministry: Ministry of Skill Development and Entrepreneurship Type: Centrally Sponsored Scheme Funding: ₹60,000 crore (Central Share: Rs.30,000 crore, State Share: Rs.20,000 crore and Industry Share: Rs.10,000 crore) over five years. It will be equally co-financed to the extent of 50% of Central share by the Asian Development Bank and the World Bank. Other Important Features of Scheme: Revamping: To reposition ITIs as aspirational, government-owned, and industry-managed institutions, offering revamped courses that reflect the evolving skill requirements of modern industries. The scheme envisions the upgradation of 1,000 Government ITIs in a hub-and-spoke model aligned with industry needs and the capacity augmentation of five National Skill Training Institutes (NSTIs) located in Bhubaneswar, Chennai, Hyderabad, Kanpur, and Ludhiana. These NSTIs will also house the new National Centres of Excellence. 	

	• Bridging Skill Gaps: To ensure effectiveness, the scheme will	
	adopt an industry-led Special Purpose Vehicle (SPV) model,	
	marking a major shift from earlier government-only approaches.	
	\circ This will enable close collaboration between ITIs and	
	industry in curriculum planning, infrastructure upgrades, and ongoing management.	
	• Ensuring alignment: Between local workforce supply and industry	
	demand, thereby facilitating industries, including MSMEs, in	
	accessing employment-ready workers.	
	• Focus on Training of Trainers (ToT): By upgrading infrastructure	
	and offering pre-service and in-service training in the NSTIs, to	
	enhance the quality and consistency of vocational education	
	 • 'Viksit Bharat' Vision: This scheme aligns with Viksit Bharat 	
	(Developed India) by 2047 to fulfil inclusive growth and global	
	competitiveness goals.	
	About ITIs	
	Operating under state governments, ITIs have been backbone of	
	Vocational Education and Training (VET) in India since the 1950s.	
	About Centres of Excellence:	
	• It is a body that provides leadership, best practices, research,	
	support, training of trainers and skill training for a specific sector/s.	

10.5. CREDIT GUARANTEE SCHEME FOR STARTUPS (CGSS)

Why in the News

The Department for Promotion of Industry and Internal Trade (DPIIT), notified the **expansion of the Credit Guarantee Scheme for Startups (CGSS)** to increase capital mobilization for startups.

Objectives	Key Features		
To provide guarantee upto a	Nodal Ministry: Ministry of Commerce & Industry	Eligibility Criteria 🔗 🔗	
 specified limit against credit instruments extended by Member Institutions (MI) to finance eligible Startups Facilitate much needed collateral free debt funding to Startups 	 The credit facility being cover under any other guarantees In respect of credit facilities secured by way of partial 	 Startup Eligibility DPIIT Recognized Department for Promotion of Industry and Internal Trade Not in Default No NPA classification MI Certified Member Institution certification MI certified Member Institution MI certified Member Institution MI certified Member Institution MI certified Membe	

•	Instruments of Assistance: Venture debt, working capital, subordinated		
debt/mezzanine debt, debentures, optionally convertible debt and oth			
	fund-based as well as non-fund-based facilities, which have crystallised as		
	debt obligations.		

10.6. SHAKTI (SCHEME FOR HARNESSING AND ALLOCATING KOYALA TRANSPARENTLY IN INDIA) POLICY

Why in the News?

The Cabinet Committee on Economic Affairs approved the Revised **SHAKTI Policy** for Coal Allocation to the Power Sector.

•	 Import Substitution: Imported Coal-Based plants allowed using domestic coal under Window-II, reducing import dependence. Linkage Rationalization: Aims to cut coal delivery costs and ease railway load, resulting in lower tariffs for consumers. Delegation of power: Minor policy shanges delegated to Ministry of Coal and Ministry of 			
	 Minor policy changes delegated to Ministry of Coal and Ministry of Power. 			
	• Empowered Committee to resolve operational issues.			
•	• Flexibility to Existing Fuel Supply Agreement (FSA) Holders: Existing			
	FSA holders can procure beyond 100% ACQ under Window-II. Fresh			
	applications allowed under revised policy post expiry of old linkages.			
•	• Sale of Un-requisitioned Surplus: Allows sale of surplus power in			
	power markets, increasing efficiency and market depth.			
•	Key beneficiaries:			
	 Power companies (assured coal supply) 			
	 Consumers (reduced cost of power) 			
	 Indigenous Coal Sector (reduction in Imported coal) 			
	 Banking Sector (reduced NPAs) 			
	 State Government 			
	 Railways 			

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analytical, focusing on the demands of the Mains examination.

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11. PLACES IN NEWS



12. PERSONALITIES IN NEWS

Personality	About	Ethical values exhibited by the personality
۵ Constraints C	 Adi Shankaracharya Four panchaloha idols of Adi Shankarcharya are set to be installed at Kedarnath, Badrinath, and Uttaramanya Jyotirmath in Uttarakhand. About Adi Shankaracharya Born: In Kalady, Kerala. Gave the concept of Advaita (non-dualism). It emphasizes the non-dual nature of Brahman - the ultimate, formless reality - and teaches that the individual soul (Atman) is not separate from Brahman. According to Shankaracharya, the perceived duality in the world is an illusion (Maya), and liberation (Moksha) comes from realizing the oneness of the individual. He acknowledged the role of Bhakti (devotion) in spiritual practice. He established four mathas in the four cardinal directions of India - Sringeri (South), Dwarka (West), Puri (East), and Badrinath (North). Literary works: Bhaja Govindam, Atma Shatakam, Saundarya Lahari, Brahma Sutra Bhashya, etc. 	 Respect for learning and faith in oneself. He laid down the foundation of debate and argumentative tradition in Indian thought. He considered the purity and steadiness of mind achieved in Yoga as an aid for self-liberation.
ک Maharana Pratap (1540 – 1597)	 Prime Minister pays tributes to Maharana Pratap on his Jayanti. About Maharana Pratap (1540 - 1597) He is a renowned Rajput warrior and a king of Mewar, Rajasthan. He was born in Kumbhalgarh Fort to Jaiwanta Bai and Udai Singh II. He refused to submit to the Mughals (during the reign of Akbar). This led to Battle of Haldighati (1576), Mughal army was under the command of Asaf Khan I and Man Singh. Successor: Maharana Amar Singh I 	 Fortitude and Respect for women He bravely resisted the military advances of much powerful adversary and fought without any compromises. He never allowed mistreatment of women even in his captured people.
ک Vinayak Damodar Savarkar (1883 – 1966)	 Recently, Prime Minister paid homage to Shri Vinayak Damodar Savarkar on his birth anniversary. About Veer Savarakar Born at Bhagur village near Nasik (Maharashtra). Key Contributions Revolutionary Nationalism: Founded the Abhinav Bharat Society in 1904, advocating armed struggle for India's independence. 	 Patriotism and self-reliance He was sentenced to rigorous punishment for his nationalistic activities. He fervently participated in the Swadeshi Movement and boycotted foreign goods.

	 Diaspora Mobilisation: In 1906, established the Free India Society in London to mobilize Indian students abroad. Literary work: Authored "The First War of Independence" about the 1857 revolution. Imprisonment and Sacrifice: Was tried for sedition in 1910 at Bombay and was sentenced to double transportation for life totaling about 50 years of rigorous imprisonment. Social Reform: Actively campaigned against untouchability. He constructed the Patit-Pavan Mandir, where Dalits were appointed as priests. Advocacy for National Unity: As president of Hindu Mahasabha (1937–1944), he engaged in political negotiations with the British during the Cripps Mission and Wavell Plan discussions. 	
Kartar Singh Sarabha (1896 - 1915)	 Eminent freedom fighter Kartar Singh Sarabha was remembered on his birth anniversary on May 24. About Karatar Singh Sarabha He was an Indian revolutionary born in the village of Sarabha, Ludhiana (Punjab). Key Contributions He became a member of Ghadar Party (founded in Oregon in 1913 to overthrow British rule) at the age of 15 and was one of its most active members. He put together the Punjabi issue of the Ghadar newspaper. On returning to India, he focused on mobilising Indian soldiers to revolt and set up a small scale arms manufacturing unit in Ludhiana. He was charged with sedition in Lahore Conspiracy Case and was executed in 1915, along with his compatriot Vishnu Ganesh Pingle. 	 Sacrifice and Revolutionary Zeal His willingness to sacrifice his life for India's independence epitomized his dedication to the cause. His active participation in the Ghadar Party and efforts to incite rebellion showcased his fervent revolutionary spirit.
ک Fakhruddin Ali Ahmed (۱905–1977)	 President paid tributes to former President, Shri Fakhruddin Ali Ahmed on his birth anniversary. About Fakhruddin Ali Ahmed (1905–1977) He was a distinguished lawyer, politician, and the 5th President of India (From 1974 till his death in 1977). Key Contributions Indian Freedom Struggle: Joined the Indian National Congress, loyal follower of Mahatma Gandhi and participated in Individual Satyagraha and Quit India Movement for which he was arrested in 1942. 	 Dedication to Democracy and Constitutional Integrity He upheld democratic principles by participating in the freedom struggle and later serving in various constitutional roles. His tenure reflected a commitment to upholding the Constitution and governance norms.

	 Post-Independence: Elected to the Rajya Sabha in 1952 and to Lok Sabha in 1967. Held Portfolios like Food and Agriculture, Cooperation, Education, Industrial Development, and Company Laws. As President: Notable for his decision to proclaim Emergency by the advice of the then Prime Minister in 1975. 	
د.	 Eminent revolutionary leader in India's freedom struggle Shaheed Sukhdev Thapar was remembered on his birth anniversary (May 15). About Sukhdev Thapar Born in Ludhiana, Punjab. He was a member of the Hindustan Socialist Republican Association (HSRA). Key Contributions Organized revolutionary cells in Punjab and other parts of Northern India. Founded the Naujawan Bharat Sabha (1926, Lahore) to mobilize youth for the independence struggle. Was at forefront of several revolutionary activities: Prison Hunger Strike (1929): Protested against the inhuman treatment meted out to the inmates in jail. Lahore Conspiracy Case (1928): Sukhdev and his accomplices Shivaram Rajguru and Bhagat Singh plotted to assassinate James A Scott (responsible for the death of Lala Lajpat Rai) but mistakenly shot J P Saunders, the Deputy Superintendent of Police. Later, Hanged on March 23, 1931 in Lahore Jail, along with Shaheed Bhagat Singh and Shivaram Rajguru, observed as Shaheed Diwas (Martyr's Day). 	 Patriotism and Youth Leadership His commitment to India's freedom was evident in his revolutionary activities and ultimate sacrifice. He inspired many young Indians to join the freedom struggle and fight for their rights.
۵۰ Malur Ramasamy Srinivasan (1930-2025)	 Recently, Dr. M R Srinivasan passed away. About Malur Ramasamy Srinivasan He was an Indian nuclear scientist and mechanical engineer. He served as the Chairman of the Atomic Energy Commission. Also, he was founding chairman of the Nuclear Power Corporation of India Limited (NPCIL). Key Contributions: He played a key role in the development of India's nuclear power programme and development of the Pressurised Heavy Water Reactor (PHWR) along with Homi Jehangir Bhabha. 	 Scientific Temper and National Development He spearheaded India's nuclear power program, emphasizing safety and innovation. His leadership reflected a commitment to advancing the nation's scientific capabilities for energy self-reliance.

	 He was involved in building the country's first nuclear research reactor, Apsara. Book: From Fission to Fusion: The Story of India's Atomic Energy Programme 		
۵.	Prof Jayant Narlikar, astrophysicist who proposed an alternative to Big Bang theory, passes away at 86.	Intellectual Curiosity 🦻 and Dedication to Scientific Advancement	
	About Jayant Narlikar	• His pioneering work in	
	 Born in 1938, in Kolhapur, Maharashtra. 	cosmology showcased his passion for	
	 Completed B.Sc. at Banaras Hindu University (BHU) in 1957. 	his passion fo challenging established theories with nev	
1000	Scientific contribution	perspectives.	
	Pioneering work in cosmology, especially:	• He built institutions that	
Prof. Jayant Narlikar (1938–2025)	Hoyle–Narlikar Theory, an alternative to the Big Bang model.	nurtured collaborative research, reflecting his	
	 Instrumental in expanding the Theoretical Astrophysics Group at Tata Institute of Fundamental Research (TIFR). 	belief in the transformative power of science.	
	 Founder-Director, Inter-University Centre for Astronomy and Astrophysics (IUCAA). 		
	Awards		
	• Kalinga Award by UNESCO		
	Padma Bhushan and Padma Vibhushan		

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