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October 2024

Monthly CURRENT AFFAIRS

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2026, 2027 & 2028

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LUCKNOW: 5 DEC | **BHOPAL: 5 DEC** | **ADMISSION OPEN** | **AHMEDABAD | CHANDIGARH | PUNE**

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- **Recordings of Mock Interviews:** Video of Interview sessions for Self-evaluation

For queries regarding DAF analysis and Mock interview contact at

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interview@visionias.in

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Building Mental Resilience for UPSC CSE with VisionIAS Student Wellness Cell

The UPSC Civil Services Examination is one of the most prestigious exams in the country, bringing immense professional and personal satisfaction. However, the journey often involves overcoming loneliness, intense competition pressure, anxiety, and other psychological challenges. These issues can impact both your preparation and overall well-being.

At **VisionIAS**, we recognize the multifaceted nature of this journey. To support our students comprehensively, we have established a dedicated Student Wellness Cell. Since April 2024, our highly professional psychologists and experienced professionals have provided confidential and mindful support as per student needs.

From Stress Management to Academic Excellence

Enhancing Academic Performance: Effective stress management contributes to better academic outcomes.

Professional Mental Health Support: Seeking professional help is crucial for success in UPSC preparation.

Well-Supported Mind for Excellence: Mental well-being is essential for achieving success in UPSC exams.

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Common Issues and Our Approach

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Lack of Motivation and Focus: Introducing time management strategies and SMART goal-setting.

Emotional Struggles: Providing a safe space for expression and techniques such as journaling and progressive muscle relaxation.

Social Isolation and Loneliness: Encouraging healthy social interactions and setting personal boundaries.

Family and Personal Issues: Offering advice on coping with family dynamics, personal loss, and significant life stressors.

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To support the larger student community, **VisionIAS** is now extending our counseling and wellness support to all students preparing for UPSC CSE, regardless of their coaching institute affiliation. Schedule a session by visiting our office at Apsara Arcade near Karol Bagh Metro Station or emailing ***student.wellness@visionias.in.***

Remember, seeking help is a sign of strength, not weakness.

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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.

1. POLITY AND GOVERNANCE

1.1. JAN YOJANA ABHIYAN

Why in the news?

Ministry of Panchayati Raj launched the **People's Plan Campaign (Jan Yojana Abhiyan)** for the preparation of **Panchayat Development Plans (PDPs) for 2025–26.**

About Jan Yojana Abhiyan or People's Plan Campaign (PPC)

- **Aim:** To accelerate **people's participation** in the process of preparation of the Panchayat Development Plan.
- **Launched:** Rolled out as **'Sabki Yojana Sabka Vikas'** by the **Ministry of Panchayati Raj** on **2nd October 2018.**
- **Implementation:** At all three tiers of Panchayats with the active involvement of **Elected Representatives, Government Frontline workers, Community-Based Organizations (CBOs) like Self Help Groups (SHGs) and other stakeholders.**
- **Components of the campaign:**
  - **Structured Ward Sabha/ Mahila Sabha/ Gram Sabha/ Block Sabha / District Sabha** to be held for preparation of **Gram Panchayat Development Plan (GPDP), Block Panchayat Development Plan and District Panchayat Development Plan** for **FY 2025-26.**
  - Preparation of **Gram Sabha wise calendar** and identification of **Thematic developmental gaps** based on the **Panchayat Development Index (PDI),** to be presented in the Gram Sabha.
    - Thematic approach is based on **localization of Sustainable Developmental Goals (SDGs)** by adopting a **'Whole of Government and Whole of Society approach.'**
    - PDI is a **multi-domain and multi-sectoral index** that is intended to be used to assess the overall holistic development, performance & progress of panchayats.
  - **Inclusive participation:** Engage the youth and the elderly (more than 75 years) for handholding in preparation of GPDPs.
    - **Collaboration with Unnat Bharat Abhiyan (UBA):** By involving over 15,000 students this year from Higher Education Institutions (HEIs).
  - The approved GPDP to be published on **the e-Gram Swaraj portal.**

Constitutional Provisions

- **Article 40 (DPSP):** Organization of **Village Panchayats** and endowing them with such powers and authority as may be necessary to enable them to **function as units of Self Government**.
- **73rd and 74th Constitutional Amendment Acts:** Constitutional legitimacy given to the system of Local Self-Governments.
- **Article 243G**: Recognize the **Panchayats** as institutions of self-government, it mandates them to **prepare plans** for **Economic Development and Social Justice**.
  - This is to be done based on the **29 subjects** under the **Eleventh Schedule** of the Constitution.

People's Participation

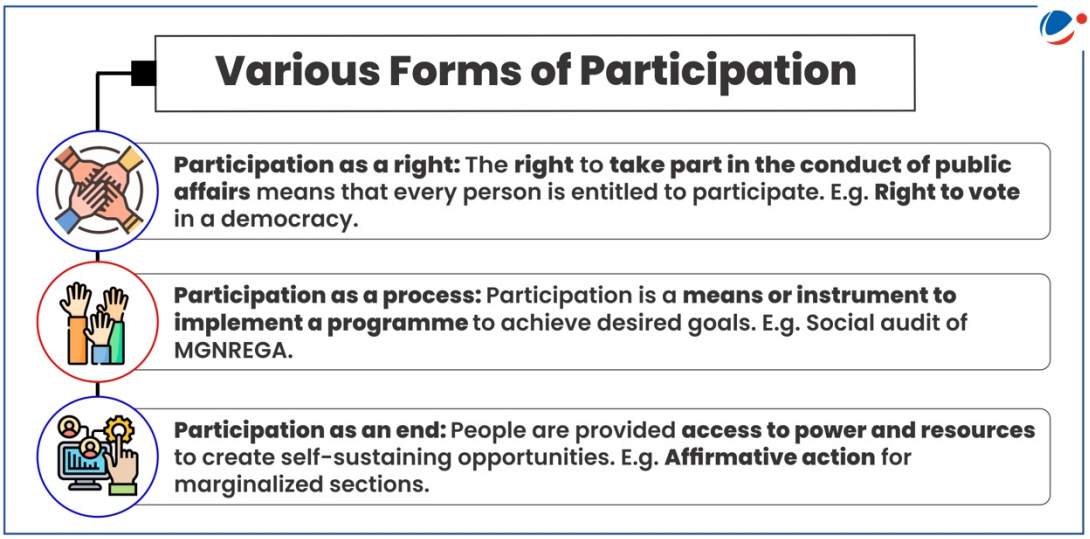
- People's participation means **direct involvement of all stakeholders in the decision-making process** which is likely to affect their lives.

Significance of People's participation in Development Planning

- **Improves implementation Efficiency and Effectiveness**: People's participation in developmental planning improves **project acceptability**, ensures a more **equitable distribution of benefits**, and promotes **local resource mobilization**.

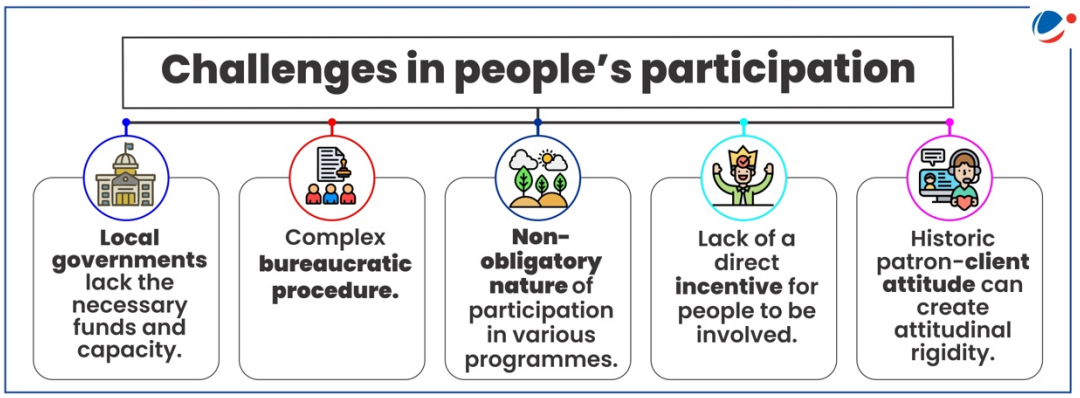
- **E,g., MGNREGA** focus on **progress review by Gram Sabhas, monitoring through Management Information System (MIS) and post-completion scrutiny by social audit.**

- **Inclusive decision-making**: People's participation e**mpowers citizens for responsible development planning**, providing a **sense of ownership** leading to improved citizen **satisfaction**.
  - **E.g., MyGov Saathi 2.0** involve citizens in the governance process and promote active participation in nation-building.



- **Self-reliance**: Active involvement aids in **breaking the psychological barrier of dependence** while improving their **awareness, self-confidence and control** of the development process.
  - E.g., **Self-Help Groups (SHGs)** under the National Rural Livelihood Mission (NRLM)
- **Coverage**: People's participation in the decision-making process **widens** the coverage among all sections **including deprived and weaker sections**.
  - E.g., In **Swachh Bharat Abhiyaan, the** Government mobilised **community volunteers,** to ensure reaching every person and initiating behavioural change for sustaining cleanliness.
- **Sustainability**: People's involvement in **governing the scheme** creates **local capability and ownership of resources,** providing long-term solutions to local problems.
  - E.g., **Joint Forest Management (JFM)** involves the state forest department and local communities in protecting and managing forests.

- **Improved Project design**: Active community participation in planning aids **streamlining project design** to inculcate **local knowledge and needs**.



Way Forward

- **Policy integration: Integration of participatory planning** with the **conventional** planning framework and government **policies**.
- **Strengthening local governance:** Local self-government structures and processes need to be streamlined to ensure people's participation.
- **Technological integration:** Promoting digital technology-based tools for improved participation such as **participatory GIS (Geographic Information System)** etc**.**
- **Community Capacity Building:** People should be made aware about the significance of participation and be encouraged to take part, especially vulnerable groups like women and marginalized communities.
- **Behavioural change**: Encouraging people to engage in governance by changing attitudes and empowering them is essential for sustaining their participation.

1.2. FREE LEGAL AID

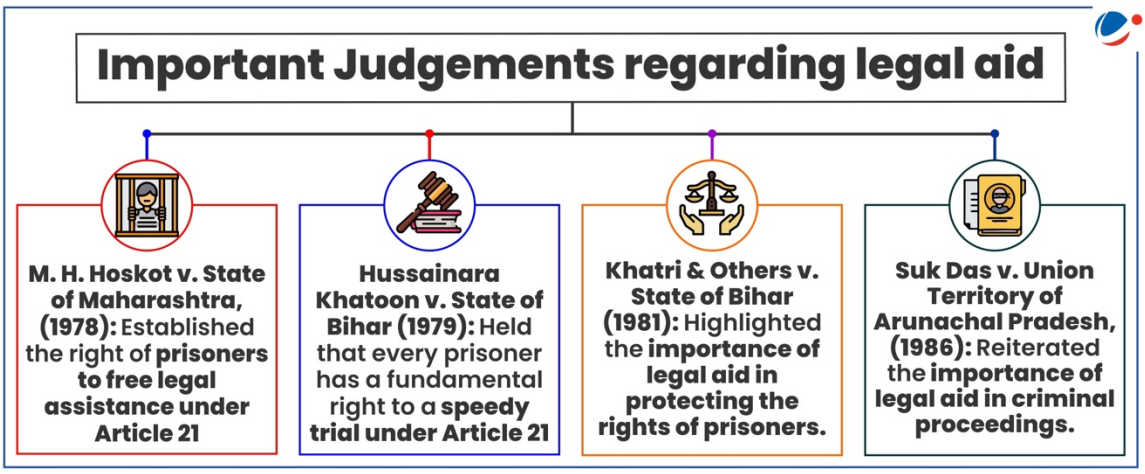
Why in the news?

The Supreme Court (SC) issued **directions** for **Legal Services Authorities (LSAs) to ensure** access to free legal aid for prison inmates.

SC Directions to ensure access to free legal aid for prison inmates

- **Strengthening Legal Services Authorities:** The National Legal Services Authority **(**NALSA) in cooperation with the state and district level legal authorities shall ensure effective implementation of SOP-2022 with periodic upgradation.
- **Strengthen the monitoring of Prisoner Legal Aid Clinics (PLACs): Periodic review** of the functioning of the PLACs by the Legal Services Authorities (LSAs).
- **Data-led improvements:** The LSAs to periodically update statistical data and address the shortcomings highlighted on the analysis of this data.
- **Legal Aid Defence Counsels: Periodic inspection and audit** of the work of the Legal Aid Defence Counsels should be carried out.
- **Awareness generation:** Improving awareness about available schemes and legal aid services including **literature in local languages** and employing appropriate promotional methods.
- **Effective Communication:** Periodic interaction by the LSAs with convicts as well as Jail Visiting Lawyers (JVLs) and Para Legal Volunteers (PLVs).
    - The High Courts may on their **webpage carry information about the legal aid facilities available in the State.**
- **Periodic reporting:** Periodic reports should be submitted by the DLSAs to the SLSAs and the SLSAs to the NALSA and the process can be **digitized for ease of access.**

About free legal aid in India



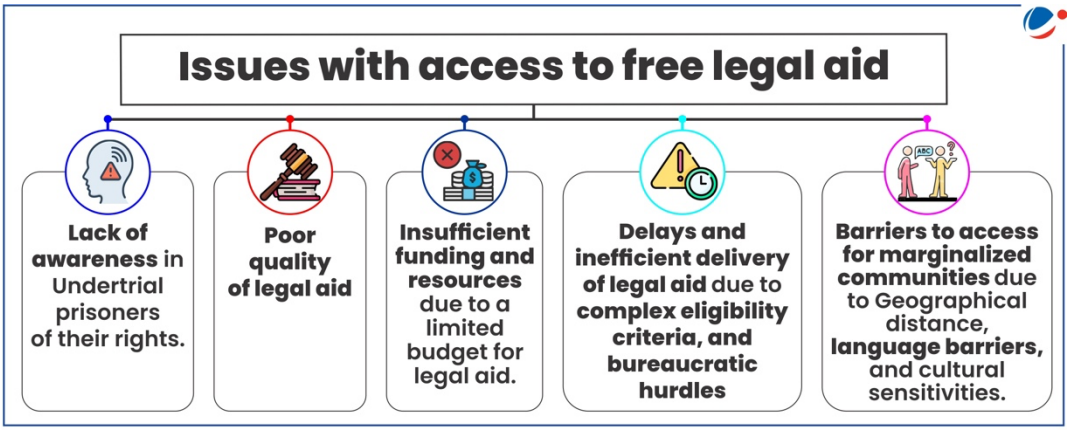
- **Legal aid** in India refers to the provision of **free legal services** to individuals who are **unable to afford legal representation or access to the justice system.**
- Legal aid can include **legal advice, representation in court proceedings, mediation, negotiation, and alternative dispute resolution mechanisms.**
- **Constitutional provisions for legal aid**
    - **Article 21**: It states that **no person shall be deprived of his life or personal liberty** except according to procedure established by law.
    - **Article 39-A:** Ensure **'Equal Justice and Free Legal Aid'** to ensure that **opportunities for securing justice** are not denied to any citizen because of economic or other disabilities**, inserted by the 42nd Constitutional Amendment (1976).**
- **Statutory provisions**
    - **Legal Services Authorities Act, 1987 (came into force in 1995): To constitute legal services authorities** to provide free and competent legal services to the weaker sections of society.
        - **National Legal Services Authority (NALSA), State Legal Services Authority (SLSAs) and the District Legal Services Authority (DLSAs)** were accordingly constituted.
    - **Section 341 of the Bhartiya Nagarik Suraksha Sanhita, 2023:** Legal aid to accused at State expense in certain cases where the accused lacks the means for legal engagement.

The National Legal Services Authority (NALSA)

- It is a **statutory** body constituted under the **Legal Services Authorities Act, 1987 to provide free and competent legal services to the weaker sections of the society**.
- **Functions**:
  - **Formulate policies, principles, guidelines** and frame effective schemes for the **State Legal Services Authorities** to implement the Legal Services Programmes throughout the country.
  - **Monitor and evaluate implementation** of legal aid programmes.
  - Organize **Lok Adalats** for amicable settlement of disputes**.**
- **Eligibility for free legal aid:**
  - Women and children
  - Members of Scheduled Castes/Scheduled Tribes
  - Industrial workmen
  - Victims of mass disaster, violence, flood, drought, earthquake, industrial disaster.
  - Persons with Disabilities
  - Persons in custody in protective home, juvenile home, or in a psychiatric hospital.
  - Persons whose annual income does not exceed Rs. 1 lakh (Unde the Legal Services Authorities Act, 1987, higher amount may be prescribed by the State Govt)
    - In the Supreme Court Legal Services Committee the limit is Rs. 5,00,000/.
  - Victims of Trafficking in Human beings or beggar

Significance of free legal aid

- **Social welfare and justice:** It aids in addressing **systemic inequalities** and **empowering marginalised communities** by enabling them to challenge discriminatory practices.
  - It helps to **bridge the gap** between the **rights guaranteed by law** and the **ability of individuals to enforce those rights.**
- **Protection of rights:** Legal aid plays a crucial role in protecting and promoting **fundamental rights and liberties,** including the **right to a fair trial, the right to equality before law, the right to legal representation, and the right to access to courts.**



- **Strengthening rule of law: Legal assistance** promotes **adherence to legal norms and procedures, thereby,** enhances **public trust and confidence in the justice system**.
- **Legal awareness:** Legal aid provides both representation and education about the legal rights to people.

Government Steps

- **Designing Innovative Solutions for Holistic Access to Justice in India (DISHA) scheme:** To strengthen pre-litigation mechanism.
- **Tele-Law:** To facilitate delivery of **legal advice through an expert panel of lawyers –** stationed at the SLSA.
- **Nyaya Bandhu (Pro Bono Legal Services) programme :** Through this interested lawyers can register themselves to **volunteer pro bono services** for the underprivileged litigants.
- **Nyaya Mitra programme:** To facilitate **disposal of 10 to 15 years old cases (both civil and criminal cases)** pending in High Courts and Subordinate Courts.
- **Lok Adalat: O**ne of the alternative dispute redressal mechanisms, where disputes/cases pending in the court of law or at pre-litigation stage are settled/ compromised amicably.
  - **There is no court fee payable** when a matter is filed in a Lok Adalat.

Way forward

- **Policy implementation:** Policies should focus on increasing **funding** for legal aid**, simplifying eligibility criteria, and improving coordination** between different stakeholders.
- **Strengthening institutional capacity:** Building capacities of LSAs, enhancing **infrastructure and resources** and strengthening **monitoring and evaluation** mechanisms.
- **Awareness generation:** For example, **Haq Humara bhi toh hai@75 campaign** in 2022 for providing basic legal assistance to persons confined in prisons and children in child care institutions.
- **Leveraging Technology:** To enable solutions to expand the **reach and efficiency** of legal aid services.
  - Prison records can be **made available digitally for ease of access** for providing effective legal aid by the courts.
- **Quality legal aid:** A threshold level of **competence and due diligence** in the discharge of his duties as a defence counsel to be ensured. (Ramanand@ Nandlal Bharti v. State of U.P., 2022)

Related news: SARTHIE 1.0

The **Department of Social Justice and Empowerment (DoSJE)** and **National Legal Services Authority (NALSA)** launched **SARTHIE 1.0**.

About SARTHIE 1.0

- **Aim**: Empower disadvantaged communities (like Scheduled Castes, Transgenders, Denotified and Nomadic Tribes, etc.) through **awareness generation**, **legal support** promoting effective access to welfare schemes.
  - Offers synergy between executive and judiciary to further social justice.

1.3. RIGHT TO INFORMATION (RTI) ACT, 2005

Why in the News?

As the Right to Information (RTI) Act, 2005 **approaches its 20th anniversary** in 2025, it is crucial to reflect on its impact and the challenges it faces.

About RTI Act, 2005

- It was enacted in **June 2005** and came into **force in October 2005.**
- The act provides **citizens the right to secure access to information** under control of **Public Authorities (PAs).**
- **Coordinating agency:** Department of Personnel and Training under Ministry of Personnel, Public Grievances and Pensions (MoPPG&P).
- **Background:**
  - Right to Information finds articulation as a human right in the **Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights** and the **International Covenant on Economic, Social and Cultural Rights.**
  - India enacted the **"Freedom of Information Act, 2002"** in order to promote, transparency and accountability in administration.
  - Later, **RTI Act 2005** replaced the **Freedom of Information Act, 2002.**
  - **'Raj Narayan v/s Uttar Pradesh Government':** Supreme Court established the Right to information as a **fundamental right** under the **Article 19** of Indian Constitution.

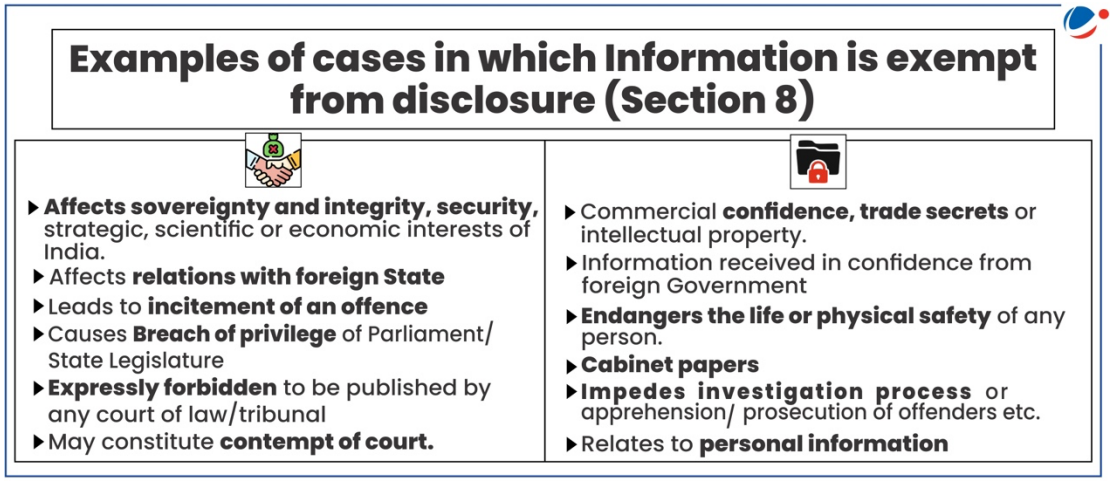
Do you know

Central Information Commission (CIC), has declared **several national and regional political parties to be public authorities** under the RTI, Act.

Key Provisions of the RTI Act

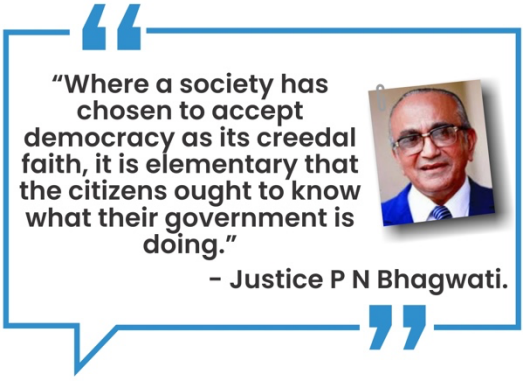
- **Institutional framework:**
  - **Central and State Information Commissions:** to oversee its implementation and address appeals regarding non-disclosure of information.
  - **Central Public Information Officers (PIO) or State PIO:** in every public authority to provide information to persons requesting for the information under this Act.
- **Rights provided:**
  - **Every citizen** has the right to request information from a public authority.
  - **Obligations of Public Authorities (Section 4):** To maintain records and **proactively disclose certain categories of information** to minimize the need for formal requests.

- **Applicability: Public Authorities,** including all authorities/bodies/institutions of Government established under the Constitution, any other law made by the Parliament or a State Legislature or through notification issued/order made by the appropriate Government.
    - It also includes bodies **owned, controlled or substantially financed** by the Central/State Government and **non-Government organisations substantially financed** (directly/indirectly) by the Central/State Government also fall within the definition of public authority.
- **Exemptions from Disclosure:**
    - **Section 8:** Certain information is exempt from disclosure (see infographic).
    - **Certain intelligence and security organisations specified in the Second Schedule:** Includes 27 organizations like Computer Emergency Response Team (CERT-In), Intelligence Bureau, Research and Analysis Wing, Directorate of Enforcement, National Technical Research Organisation etc.
- **Jurisdictions:**
  Lower courts are barred from entertaining suits or applications.
    - However, the **writ jurisdiction of the Supreme Court and high courts under Articles 32 and 225** of the Constitution remains unaffected.



- **Other key Provisions:**
    - **Penalties:** In case of failure to provide information on time, incorrect, incomplete etc.
    - **Time Frame for Providing Information**: Within **30 days** of the request; for matters concerning life or liberty, it must be provided **within 48 hours.**
    - **Appeals:** Citizens can appeal against decisions of PIOs if their requests are denied or inadequately addressed.
- **Amendments:**
    - **Right to Information (Amendment) Act, 2019** modified the terms and conditions of employment for the Information Commissioners (ICs) at the Central and State Levels.
        - It empowered the **Central Government** to prescribe the **Terms, Salaries, Allowances and Other terms of service of Chief ICs and ICs** (at the central and state level).
    - **Digital Personal Data Protection (DPDP) Act, 2023:** Amended **section 8(1)(j) of RTI law** to **exempt all personal information from disclosure.**

Significance of Right to Information



- **Empowerment of Citizens:** RTI Act empowers citizens to actively participate in the democratic process by providing them with the means to access information about government activities, policies, and decisions.
- **Transparency: Proactive disclosure of important information (Sec 4)** by governmental agencies constitutes the **essence of transparency in governance.**
- **Accountability:** Public authorities are required to justify their actions and decisions when requested by the public.
- **Expose Corruption**: RTI Act was used to uncover the illegal allotment of apartments in the Adarsh Housing Society.
- **Effective Implementation of Policies and Welfare Schemes:** In Rajasthan, RTI was used to expose discrepancies in **MGNREGA records**.

Challenges in implementation of RTI Act

- **Functional Issues:** As per 2023-24 report of the **Satark Nagrik Sangathan.**
  - **Defunct ICs and vacancies:** 7 **out of 29 information commissions** were defunct between July 2023 to June 2024.
    - 9 commissions were without a chief information commissioner.
  - **Inordinate delays:** 14 commissions would take 1 year or more to dispose a matter.
  - **Backlogs: Over 4 lakh appeals and complaints are pending** across 29 information commissions across India (June 2024).
    - Also, 42% of the appeals/complaints received by the CIC were returned.
  - **Skewed gender composition:** Since the passage of the RTI Act in 2005, merely 9% of all information commissioners across the country have been women.
- **Structural Issues:**
  - **Exemptions:** RTI laws often include exemptions for certain types of information, such as **national security or personal privacy** which are open to interpretation.
  - **Authorities lying outside 'Public Authority' definition**: For instance, **PM CARES Fund is** not a **"public authority"** under RTI Act, 2005.
  - **Dilution through amendments**: For instance, RTI (Amendment) Act, 2019 may impact the independent functioning of ICs.
- **Procedural Issues:**
  - **Bureaucratic Resistance:** Public officials may be reluctant to disclose information that could expose wrongdoing, inefficiency, or corruption within their own departments.
  - **Non-Compliance:** Political parties haven't appointed information officers, Act stating they are not public authorities.
  - **Lack of Awareness and Education:** It can lead to underutilization of RTI.
- **Other issues:** Lack of protection of RTI activists; Inadequate training of PIOs; COntradition with Official Secrets Act, 1923 etc.

Way Forward

- **Recommendations of 2nd ARC** in its report entitled, **"Right to Information – Master Key to Good Governance:**
  - **Establish National Coordination Committee (NCC)**: As a national platform for effective implementation of the Act via monitoring the functioning of the national portal for RTI, carrying out impact evaluation of the implementation of the Act etc.
  - **Awareness campaigns:** Can be entrusted to credible **non-profit organizations** at the State level.
- **Recruitment of adequate staff:** In the public authorities for proper functioning of RTI.
- **Proper record keeping by experts:** So that information can be retrieved as per the requirement of the information seekers.
- **Other steps:** Separate chapter, **"Protection of those seeking information under the (RTI) Act"**; Rigorous RTI training to government officials, Digitisation of Records etc.

1.4. NEWS IN SHORTS

1.4.1. SUPREME COURT QUESTIONS FEASIBILITY OF GRAM NYAYALAYAS

SC raised concern regarding the feasibility of setting up **Gram Nyayalayas (village courts)**, as mandated by the **Gram Nyayalayas Act** of **2008**.

- **Gram Nyayalayas** ensures that opportunities for securing justice are not denied to any citizen by reason of social, economic or other disabilities.

Key Concern raised by SC

- **Establishment of Gram Nyayalayas by States/UTs is mandatory or not**: Section 3 of the Act provides that governments "may" constitute Gram Nyayalayas.
- **Resource Crunch**: State governments, already **facing limited resources** for **regular courts**, find it challenging to fund additional gram nyayalayas.

- **Rising Burden**: They may end up burdening high courts with appeals and writ petitions.

Key Features of Gram Nyayalayas

- **Seat:** Establish at intermediate level Panchayat or a group of contiguous Panchayats.
  - State government appoints **'Nyayadhikari'** for each Gram Nyayalaya in consultation with the high court.
- **Jurisdiction**: Shall be a mobile court, with both civil and criminal jurisdiction.
- **Dispute Process**: Disputes are to be preferably settled with the help of conciliation.
  - Social workers may be appointed as Conciliators.
  - They are not bound by the **Indian Evidence Act, 1872** (replaced by the **Bharatiya Sakshya Adhiniyam)** but by **Principles of Natural Justice**.

Implementation Status of Gram Nyayalayas

- There was an initial target of around 2,500 gram nyayalayas, however, fewer than 500 have been established, with only 314 currently operational across India.
- States such as Maharashtra, Madhya Pradesh and Rajasthan have shown progress, yet other major states, including Uttar Pradesh and Bihar, have seen limited or no implementation.

Initiative to Support Gram Nyayalayas

- Under **Gram Nyayalayas scheme** (Centrally Sponsored Scheme (CSS)), Union Government provides financial assistance to States to set up Gram Nyayalayas.

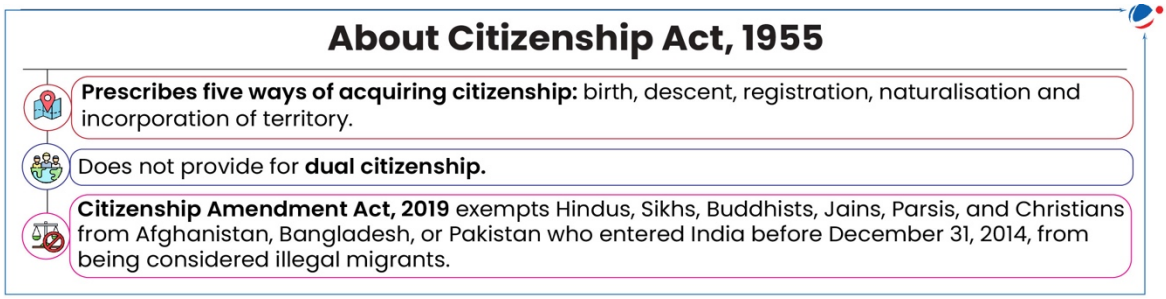
1.4.2. SECTION 6A OF CITIZENSHIP ACT

Constitution bench of Supreme Court (SC) upheld the validity of Section 6A of Citizenship Act.

- **Section 6A is a special provision added through Citizenship Amendment Act, 1985** in furtherance of a Memorandum of Settlement called the **'Assam Accord'** between then central government and leaders of the Assam Movement.
- It conferred **citizenship to those who migrated from East Pakistan (now Bangladesh)** to Assam from **January 1, 1966, until 24 March 1971** upon completion of ten years from the date of detection as a foreigner.

SC judgment:

- **On legislative competence of Parliament to enact Section 6A:** Law is enacted in exercise of power under Article 246 read with **Entry 17 of List I (Union list)**
  - Entry 17 deals **with Citizenship, naturalization and aliens.**
- **Article 14 (Equality):** Assam's special citizenship law does **not violate equality** because the migrant situation in **Assam was unique** compared to rest of India.
- **Impact on Culture (Article 29 (1)):** No evidence that migrants harmed **cultural rights of Assamese.**
- **On the cutoff date of 24 March 1971:** It is reasonable because Pakistani Army **launched Operation SearchLight** to curb Bangladeshi nationalist movement in East Pakistan on 26 March 1971.
  - Migrants after this date were considered to be **migrants of war and not partitions.**



For more information on Citizenship and Its Rules, refer to Article 1.2 Citizenship (Amendment) Rules, 2024 in March 2024 Monthly Current Affairs Magazine.

1.4.3. UNIVERSAL POSTAL UNION (UPU)

Department of Posts, India has released commemorative postage stamps to mark the 150th anniversary of the Universal Postal Union.

- **India Post**, world's largest postal network is also observing **170 years of its formation**.

Universal Postal Union (UPU)

- **Established** as General Postal Union on October 9, **1874,** through **Treaty of Bern.**
  - **Second oldest international organization** after International Telecommunication Union (ITU), formed in 1865.
  - **World Post Day** is celebrated on anniversary of establishment of UPU.
- **HQ: Bern, Switzerland.**
- **Members: 192 countries. India** is one it's oldest and most active members.
- UPU is a **United Nations specialized agency.**

1.4.4. INTERNATIONAL TELECOMMUNICATION UNION (ITU)

ITU's **World Telecommunication Standardization Assembly (WTSA) 2024** held in New Delhi.

- WTSA is the governing conference for the standardization work of the ITU, **organized every four years.**
- It is for the **first time that the ITU-WTSA is being hosted in India and the Asia-Pacific.**

About ITU

- **Genesis**: In **1865,** the first **International Telegraph Convention** signed in Paris established **International Telegraph Union** (the first incarnation of ITU).
- **Role:**
  - UN's **specialized agency for digital technology**
  - **Harnessing innovation and connecting everyone** to ensure a better future for all
- **Members**: 193 Member States (including India)
- **Headquarters:** Geneva (Switzerland)

QUIZ

SMART QUIZ

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-CHINA AGREEMENT ON LINE OF ACTUAL CONTROL (LAC)

Why in the News?

Recently, India and China agreed for disengagement and **resume patrolling in the Depsang Plains and Demchok** areas along the Line of Actual Control (LAC), as it was before the tensions in May 2020.

More on the News

- Under the current agreement, Indian and Chinese soldiers will **return to patrolling along** the LAC in the same manner **as before the border tensions erupted in May 2020.**
  - Dis-engagement in other areas of friction that erupted post 2020 in eastern Ladakh i.e. **Galwan, Hot Springs, Gogra, north and south banks of Pangong Tso had already completed.**
- The agreement marks the first step of a three-step process – **disengagement, de-escalation and de-induction of troops** on the India-China border areas.
- The agreement is also significant because Depsang Plains are strategically important as they lie **30 km southeast of the Daulat Beg Oldie** post near the Karakoram Pass and offer a **flat terrain suitable for launching military offensives**, similar to the Spanggur Gap in Chushul.

About 2020 India-China Stand off

- **Due to incursion by Chinese soldiers** clashes erupted on the **north bank of Pangong Tso** in Ladakh.
- After this, clashes were also reported at **Naku La in north Sikkim** and **Galwan in Ladakh.**
  - The Galwan incident of June 2020, described as a physical clash that did not involve the use of firearms, resulted in India losing 20 soldiers and is considered to be the deadliest since the 1962.
- **Since then, both sides have amassed thousands of troops on each side,** deployed a range of long-range firepower and equipment, and have undertaken massive infrastructure build-up.

India-China Border Dispute

The **3,488-km border** is not clearly demarcated throughout and there is **no mutually agreed Line of Actual Control (LAC) along certain stretches.**

- LAC that came into existence after the 1962 India-China war is the demarcation that **separates Indian-controlled territory from Chinese-controlled territory.**
  - India considers the LAC to be 3,488 km long, while the Chinese consider it to be only around 2,000 km.

India–China boundary is divided into three sectors:

- **Western sector (Ladakh)**: Boundary dispute in this sector pertains to the **Johnson Line proposed by the British in the 1860s** that put **Aksai Chin in the then princely state of Jammu and Kashmir.**

- China, however, does not recognise **Johnson Line** and their **claim is based on McDonald Line (of 1890s)** which puts Aksai Chin under its control.

- **Middle sector (Uttarakhand and Himachal Pradesh):** Largely **undisputed area.** It is the only sector where India and China have exchanged maps on which they broadly agree, despite no formal demarcation of boundaries.
- **Eastern Sector (Arunachal Pradesh and Sikkim):** Disputed boundary in this sector is **over the McMahon Line** (in Arunachal Pradesh) decided in 1914 **Simla Convention** with representatives of China, British India, and Tibet in Shimla.
  - **China rejects MacMahon line** and claims **entire Arunachal Pradesh** as part of Tibet Autonomous Region.
  - China cites historical ties between **the Tawang monastery and Tibet's Lhasa monastery** to bolster its claims over Arunachal Pradesh.

Other areas of concerns in India-China relations

- **Economic:** India faces disproportionately higher trade deficit (~ USD 85 billion in 2022-23) with China.
  - India is also dependent on China for **Semiconductors, Pharma APIs etc.**
- **China-Pakistan Axis:** China remains the main international backer of the Pakistani military establishment, a perpetual threat to regional stability.
  - **China has also condoned Pakistan's state sponsored terrorism against India.** This China-Pakistan continental axis includes sizeable and enduring military and economic dimensions.
- **Water power:** China has control over India's water supply to the northeast region. It has constructed several dams and can use water as a geo-strategic weapon against India by causing flooding or drought in the region.
  - In 2000, a dam breach in Tibet caused floods that wreaked havoc in northeast India.
- **Strategic built-up near LAC:** For example, China has recently constructed a 400-meter bridge near Pangong Lake. This bridge allows quick movement of Chinese troops between the lake's north and south banks.

- **String of Pearls:** China's strategic presence and dual use **infrastructure development in various countries** surrounding India, such as Sri Lanka, Pakistan, the Maldives, Bangladesh, and Myanmar, raise concerns about its encirclement. Ex: Hambantota Port (Sri Lanka), Gwadar Port (Pakistan) etc.
- **Non-reciprocity of India's recognition on One China Policy:** China's CPEC passes through Pakistan Occupied Kashmir (PoK) compromising India's sovereignty. India has already recognised One China policy in 2003; however, reciprocation in form of 'One India policy' from the Chinese side has remained absent.
    - **One China policy** is the diplomatic acknowledgement of China's position that **there is only one Chinese government even** though Taiwan - which calls itself Republic of China (RoC), has been governed independently of PRC since 1949.
- **Freedom of Navigation in IOR:** China's territorial claims in the South China Sea, contested by neighbouring countries, pose concerns for freedom of navigation and stability in the Indian Ocean Region (IOR), which affects **India's strategic interests.**

Reasons for China's assertiveness along LAC

- **India's Strategic Autonomy and rising global footprint**
    - **India as economic and military power:** China is wary of India's economic and military rise and recent status as the world's most populous country.
        - For India, a hot border means the **diversion of even greater resources for frontier defense**, making it difficult for India to focus not only on its broader strategic competition with China, but will also further strengthen China-Pakistan alliance.
    - **Rejection of BRI:** India is the only country in South Asia to opt out of China's BRI program launched in 2013.
    - **India as a regional democratic power:** India presents a sustainable **alternative to China's debt-trap policy** for neighbouring countries, challenging China's influence. For example,
        - Maldives, under President Mohamed Muizzu, who previously championed 'India Out' campaign announced adoption of vision for Comprehensive Economic and Maritime Security Partnership with India.
        - India has also championed for raising the 'Voice of Global South' in different global forums and multilateral institutions like the IMF and the UNSC.
- **The Bhutan factor:** If China gains control of Arunachal, it would mean that the kingdom of Bhutan would have China as its neighbour on both the western and eastern borders which could give its military a huge advantage.
    - **China** has proposed to **"swap" areas in Doklam** under Bhutanese control with areas in Jakarlung and Pasamlung which China claims.
    - **Doklam trijunction** (between Bhutan, India and China) cuts very **close to India's Siliguri corridor** (Chicken's neck) a narrow area **connecting the North Eastern States** to the **rest of India**. China's efforts to move closer to the Siliguri corridor is a security threat for both India and Bhutan.

Do you know

Tawang hosts the **Tawang Ganden Namgyal Lhatse** (Tawang Monastery), which is the **second largest monastery of Tibetan Buddhism in the world.** The monastery was founded by **Merag Lodroe** Gyamtso in the year 1680-81 to **honour the wishes of the fifth Dalai Lama.**

- **Arunachal Pradesh's Strategic Importance**
    - **Strategic location:** Arunachal Pradesh is the closest location for India to target China with missiles. Also, Arunachal is the best location for India to deploy a multi-layered air defence system for possible attacks from China.
        - It also provides China a strategic entry into India's northeastern region.
    - **Tibet Factor:** Tawang of Arunachal Pradesh is an important center of Tibetan Buddhism. There are some tribes in the upper Arunachal region which have cultural connections to the people of Tibet.
        - China fears that the presence of these ethnic groups in Arunachal could at some stage give rise to a pro-democracy Tibetan movement against Beijing.
- **Ideological and changing global dynamics**
    - **Chinese Middle Kingdom Complex or Sinocentrism:** The contemporary foreign policy of Chinese President Xi Jinping is said to be motivated by **Middle Kingdom Complex or Sinocentrism**.
        - Sinocentrism is an ethnocentric political ideology that regards **China as the civilized centre of the world,** surrounded by barbarians and savages.

- Some commentators view the Chinese **BRI** as part of the sinocentric world-view of China which, in turn, is a **challenge to the Western liberal economic order** and India's status in Asia.

- **India's bonhomie with democratic powers:** India's participation in alliances like the **Quad with the U.S., Japan, and Australia** strengthens its counterbalance to China, making China wary of India's rise.
- **'Grey Zone' warfare:** It is the area between peace and war. It involves use of **unconventional tactics** and strategies that **fall below the threshold of traditional warfare**.
  - It aims to harm an adversary without them feeling threatened or realizing they are under attack.
  - Example, '**Salami Slicing' Strategy** that involves taking over territory in a very gradual manner. It has been allegedly used by China for territorial expansion in the South China Sea.

Conclusion

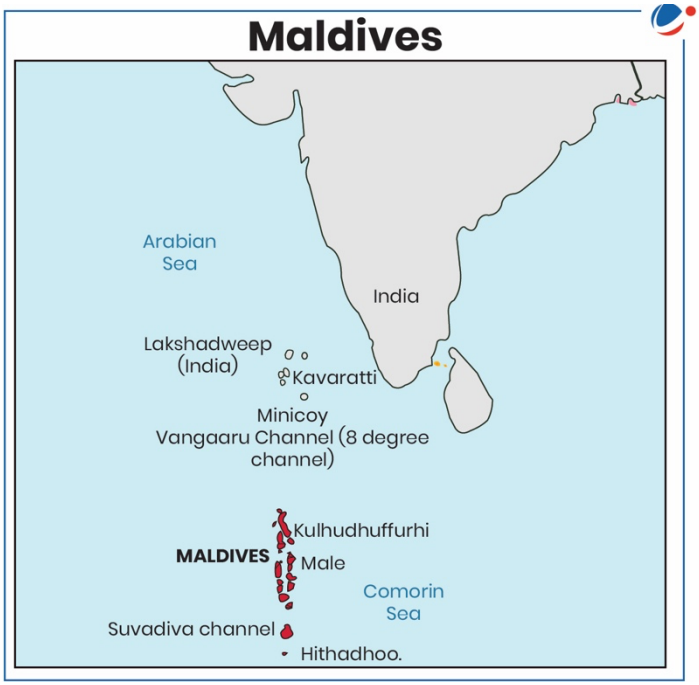
Going forward, in the words of India's Minister of External Affairs, 'the **relationship** between India and China is **"quite a challenge" since** India and China are the **two most populous countries** of the world, both **rising in a broadly parallel timeframe,** physically **next to each other'.**

The **relationship was profoundly affected by 2020 military standoff** as it has always been an assumption by India that peace and tranquility in the border areas is a prerequisite for the development of bilateral ties. Both countries will also have to **look at it slowly and progressively.**

2.2. INDIA-MALDIVES RELATIONSHIP

Why in the News?

The president of Maldives made his maiden bilateral state visit to India after winning the presidential elections last year.



Key outcomes of the visit

- Both sides announced adoption of **vision for "Comprehensive Economic and Maritime Security Partnership"** which encompasses:
  - **Development Cooperation:** Agreed to support timely **completion of Greater Male Connectivity Project**, etc.
  - **Trade and economic cooperation:** Initiate discussions on **Bilateral Free Trade Agreement**; both sides agreed to operationalize **settlement of trade transactions in local currencies** to reduce dependency on foreign currencies etc.
  - **Digital and financial initiatives:** Launch of **RuPay card in Maldives will enhance ease of payments for Indian tourists** visiting Maldives etc.
  - **Health cooperation:** To work towards **recognition of Indian pharmacopoeia by Government of Maldives**, followed by establishment of **India-Maldives Jan Aushadhi Kendras** across Maldives etc.
- Both sides signed **Currency Swap Agreement (CSA)** to **help Maldives in managing their foreign exchange reserves**.
  - It was **signed under the SAARC Currency Swap Framework 2024-27**.
  - CSA is a contract under which **two counterparties agree to exchange two currencies at a set rate** and then to **re-exchange those currencies** at an agreed upon rate at a fixed date in future.
- **Inauguration** of **runway at the Hanimadhoo International Airport** and India's **support** for the **development of a new commercial port in Thilafushi**.

Significance of Maldives for India

- **Geopolitical:** Maldives is one of the **cornerstones of India's NFP** (Neighbourhood First policy) **and SAGAR** (Security and Growth for All in the Region) due to its location.

- **Strategic:**
  - Maldives is geographically positioned like a **'toll gate' between western Indian Ocean chokepoints** (Gulf of Aden and Strait of Hormuz), **and eastern Indian Ocean chokepoint** of Strait of Malacca.
  - Situated along key **shipping lanes in the Indian Ocean,** Maldives is **central to India's interests in safeguarding freedom of navigation, regional security and stability**.
- **Geo-economics:** Maldives is located along the major commercial **Sea lines of communication (SLOC)**.
  - **50% of India's external trade** and **80% of India's energy imports** transit through these **SLOCs** in **the vicinity of Maldives**. Also, India emerged as Maldives' largest trade partner in 2023 touching almost $1 billion.
- **Security:** A strong relationship with Maldives will enable India **to counter China's ambitious 'String of Pearls'** in the IOR.
- **Counter terrorism and piracy:** For India, Maldives is the **first line of defence against terrorism, piracy** on the high seas, drug trafficking etc., in the Indian Ocean.
- **Diaspora and Tourism:** Indian expatriates makes up a **large part of the workforce** in the Maldives, especially in sectors like **healthcare and education**. Also, it is a popular tourist destination for Indians, which benefits both economies.

Challenges in the bilateral relationship

- **China's strategic footprints:** China's rising footprints in the Maldives through the '**Belt and Road Initiative**' (BRI), '**String of Pearls**' construct, **investment in Maldivian infrastructures** has raised concerns for India.
  - E.g. construction of the Sinamale Bridge, pact for military assistance to Maldives, etc.

Do you know

- **India Out Campaign** is sentiment and political movement among certain segments of Maldivian society seeking to reduce Indian influence, particularly its military presence.

- **Radicalisation:** Increase in **radical Islamist fundamentalists** in Maldives, including **Pakistan backed jihadi terror groups**, Islamic State (IS) etc.
  - **India's concern:** These terrorist organisations may **use Maldives as a launch pad** for attacks on India and Indian assets.
- **Anti-India sentiments:** Growing anti-India sentiments under the current Maldivian regime, **demanding withdrawal of Indian military troops and helicopters**, halting Indian infrastructural developments, India-out campaign, etc.
- **Lack of transparency and misunderstanding:** Raising of **objections** by local Maldivian media in the **agreements signed between the previous regime and India**.
  - E.g. Indian grant-in-aid **UTF (Uthuru Thila Falhu - Island) Harbour project** was speculated by Maldivian media that it would be turned into an Indian naval base instead of Maldivian coastguard harbour and dockyard.

Way ahead to strengthen the bilateral relationship

- **Cooperation and projects:** India needs to speed up cooperation and timely deliver infrastructure projects, e.g., Great Male Connectivity Project, to offer alternatives to Chinese projects.
- **Enhanced financial aid:** India's economic outreach is essential to help Maldives break free of China's 'debt-for-leverage' model of diplomacy.
- **Security cooperation:** Both countries need to strengthen cooperation in areas of anti-terrorism, counter-radicalization through measures like joint security exercises, intelligence sharing etc.
- **Soft diplomacy and perception management:** India needs to engage its cultural aspects like diaspora, films, music and people-to-people exchanges to counter anti-India sentiments, build confidence and earn the good will of the Maldivian people.
- **Gujral doctrine:** India needs to adhere to the principles of Gujral doctrine that guide the conduct of India's foreign relations with its immediate neighbours.

2.3. INDIA-CANADA RELATIONSHIP

Why in the news?

Recently, the diplomatic tensions escalated between India and Canada.

More on the news

- India ordered the **expulsion of six Canadian diplomats** and **announced the withdrawal of its High Commissioner to Canada** amidst diplomatic dispute.

- Earlier, Canada had asked India to **waive off diplomatic immunity of Indian officials** alleging their involvement in an investigative matter, which India considered preposterous.
    - **Diplomatic immunity** is a principle of international law, primarily derived from **Vienna Convention, 1961** as per which **foreign government officials are not subject to jurisdiction of local courts and other authorities** for both their official and personal activities.

Reasons for recent fallout in Indo-Canada relationship

- **Issue of Khalistani Extremists**: Sikh separatist groups supported by Canada have been a strain on relations causing diplomatic fallout.
- **Indian sovereignty**: Despite repeated cautions from India, Canada's support of Khalistani activities like unofficial referendum on forming an independent Sikh state in 2023 is an attack on India's sovereignty.
- **Security cooperation**: Multiple extradition requests from Government of India in respect of terrorists and organized crime leaders living in Canada have been disregarded.
- **Defunct Agreements**: Comprehensive Economic Partnership Agreement and Foreign Investment Promotion and Protection Agreement have seen no progress.
- **Vote bank politics**: Sikh community (especially in provinces like Ontario and British Columbia), form key vote bank for political parties.

Significance of India-Canada relationship

- **Strategic and security cooperation**: Both countries support a **rules-based order in the Indo-Pacific**, which is essential for regional security, peace and trade.
    - **Canada's Indo-Pacific strategy**, acknowledges **China** as an '**increasingly disruptive global power**' and **India** as a '**critical partner**' for collaborations in the shared interests of the region.

About Vienna Convention on Diplomatic Relations, 1961:

- It is a **United Nation's** treaty defining **rules and regulations for diplomatic relations** between countries.
- It sets common **principles and terms** on how **countries must treat each other's diplomatic representatives** and **extends privileges and immunities** for them.
- **India acceded to it in 1965** and **ratified in 1972 through Diplomatic Relations (Vienna Convention) Act of 1972**.

- **Economic and trade**: In **2023**, **bilateral trade in goods** between the two countries touched **$9.36 billion**, with **India exporting $3.80 billion and importing $5.56 billion**.
    - The **bilateral trade in services** in 2023 was **$ 9.99 billion**.
- **Investment opportunities**: **Canadian Pension Funds** have cumulatively invested over **$ 75 billion** in India and are increasingly **viewing India as a favourable destination** for investments.
- **Diaspora**: Canada hosts one of the **largest Indian Diaspora** abroad (**~1.8 million**), which account for **more than 3% of its total population**.
- **Civil nuclear cooperation**: **Nuclear Cooperation Agreement** (NCA) with Canada was signed in 2010, under which a **Joint Committee on Civil Nuclear Cooperation** was constituted.
- **Defence cooperation**: Memorandum of Understanding (**MoU**) between **DRDO and Canadian Commercial Corporation** (CCC) for development of military and defence related technology, infrastructure etc., was **renewed in 2021** (signed in 2016).

Probable impact of recent diplomatic fallout

- **Strategic cooperation**: Western countries' response including **Five Eye Alliance** has been relatively **restrained**, which might **strain cooperation in security, defence, nuclear energy** etc.
- **Economic and trade agreements**: May **hurt bilateral trade and investment flow** and further **delays in trade negotiations**.
  - **E.g., India-Canada Comprehensive Economic Partnership Agreement** (CEPA), Foreign Investment Promotion and Protection Agreement (FIPA), and Early Progress Trade Agreement (EPTA).
- **Diaspora and student concern**: Growing tensions may **affect Indian diaspora in Canada especially Indian students**.
  - **Estimated 230,000 Indian students** study in Canada (Dec. 2023), comprises a significant section of the international student population of the country.
- **Immigration and Visa Processing:** Potential suspension in visa services, citing security threats, could **disrupt travel and immigration plans** for individuals between the two countries.

Steps needed to strengthen the relationship

- **Constructive diplomacy**: Initiate **high-level discussions to address mutual concerns** transparently.
  - Both sides should **express their concerns without disrupting the status quo**.
- **Security cooperation**: Cooperate and collaborate on counter terrorism, Khalistani extremism under the **Framework for Cooperation on Countering Terrorism and Violent Extremism** (2018) signed between the two countries.
- **Economic and trade relations:** Resume **negotiations on trade agreements** (e.g., CEPA) to rebuild economic ties, investment flows etc.
- **Engage diaspora**: Both countries should **encourage diaspora and Track-II diplomacy channels** to build on people-to-people ties, cultural exchanges, and **dialogues and conflict resolution efforts**.
- **Strategic interest**: Need to **strengthen cooperation in key strategic interests** such as **countering China in the Indo-Pacific region**, and emphasising freedom of navigation and rule-based order.

About Five Eye Alliance:

- It's a **multilateral intelligence-sharing network** shared by over 20 different agencies of five English-speaking countries **(United Kingdom, USA, Canada, Australia and New Zealand**).
  - It indulges in non-political intelligence oversight, review and security entities of the Five Eyes countries.
- It is both **surveillance-based and signals intelligence (SIGINT)**.
- It had established **Five Eyes Intelligence Oversight and Review Council** to increase cooperation.

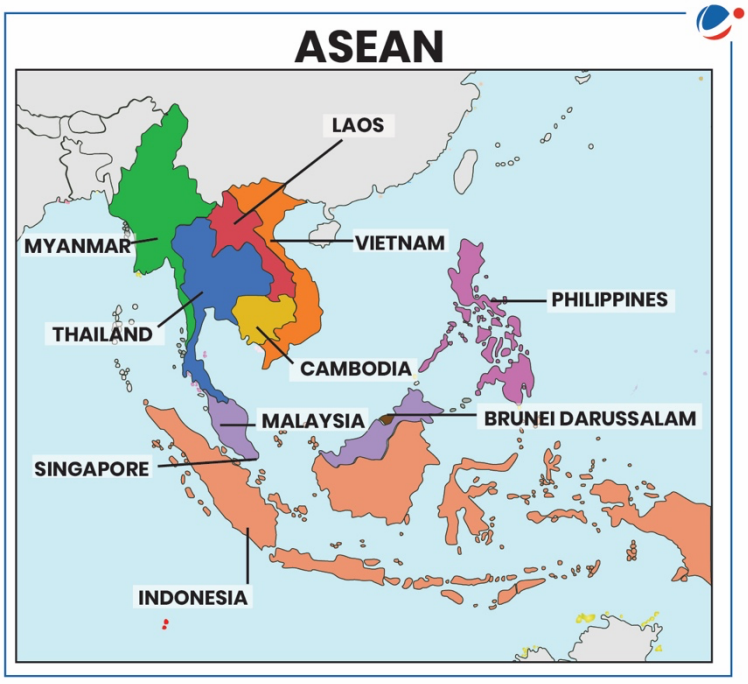
2.4. ASEAN

Why in News?

Prime Minister (PM) of India participated in the **21st ASEAN-INDIA Summit** in **Vientiane, Lao PDR**.

About Association of South East Asian Nations (ASEAN)

- It is an inter-governmental grouping aimed at **promoting political and economic cooperation and regional stability** among its members and other countries in Asia.
- It was **established in 1967** in Bangkok with the signing of the **ASEAN Declaration** (**Bangkok Declaration**) by five members (Indonesia, Malaysia, Philippines, Singapore, and Thailand).
  - Presently it has **10 members** (refer map).
- **Headquarters: Jakarta, Indonesia**.
- **Institutional mechanism:**



- **ASEAN Summit**: Meets annually to discuss regional issues and set policy directions.
  - > **Chaired by an annually rotating presidency**.
- **ASEAN Coordinating Council (ACC)**: Oversees the implementation of ASEAN agreements and decisions.
- **ASEAN Secretariat**: Supports and facilitates ASEAN's activities and initiatives.
- **ASEAN Regional Forum (ARF)**: Platform for dialogue and cooperation on political and security issues among ASEAN member countries and their partners.
  - > **India joined ARF in 1996**.
- **Decision Making**: It is done through consultation and consensus.

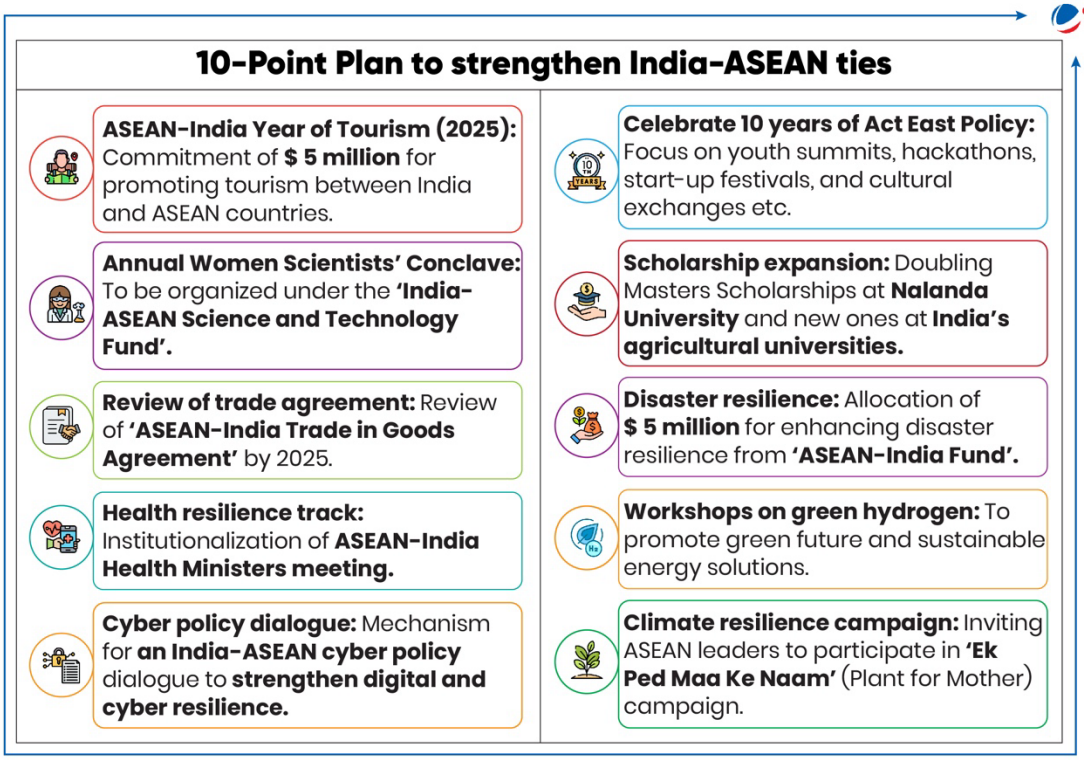
- **ASEAN Future Forum:**
  - **Proposed by Vietnam** at the **43rd ASEAN Summit** in 2023.
  - It is a **common platform for ASEAN member states as well as partner countries** to share new ideas and policy recommendations.
  - **India is a founding member**.

Key developments of the 21st ASEAN-India Summit

- **Reviewed the progress of the ASEAN-India Comprehensive Strategic Partnership** and charted the future direction of cooperation.
  - Leaders agreed to create a new **ASEAN-India Plan of Action (2026-2030)** to realize the full potential of the **ASEAN-India partnership** and adopted **two joint statements**.
  - Announced a **10-Point plan** aligning with summit theme-**Enhancing Connectivity and Resilience**.
- **Joint Statement on Strengthening ASEAN-India Comprehensive Strategic Partnership:**
  - Accelerate review of **ASEAN-India Trade in Goods Agreement (AITIGA)** to enhance trade, simplify processes, and cooperation.
  - Welcomed the launch of the **ASEAN-India Fund for Digital Future** to support joint activities.
- **Joint Statement on Advancing Digital Transformation:**
  - **Digital Public Infrastructure (DPI):** To share best practices in DPI development, implement joint initiatives for regional integration, and address challenges in Health etc.
  - **Financial Technology:** Explore collaboration on cross-border payment systems through innovative digital solutions.

Other Tracks of Diplomacy

- **Track 1.5 Diplomacy**: It occurs when **government representatives and non-governmental experts engage** in dialogue or meetings together in less formal ways than Track 1 diplomacy.
- **Track 2 Diplomacy**: It denotes a **purely unofficial channel for dialogue** between **non-governmental experts**, without direct governmental involvement.



- **Cyber security:** To enhance cyber security cooperation for the digital economy and welcomed the **1st ASEAN-India Track 1 Cyber Policy Dialogue**.
  - **About Track 1 Diplomacy:** It refers to **official diplomacy**, **where communication is directly between or among governments**.
  - These **formal discussions** are conducted by diplomats, heads of state, and other official authorities.
- **Other Key Sectors:** Artificial Intelligence (AI), Capacity Building and Knowledge Sharing, Sustainable Financing and Investment, and Implementation Mechanism were also announced.

Importance of ASEAN for India

- **Economic partnership and Trade**: ASEAN is India's **4th largest trading partner** and accounts for **11% of India's global trade**.
  - The **bilateral trade** between India and ASEAN stood at **$ 122.67 Billion** during **2023-24**.
- **Convergence with Indo-Pacific strategy**: ASEAN Centrality is a **crucial component** of India's '**Act East**' policy and its '**Indo-Pacific**' strategy, reflecting the convergence of interests in the region.
  - Also, it plays **role in stability in the eastern neighbourhood,** for example in Myanmar.
- **Connectivity with North East**: Connectivity initiatives with ASEAN can **boost economic development in India's northeastern states** by positioning them as a **hub for regional trade and commerce**.
  - E.g., **Kaladan Multi-Modal Transport Project**, **etc**.
- **Balancing China's influence**: Strengthening ties with ASEAN will **help India to counterbalance the growing Chinese influence** in the region.
- **Ensuring maritime security**: India engages with ASEAN to **secure critical maritime routes**, including the **Malacca Strait**, vital for India's maritime security and trade.
- **Tourism and education**: ASEAN countries are popular among Indian tourists, while ASEAN students increasingly study in India. These exchanges **strengthen soft power and goodwill** between the regions.

Significance of ASEAN in the Indo-pacific region:

- **Geopolitical and economic centrality**: Southeast Asia, where ASEAN is centered, is a **crucial conduit and portal to the dynamic Asia-Pacific and Indian Ocean regions**, which are key centers of economic growth and geopolitical shifts.
- **Rules-based order:** ASEAN plays a **central role** in promoting **rules-based security architecture in the Indo-Pacific region**, which is essential for the region's peace, security, stability and prosperity.
- **Balancing great power rivalry:** ASEAN's centrality helps **balance the influence** of major powers like the **United States and China** in the Indo-pacific region.
- **Connectivity:** ASEAN promotes connectivity initiatives to **enhance regional integration and development in the Indo-pacific region**, complementing the **Master Plan on ASEAN Connectivity (MPAC) 2025**.

Challenges in India-ASEAN relationship

- **Economic concerns**: **India**'s decision to **walk out of the Regional Comprehensive Economic Partnership (RCEP)** had created a sense of economic disappointment for ASEAN members.
- **Trade imbalances**: India's trade deficit with ASEAN has increased over the years.
  - **Trade deficit** in **2016-17 was $ 9.66 billion**, which increased to **$ 43.57 billion in 2022-23**.
- **Lack of Multilateral Engagement**: India engages with ASEAN countries **more on a bilateral basis rather than through a multilateral approach**.
- **Increasing Chinese influence**: Growing Chinese presence in Southeast Asia through Belt and Road Initiative (BRI) **limits the ability of ASEAN to harness India's potential for economic gain and regional stability**.
- **Connectivity**: Despite efforts to enhance connectivity, physical and digital connectivity between India and ASEAN countries remains limited.
  - **Delay in completing infrastructure projects** (e.g., Kaladan Multi-Modal Transport Project, India–Myanmar–Thailand Trilateral Highway) has **impeded the progress of economic cooperation** affecting trade, investment and people-to-people ties.

Analysis of ASEAN with respect to other multilateral organizations

- **QUAD:**
  - **Challenge to ASEAN Centrality**: ASEAN perceives the QUAD as potentially undermining its central role in the Indo-Pacific region.
    > The involvement of major powers like the USA and India within QUAD's strategic framework raises concerns over ASEAN's influence and leadership in regional security and diplomatic matters.
  - **Impact on ASEAN Regional Forum (ARF)**: The ARF, established by ASEAN, aims to maintain ASEAN's influence in the Indo-Pacific by providing a platform for political and security dialogue among 27 participants, including the U.S. and China.
    > The QUAD's rise is seen as a competing security initiative, potentially sidelining the ARF.
  - **Threat to the ZOPFAN Framework**: To prevent external interference in the Indo-Pacific, particularly in Southeast Asia, ASEAN members signed the Zone of Peace, Freedom, and Neutrality (ZOPFAN) agreement in 1971.
    > The QUAD's activities in the region are viewed as potentially undermining this commitment to neutrality.
- **South Asian Association for Regional Cooperation (SAARC)**:
  - **Economic and Trade Development**: ASEAN has demonstrated rapid growth in regional and global trade compared to SAARC, which has struggled to achieve similar levels of economic integration and cooperation.
  - **Success in Regional Initiatives**: ASEAN has achieved significant milestones in areas such as food security, agricultural development, humanitarian assistance, and regional security, often surpassing the accomplishments of SAARC in these sectors.
- **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**:
  - **Bridge between South Asia and Southeast Asia**: BIMSTEC fosters collaboration between SAARC and ASEAN nations, enhancing intra-regional connectivity and cooperation across South and Southeast Asia.

To know more about QUAD, refer to Article 2.1 QUAD in September 2024 Monthly Current Affairs Magazine.

Way ahead to strengthen the relationship

- **10-Point plan:** It lays a solid foundation for **deeper collaboration, mutual respect, and shared growth** between India and ASEAN nations, furthering India's vision of ASEAN Centrality in Indo-Pacific highlighted in 2018 Shangri La Dialogue.
- **Enhance economic and trade ties**: **Update and expand** the scope and effectiveness of **ASEAN-India Free Trade Agreement (FTA)** to help address the trade imbalances.
- **Maritime cooperation**: A robust maritime cooperation between India and ASEAN is **crucial for realization of the full potential of the securing sea lines of communication** and for **prosperity of the strategic Indo-Pacific region**.
- **Counterbalance China**: India should initiate an '**Indo-Pacific Maritime partnership**' that seeks mutually-beneficial maritime security partnership with ASEAN nations.
- **Boost connectivity**: Complete key connectivity projects (e.g., India-Myanmar-Thailand Trilateral Highway) and **explore its extension to other ASEAN countries** enhancing trade and cultural ties.

2.5. BRICS

Why in the News?

16h BRICS Summit, and the **First Summit with expanded BRICS membership was** held in Kazan (Russia).

About the Summit

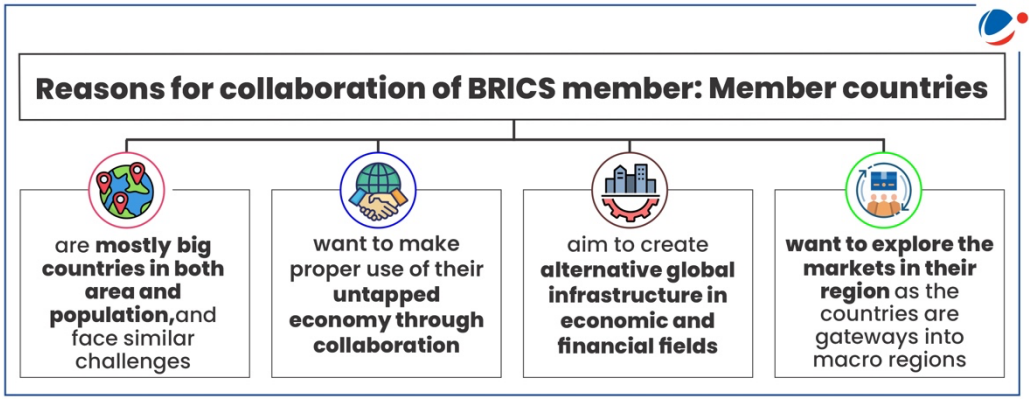
- **Adoption of Kazan Declaration:** "Kazan Declaration: Strengthening Multilateralism for Just Global Development and Security" was adopted.
- **Extend full support to Brazil for its BRICS Chairship in 2025** and the holding of the 17th BRICS Summit in Brazil.

About BRICS

- **Genesis:** British economist **Jim O' Neill** in 2001 coined acronym '**BRICs'** representing the emerging economies of **Brazil, Russia, India, and China**.

- BRIC started functioning as a formal grouping on the margins of G8 Outreach Summit in 2006. **1st BRIC Summit was held in Russia in 2009.** BRIC became **BRICS with the inclusion of South Africa in 2010**.

- **Members (10):**
  - **Initial 5 members (BRICS):** Brazil, Russia, India, China, South Africa and
  - **5 new members (BRICS+)**: Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates.
- **It represents:**
  - **45% of the world's population.**
  - **37.3% of world GDP** (compared to **EU's 14.5 %** and the **G7's 29.3%)**



Key Initiatives of BRICS

Area	Initiatives
Financial	• **New Development Bank(NDB) headquartered in Shanghai (2014):** Aims to provide financial resources for infrastructure and sustainable development projects in **BRICS & other developing countries.** It has an equal distribution of voting shares among BRICS founding members. • **Contingent Reserve Arrangement (CRA):** A financial safety net to provide short-term liquidity **support to member countries** facing balance of payments difficulties. • **BRICS Cross-Border Payments Initiative (BCBPI)** or **BRICS Pay:** BRICS Pay is a payment service built on blockchain technology for making settlements **between member states** and provide an alternative to existing global financial infrastructure dominated by Western systems like SWIFT. • **BRICS Grain Exchange: A Russian** initiative to establish a grain (commodities) trading platform within BRICS to "develop a fair agricultural trading system." • **BRICS Clear Depositary:** It is a cross-border payment settlement and depositary infrastructure.
Voice to Global South	• **"BRICS Plus" Dialogue**: The **dialogue** was hosted with **emerging markets and developing countries** from Africa, Asia, Europe, Latin America, and the Middle East with motto **"BRICS and Global South: Building a Better World Together."** • **Endorsed 'BRICS Partner Country': This new category'** added **13** new partner countries, including Cuba, Turkey, and Vietnam.
Security	• **BRICS Rapid Information Security Channel: P**romotes exchange of information on cyber threats among their central banks. • In its 14th summit in 2022, BRICS called for finalization and adoption of the **Comprehensive Convention on International Terrorism** within the UN framework.
S&T	• **BRICS Remote Sensing Satellite Constellation:** Enhancing cooperation in space technology & remote sensing. • **BRICS Science, Technology and Innovation (STI) Framework Programme (2015):** To **support excellent research on priority areas** which can best be addressed by a multinational approach. • **Recent Summit supported BRICS R&D Vaccine Center & BRICS Integrated Early Warning System** for preventing mass infectious diseases risks.

Relevance of BRICS in contemporary world

- **Energy Security:** With **Iran, Saudi Arabia and UAE** as members, BRICS countries produce about **44% of the world's crude oil.**
- **Voice for global south:** BRICS acts as a platform for India to raise concerns and advocate for the rights of developing countries acting as a leader of global south on issues such as terrorism, climate change.
- **Safe space for dialogue:** BRICS provides **neutral platform for India to engage in dialogue and manage potential rivalries**, even during times of bilateral tensions (India-China Doklam standoff).

- **Boosting multilateral reform demands:** It allows India to push for reforms in institutions such as UNSC and WTO for ensuring equitable global order.
    - With the exception of Ethiopia and Iran, **all BRICS+ countries are WTO members.**

Challenges associated with BRICS

The formation of BRICS was rooted in the long-term common economic interests of the member countries, but it has yet to reach its full potential due to various challenges, including:

- **Underutilisation of Economic Potential:** For example,
    - **Intra-BRICS Trade**: While BRICS countries collectively account for 18% of global trade, **intra-BRICS trade remains low at just 2.2%** (as of 2022). **Geographical separation and dominance of China** in trade is a key issue.
    - **BRICS credit rating agency (CrRA)**: It was proposed in 2018 but was not taken up due to a lack of consensus among members.
    - **Dedollarisation:** Some members like Iran, Russia, and China, now trade in their own currencies. Although there's talk of a **common BRICS+ currency**, experts see this as unlikely, especially with the group's recent expansion.
- **Inability to create alternative Global Financial Institutions:** NDB lacks the funds needed to match the reach and impact of the World Bank and IMF or the **Asia Infrastructure Investment Bank (AIIB)** which was initiated by China in 2013.
    - Unlike the AIIB, which co-finances projects with the World Bank, Asian Development Bank (ADB), etc. the NDB has limited partnerships and co-financing arrangements.
- **Inability to influence Global Institutions:** For example, BRICS+ countries collectively **hold only about 19% of voting power** within the International Bank for Reconstruction and Development (IBRD), compared to about 40% held by G7 countries and about 23% by EU-27 nations.
    - On the other hand, **India and Brazil were the largest recipients of IBRD loans in 2023**, yet contributed just **5 % of the capital.** This imbalance undermines BRICS+ efforts to influence international financial standards and policies.
- **Inability to stand as a cohesive block**: Geopolitical rivalries exist between BRICS members such as between India and China or Saudi Arabia and Iran which **limit the group's ability to function as a unified entity** on global issues.
- **Member economies are no longer booming:** For example, **China is struggling from economic slowdown** whereas **Russia h**as been in **decline for years** and the **ongoing war** will enfeeble it further.
    - **South Africa** also remains saddled with high **unemployment and profound governance and fiscal challenges.**
- **Perception of being an Anti-West organisation** potentially limiting cooperation in areas of shared interest such as climate change, trade, and global security.
- **Existence of similar groupings:** For example, Unlike BRICS, which includes a diverse range of political systems, IBSA consists of democracies that may find it easier to establish a shared agenda and foster cooperation.
    - Similarly, BASIC is also considered to be more cohesive group than BRICS.

About IBSA

- The IBSA Dialogue Forum was established in 2003 by India, Brazil and South Africa to address global governance reforms, WTO negotiations, climate change and terrorism, based on shared values and goals for global institutional responsibility.
- **Achievements**
    - **Development Assistance:** The IBSA facility for poverty and hunger alleviation (**IBSA Fund**) has supported various **development projects in more than 30 countries** for **fighting against poverty and hunger in the Global South**.
    - **Defence Cooperation**: A joint naval exercise IBSAMAR is carried out between member countries.
    - **Partnerships in key areas:** E.g., **IBSA Educational Program** to promote professional knowledge in the field of Reproductive Medicine and Endocrinology, **IBSA Science, Technology, and Innovation Partnership** to foster research collaboration, etc.

About BASIC

- BASIC, comprising Brazil, South Africa, India and China, was **formed in 2009 to address climate issues** in alignment with **G77 and developing countries' interests.**

- Member countries put together has **one-third of the world's geographical** area and nearly **40% of the world's population**
- **Achievements**
  - **Unified Stance on Climate Change:** BASIC countries emphasizes that the principles of equity and **common but differentiated responsibilities and respective capabilities** (CBDRRC) must be at the centre of the Global Stocktake.
  - **Copenhagen Accord:** The BASIC group was instrumental in the negotiations leading to the Copenhagen Accord, which included **voluntary emission reduction pledges** from major economies for the first time.
  - **Promoting South-South Cooperation:** They are committed to sharing best practices and supporting each other through south-south cooperation as they further develop their domestic climate policies and actions.

Way Forward

- **Develop Clear and Shared Vision:** Outlining long-term goals and objectives will help align diverse interests of member states and foster a sense of unity. Setting up of a **permanent secretariat** is also needed**.**
  - Such vision should facilitate the larger BRICS to challenge the dominance of existing global institutions, such as the World Bank and the International Monetary Fund, that are strongly influenced by the West.
- **Defining membership criteria:** Advocating a clear membership criterion for BRICS will help ease India's concerns about who could be future members of the BRICS.
- **Consensus-Building:** Prioritize diplomacy and dialogue to resolve differences and build consensus among member states.
- **Enhanced Institutional Capacity:** Strengthen the institutional capacity of BRICS+ to support its operations and making its initiatives including NDB, BRICS-Pay etc. more effective.
- **Checking Chinese influence:** India needs to balance the strategic influence that China exerts in the BRICS grouping with its economic diplomacy and its relations with Russia and Iran.

Conclusion

The success of BRICS+ will depend on how well members overcome internal differences, find common ground, and leverage their strengths. While expansion offers more greater representation in global governance, realizing its potential will require strong cooperation and effort.

2.6. NEWS IN SHORTS

2.6.1. INDIA AND UZBEKISTAN SIGNED BILATERAL INVESTMENT TREATY (BIT)

The signing of the BIT between both nations will promote **economic cooperation** and create a more **robust** and **resilient investment environment**.

- It will increase the comfort level and boost the confidence of investors.

About BIT

- BIT is a **reciprocal agreement** for according protection to **investments** by nationals and companies of **one State** in **another State**.
- India approved new **Model BIT Text in 2015**, which replaced **Indian Model BIT, 1993.**
  - Since then, Model text 2015 is used for (re)negotiations of BITs and investment chapters of FTAs/ Economic Partnership Agreements.
- **Key Features of Model BIT**
  - **National Treatment**: Similar treatment as domestic investors.
  - **Protection from expropriation**: Limiting country's ability to dominate foreign investments in its territory.
  - **Settlement of Disputes**: Exhaust local remedies before commencing international arbitration.
  - **Other**: Enterprise based definition of investment, etc.

India - Uzbekistan Relations

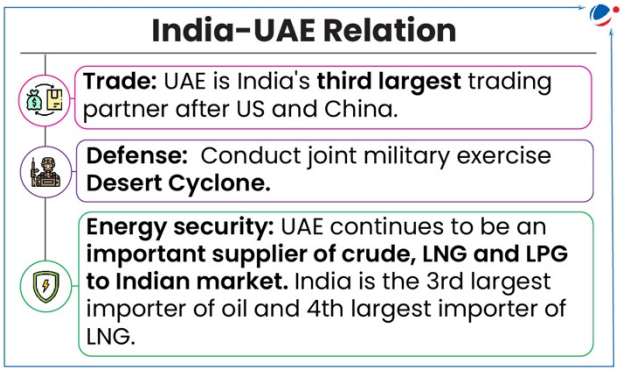
Uzbekistan is India's key Partner in the Central Asian Region. Different dimensions of engagement includes

- **Economic relations:** India is among Uzbekistan's top 10 trade partners (2023-24).
- **Security and Defense cooperation:** Joint military exercises "**DUSTLIK**".
- **Multilateral engagement:** Both countries cooperate in various international forums like the UN, G20, BRICS, and SCO.
- **Energy Security:** Signed contract with Uzbekistan for supplying uranium ore concentrates.
- **People-to-people ties:** There's an estimated Indian community of 14,000 in Uzbekistan.

2.6.2. INDIA-UAE BILATERAL INVESTMENT TREATY (BIT) CAME INTO EFFECT

BIT, signed in Abu Dhabi in February (2024), entered into force with effect from 31st August, 2024.

- Bilateral Investment Promotion and Protection Agreement between India- UAE (signed in 2013) expired in September, 2024



Key features of India-UAE BIT

- **Investor-State Dispute Settlement** through arbitration with **mandatory exhaustion of Local remedies for 3 years**.
- **Closed asset-based definition of Investment** with coverage of Portfolio Investment.
- **Treatment of Investment** with obligation for **no denial of justice**, no fundamental breach of due process.
- **Provides protection to investments** from Expropriation, provides for Transparency, Transfers and Compensation for losses.

Significance of India – UAE BIT 2024

- **UAE is seventh largest FDI source for India** with share of 3% ($19 billion) in total FDI received by country from April 2000-June 2024.
- Boost confidence of investors by **assuring minimum standard of treatment** and **non-discrimination** while providing an independent forum for dispute settlement by arbitration.

2.6.3. COMMITTEE OF TEN (C-10) GROUP

Indian External Affairs Minister participated in the **first-ever** Joint Ministerial Meeting of the **C-10** and **L.69 groupings**.

- L69 is a grouping that includes countries from Africa, Latin America, Caribbean, Pacific Island states and Asia.
- **India** is also **member.**

C-10 Group

- **Genesis**: Committee of Ten African Ministers of Finance and Central Bank Governors (C-10) was created in 2008.
- **Members**: Algeria, Botswana, Cameroon, Egypt, Kenya, Nigeria, South Africa, Tanzania, the Central Bank of West African States (CBWAS), and the Central Bank of Central African States (CBCAS).
- **Mandate**: Advocating enhanced African participation in governance of international financial institutions (IFIs), etc.

2.6.4. UK HANDS SOVEREIGNTY OF CHAGOS ISLANDS TO MAURITIUS

Both countries have reached a **historic political agreement** to hand over **Chagos Islands to Mauritius** (Still **subject to finalization of a treaty).**

- While **US-UK joint base** will remain on **Diego Garcia atoll.**

About Chagos Archipelago

- It is an **island group, located 500 km south of Maldives** in Indian Ocean Region **(IOR).**
- Uninhabited until **18th century**, later **French colonized** it. French **ceded island to British** in 1814.
- **British Indian Ocean Territory (BIOT):** Formed by UK in 1965, with **Chagos as a central part.**
  - Some **BIOT islands** were ceded to **Seychelles in 1976.**
- Archipelago was **detached from Mauritius by UK in 1965**, three years before Mauritius gained independence.

Significance of Treaty

- **Addressing colonial legacy:** Ends a long-standing dispute over last British colony in Africa.
- **Regional Security Dynamics:** As Mauritius may seek to balance its relations with major powers.
- **Security Importance: Diego Garcia** base allows US to **monitor Malacca Strait**, crucial for global trade, and **maintain its presence in IOR.**
- **Compliance with International Law:** Handing over island is aligned with judgment of **International Court of Justice** In 2019 & **UNGA resolution in 2019.**
  - India supported **Mauritius' claim** by voting in its favor at UNGA in 2019
    - > It was in line with India's "**principled stand on decolonization** and **support for sovereignty and territorial integrity** of nations".

2.6.5. ANACONDA STRATEGY

Taiwan's navy recently claimed that China's military is employing an 'anaconda strategy' to constrict the island.

About Anaconda strategy

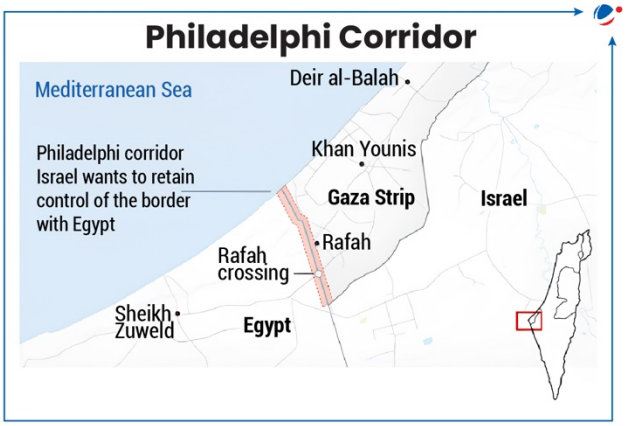
- It refers to a **military strategy** proposed by Union General Winfield Scott **during early stages of the American Civil War.**
  - Its key objective was to **suffocate the Confederacy economically and militarily,** similar to how an anaconda snake coils around and asphyxiates its prey.
- **China's 'anaconda strategy' against Taiwan** involves a **mix of military manoeuvres, psychological tactics, and cyber warfare.**
- Its goal is to **force Taiwan into submission without** engaging in a **full-scale invasion**.

2.6.6. PHILADELPHI CORRIDOR

Israel has made control of the **Philadelphi corridor** a condition in ceasefire negotiations between Israel and Hamas.

About Philadelphi corridor

- It is a ribbon of land about **nine miles (14kms)** in length and **100 metres** wide **along Gaza's border with Egypt**, including the Rafah crossing.

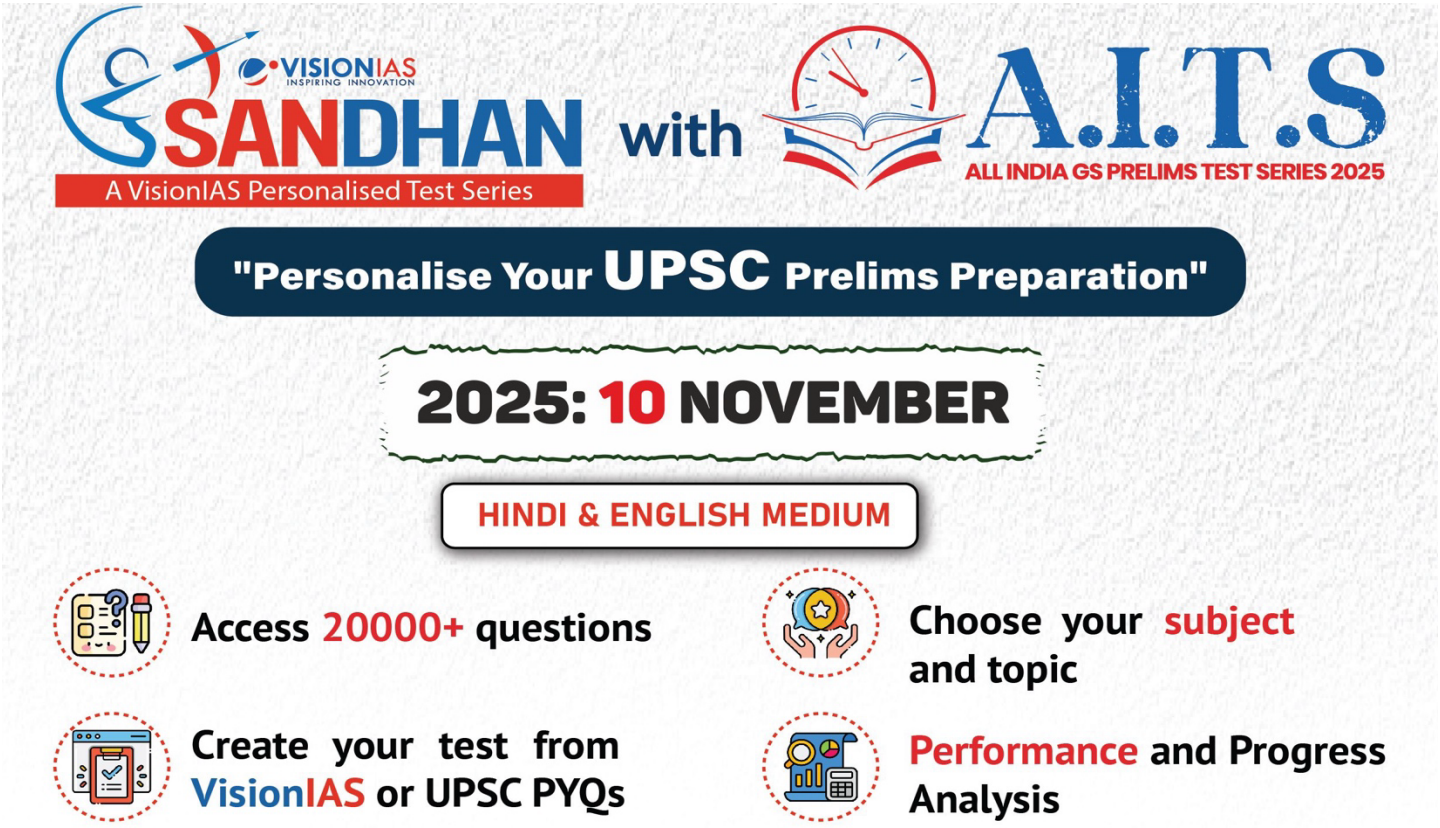


- It was designated as a **demilitarised border zone** after the withdrawal of Israeli settlements and troops from **Gaza in 2005.**
- It runs from the **Mediterranean to Kerem Shalom crossing** with Israel.
- After the Israeli withdrawal, it was the responsibility of **Egypt and the Palestinian Authority.**

2.7. ERRATA

- In September 2024 Monthly Magazine, In article 2.3-India-Singapore relations, it was incorrectly given that India and Singapore are part of multilateral forums like the G20.
  - The correct information is that **India is part of the G20, not Singapore.**

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



3. ECONOMY

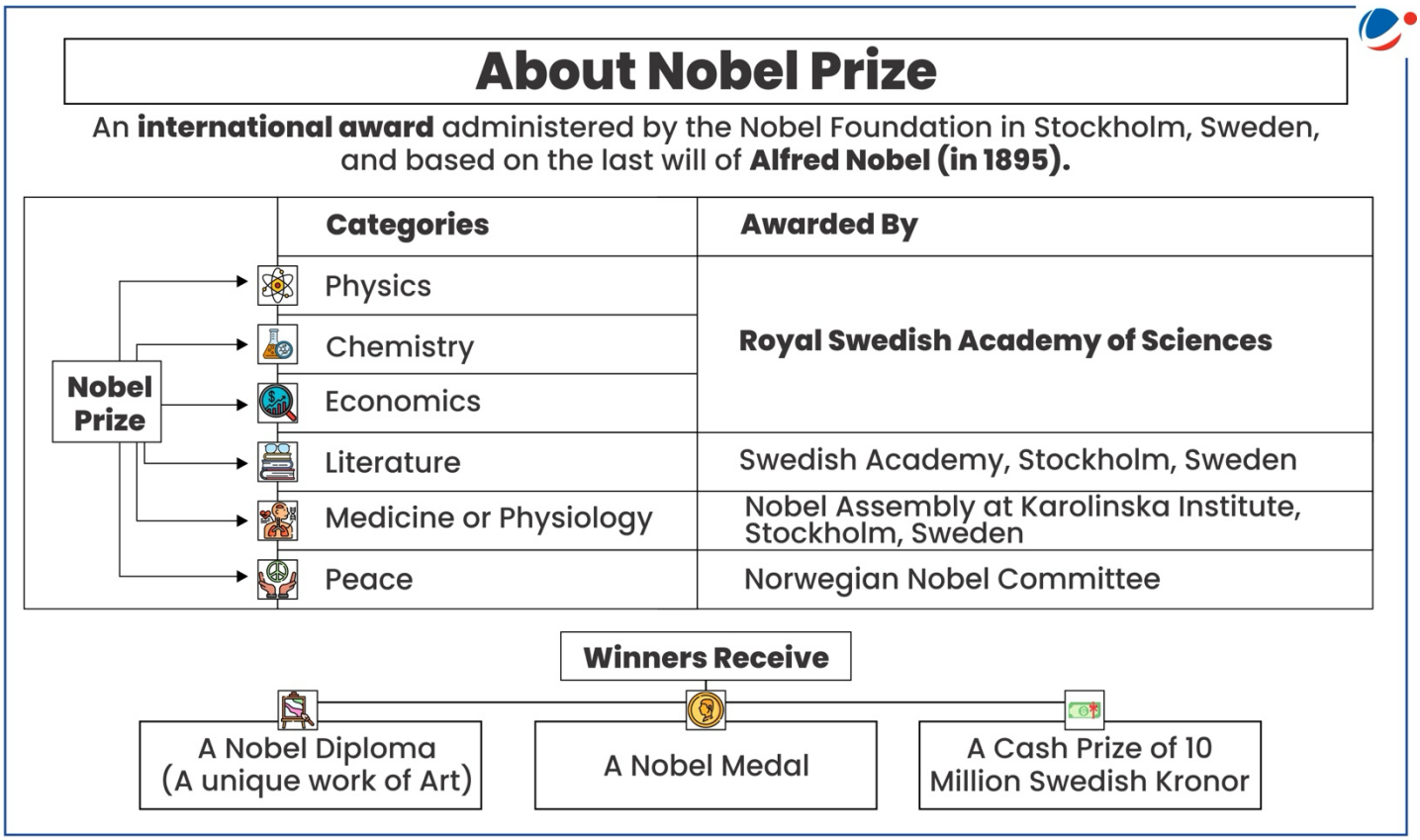
3.1. NOBEL PRIZE IN ECONOMICS

Why in the news?

The 2024 Nobel Prize in Economics was awarded to **Daron Acemoglu, Simon Johnson and James A. Robinson** for their research on **"how institutions are formed and their impact on prosperity".**

More on news

- The research demonstrated the importance of **societal institutions for a country's prosperity.**
- Research also highlighted that democracy developed in various colonies as the threat of revolution by the masses **could not be tackled through the promise of social reforms.**



Key Highlights of their research

- **Colonial Impact on Prosperity**: Colonizers established systems from the 16th century that caused a "reversal of fortunes" - the poorest became the richest.
- **Factors influencing the type of institutions**: Settler mortality rates, which were higher in disease-prone areas near the equator, and population density influenced the types of institutions established during colonization.
- **Types of Institutions**:
  - **Extractive Institutions**: Formed in some colonies to **exploit the indigenous population and extract natural resources** to benefit the colonisers.
    - In such environments, individuals face significant risks of **confiscation, leading to a lack of motivation for long-term investment.**
  - **Inclusive Institutions**: Colonisers built inclusive political and economic systems for the **long-term benefit of European Settlers** in colonies that were sparsely populated and supported more European settlers.
    - These institutions offered individuals a strong incentive to **work, save and invest in the long run.**
  - **E**.g, The divided city of **Nogales highlights differences** created by the **type of institution**.

- On the north side (USA), residents have **better economic conditions, secure property rights, and political freedoms.**
- In contrast, the south side (Mexico) struggles with **organized crime and corruption.**
- The main difference lies **in their institutional frameworks**, showing how colonial legacies affect present-day living conditions.

- **Institutional Traps**: The researchers explain that some societies are trapped in extractive institutions, limiting progress.
  - However, they emphasize that change is possible; reforms can lead to democracy and the rule of law, reducing poverty.

Role of Economic and Political Institutions in Shaping National Prosperity

- **Resource Allocation and Property Rights**: Economic institutions dictate resource allocation and protection.
  - **E.g. Article 300A** (Right to Property) ensures that no person shall be deprived of their property except by authority of law.
  - **Niti Aayog:** It is the premier policy think tank of the Government.
- **Incentives for Investment**: Inclusive institutions foster competition and entrepreneurship, promoting development.
  - **E.g.** The **National Innovation Foundation** (NIF) promotes grassroots innovation.
- **Sustainability**: Effective institutions ensure sustainable resource management. Poor institutions can lead to over-extraction, harming the environment and future growth.
  - E.g., **Article 48A** (Directive Principles of State Policy) provides for the protection and improvement of the environment and the safeguarding of forests and wildlife
  - E.g., the **National Green Tribunal** a specialised judicial body equipped for the purpose of adjudicating environmental cases
- **Regulations**: Good regulation promotes competition and innovation.
  - E.g., **Competition Commission of India (CCI)** promotes fair competition and prevents **monopolies and anti-competitive practices**.
- **Governance and Rule of Law**: Political institutions ensure stable governance and the rule of law, reducing corruption and fostering a fair environment for investment.
  - **E.g., Article 14** provides equality before the law.
  - **E.g., The Central Vigilance Commission (CVC)** for promoting integrity, transparency, and accountability in the country's public administration.
- **Inclusiveness**: Democratic institutions promote participation in decision-making, leading to policies that meet the population's needs.
  - **E.g., Tribal Advisory Council (TAC)** for the welfare and advancement of Scheduled tribes in states.
- **Conflict Resolution:** Effective institutions that provide conflict resolution mechanisms promote political stability, attract investment, and support economic growth.
  - E.g., **National Legal Services Authority (NALSA)**, along with other legal Services Institutions , organizes **Lok Adalats** to resolve disputes efficiently and reduce legal bottlenecks

Steps Taken by India to Build Strong Economic Institutions	**Steps Taken by India to Build Strong Political Institutions**
• **Nationalization of Banks**: In the late 1960s, India nationalized major banks **to control credit and direct resources to key sectors like agriculture and small industries.** • **LPG Reforms**: Since 1991, India has liberalized its economy by reducing **bureaucratic barriers, lowering tariffs, and improving the ease of doing business**, which has attracted foreign investment and stimulated growth. • **Enforcement Directorate (ED):** It combats economic crimes such as **money laundering, enhancing**	• **India's democratic framework:** It feature regular elections and a multiparty system, promoting accountability and representation. • **Decentralization:** The **73rd and 74th Constitutional Amendments empowered local governments,** improving grassroots governance and citizen involvement. • **Grievance Redressal**: Initiatives like **fast-track courts and digital management** aim to enhance the judicial system's efficiency and uphold justice.

transparency and accountability in financial transactions. • **Parliamentary Committees**: Committees like the **Public Accounts Committee and the Estimate Committee review** economic policies, ensuring accountability and fostering public debate to align reforms with national interests.	• **Anti-Corruption Measures**: Institutions like the **Lokpal and the Comptroller and Auditor General of India** promote government accountability and help reduce corruption. • **Civil Society Engagement**: Supporting **NGOs and civil society** enhances inclusivity and responsiveness to the needs of citizens.

Conclusion

The relationship between economic and political institutions is key to national prosperity. Strong economic institutions that protect property rights and encourage investment, combined with effective political institutions that ensure good governance and inclusiveness, foster growth.

About The Sveriges Riksbank Prize in Economic Sciences commonly known as Nobel Prize of economics

- **Establishment:** In 1968 by Sveriges Riksbank (Sweden's central bank).
  - It is **not one of the five Nobel Prizes** established by Alfred Nobel's will in 1895.
- **First recipients:** To Ragnar Frisch and Jan Tinbergen in 1969.
  - **Amartya Sen** was the first Indian to receive Nobel Prize for Economics in 1998 for his contributions to **welfare economics and social choice theory.**
- **Prize consists:** A medal, a personal diploma, and a cash award.

3.2. B READY INDEX

Why in the news?

World Bank (WB) launches the first edition of its **Business-Ready (B-Ready) Index.**

More on News

- As a new project, B-Ready is in a **three-year rollout phase**, spanning 2024 to 2026.
  - The assessment currently **includes 50 economies (excluding India)** and plans to expand to 180 by 2026.
- The B-READY framework replaces the **World Bank's Ease of Doing Business (EoDB) rankings,** which measured how easy it was to start and operate a business.
  - The EoDB report was discontinued in 2021 due to irregularities in data and ethical concerns.
- **The 2024 Business Reform Action Plan rankings** prepared by the Department for Promotion of Industry and Internal Trade **will include some of the indicators tracked by B-Ready index**.

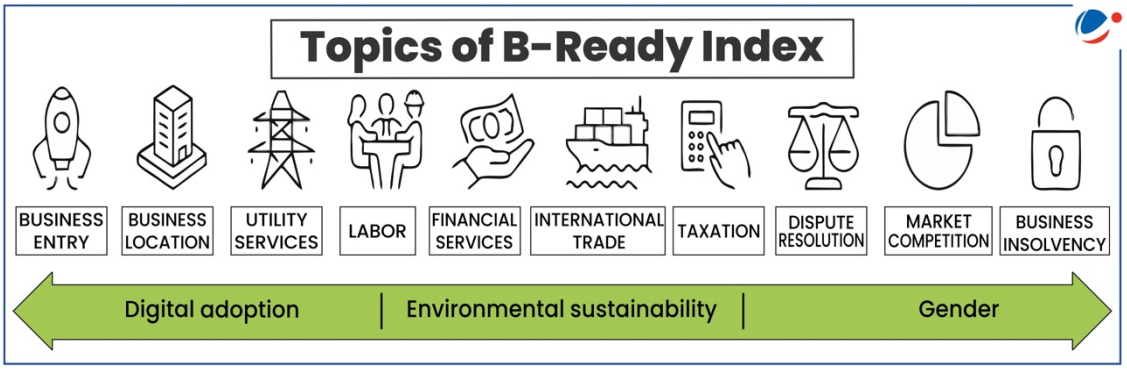
What is the B Ready Index?

- **About:** It is a new **data collection and analysis project** of the world bank group to **assess the business and investment climate worldwide,** accompanied by an annual **corporate report.**
- **Aim:** To **promote private investment, create jobs, and enhance productivity** to support inclusive and sustainable economic development.
  - It also aims to ensure that the **data produced are both comparable across economies and representative** within each economy.
- **It aims to achieve objective by focusing on three main areas**
  - **Reform Advocacy:** Encourages policy reforms by sharing benchmarks and fostering dialogue among governments, businesses, and the World Bank.
  - **Policy Guidance**: Offers tailored recommendations for policy changes based on data comparisons to global best practices.
  - **Analysis and Research**: Supplies detailed data to support research on private sector development factors.

What is the Analytical Framework of the B Ready Index?

- It is structured **topics crucial for private sector development,** reflecting different stages in a business's lifecycle, **including opening, operating (or expanding), and closing (or reorganizing) a business**.

- **Cross-Cutting Themes:** covers three important cross-cutting areas across the ten topics
  - **Digital Adoption**: Examines how governments and businesses integrate digital tools.
  - **Environmental Sustainability**: Evaluates regulations that affect business environmental practices.
  - **Gender**: Analyzes anonymized gender data to assess the impact of programs and regulations on businesses.



- **For each of the 10 topics, B-READY considers three pillars**

What is the difference between the Ease of Doing Business and the B-ready index?

Aspects	EODB	B Ready
Focus of Assessment	**Primarily small and medium** enterprises.	Targets **private sector development** as a whole.
Assessment	Examine **only burden of regulation on firms.**	Examines **regulatory burden** on firms and **quality of regulation.**
Analytical Framework	**10 indicators across various categories.**	**Ten topics, three pillars, three themes.**
Data Collection Method	Expert consultations and case studies emphasized either **legal (de jure) or practical (de facto) regulations**, but not both consistently.	Combines **expert insights and firm surveys** for a balanced view of regulations, improving data comparability across economies.
Geographical Reach	**Main business city** in 191 economies and a second city in 11	Aims for wider coverage, including local regulations

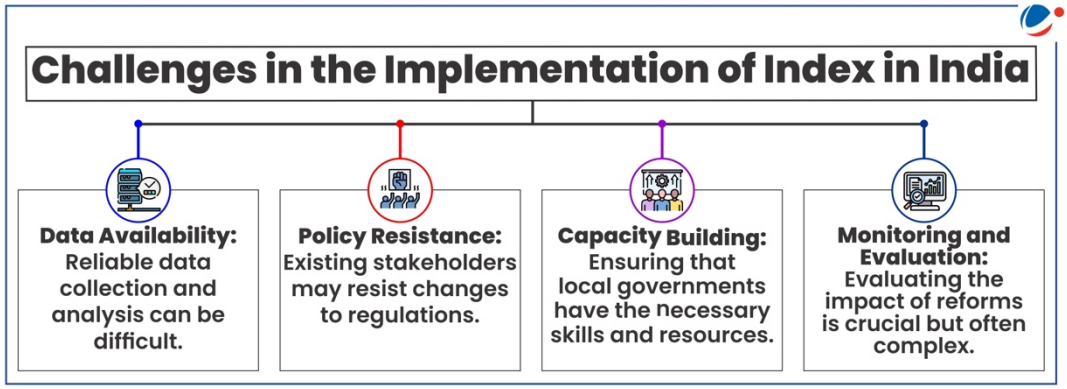
What is the significance of the adoption of B ready index for India?

- **Boosting Competitiveness**: The B-Ready Index helps India improve its **business environment to attract foreign investment**, essential for economic growth.
- **E-commerce Support**: Targeting $200 billion in e-commerce exports by 2030, the index helps identify and streamline issues in **digital trade and logistics.**
- **Informed Policy**: The data from the index provides insights into **business challenges**, guiding policymakers to create targeted reforms in trade and compliance.
- **Encouraging Innovation**: By emphasizing digitalization and sustainability, the index motivates businesses to innovate, boosting productivity.
- **Promoting Inclusivity**: The index includes gender equality measures, supporting India's goals for inclusive growth and better access for women and underrepresented groups.
- **Monitoring**: Regular updates allow India to monitor its progress and adjust strategies to remain competitive in the global market**.**

- **Transparency & Data Integrity**: It ensures data integrity through strict gathering processes and safeguards, while promoting transparency by making foundational documents, such as the B-READY manual and handbook.

Way Forward

- **Enhancing Governance**: Building the ability of government institutions to create and enforce effective policies.
- **Involving Stakeholders**: Engaging businesses, civil society, and other groups in the reform process to foster collaboration and support.



- **Capacity Building**: Providing training and resources to local governments to better assist businesses.
- **Promoting Inclusivity**: Ensuring that reforms benefit a diverse range of businesses, especially small and medium enterprises.

3.3. SCALING OF INDIA'S SMALL COMPANIES

Why in the news?

A recent paper highlighted the rise of **Multi-plant phenomena in the Indian manufacturing sector.**

About multi-plant phenomena

- The **tendency of manufacturing firms to distribute their workforce across multiple factories/plants in the same state**, rather than scaling up a single plant is called **multi-plant phenomena**.
- According to the paper, **Indian firms are increasingly opting for multiple plants in a single state**.
  - This phenomenon **has been growing over time** and accounts for **over 25.16% of total employment** in all plants and **35.48% of employment in large plants**.
- Issues like **missing middle phenomena**, **dwarfism of firms,** that pose barriers to growth of manufacturing sector and job creation in India, have already been documented.
  - The multi-plant phenomenon further highlights the difficulties that Indian firms encounter when attempting to scale up effectively.

How a multi-plant phenomenon is different from dwarf firm, and missing middle phenomena?

- A **dwarf firm is a firm that doesn't scale with time and remains small**, while in **multi-plant phenomena**, the **firm itself is large** but it operates multiple small plants.
- The **'Missing Middle' phenomenon** points to **lower share of mid-sized firms in the Indian manufacturing sector** in comparison to the shares of small-sized and the large-sized firms.
- **Small companies: According to Companies (Specification of definition details) Amendment Rules, 2022,** paid-up capital and turnover of the small company shall not exceed rupees four crore and rupees forty crore respectively.

Challenges faced by Indian firms in scaling up

- **Regulations**: India's labour laws often exempt smaller firms from compliance, promoting **size-based incentives** and **inflexible regulations** that encourage firms to remain small for benefits retention.
  - E.g., Industrial Disputes Act (IDA), 1947, requires companies with over 100 employees to obtain government permission before retrenchment.
- **Risk management:** Firms open multiple small plants **to diversify legal, regulatory and political risk**.
- **Handling Capital-labor relations:** E.g., Multi-plants also provide protection in the event of labor-related dispute at one site.
- **Flexibility:** If the order decreases at one plant, the **firm can redeploy workers to another plant** without terminating their employment, which is the only option in a single plant establishment.

- **Economic and Market Structure**: The **fragmentation of the market** and the prevalence of informal sectors contribute to multi-plants and smaller firms.
- **Management: A study** highlighted that lack of professional management, due to the tendency to engage family and relatives in management, is keeping Indian businesses small.
- **Other challenges**:
  - **Difficulties in acquiring land in contiguous parcels** to sustain large plants.
  - Smaller plants can be **closer to geographically dispersed labour pools**, especially of women.

Implications of Indians firms and plants remaining small

- **Low Productivity:** The working paper highlights that single and l**arger plants are more productive than smaller and multi-plants due to economies of scale**.
  - As per Economic Survey 2018-19, despite accounting for more than half of all the organized firms, **dwarf firms contribute mere 8% to productivity**.
- **Impact on Export competitiveness: Lower productivity** of small plants and firms **impacts competitiveness and export performance**.
- **Job creation:** As per Economic Survey 2018-19, the contribution of dwarf firms to employment is only 14%.
- **Employment quality**: As per Economic Survey 2018-19, **small firms struggle to maintain the jobs they create**, while large firms generate more permanent jobs in larger numbers.

Initiatives taken to promote large firms

- **Production Linked Incentive (PLI) Schemes**: PLI schemes have been launched for various sectors **to bring economies of size and scale in the manufacturing sector** and make Indian manufacturers globally competitive.
- **National Industrial Corridor Development Programme:** Aims to **develop futuristic industrial cities** in India which can compete with the best manufacturing and investment destinations in the world.
- **"Raising and Accelerating MSME Performance" (RAMP) scheme**: It is a **World Bank assisted Central Sector scheme** of the Ministry of Micro, Small and Medium Enterprises (MoMSME) **to scale up the implementation capacity and coverage of MSMEs** with impact enhancement of existing MSME schemes.
- **Codification of labour laws:** 29 Labour Laws have been codified into **4 labour codes** to enhance Ease of Doing Business in the country.

Way Forward

- **Sunset clause**: The Economic Survey 2018-19 recommended that **all size based incentives must have a sunset clause of less than ten years** with necessary grand-fathering.
- **Management and Skill Development**: Encourage **professional management and support training programs for entrepreneurial and management skills** to boost operational efficiency.
- **Access to capital**: Direct credit flow to young firms in high employment elastic sectors to accelerate employment generation by **re-calibrating Priority Sector Lending (PSL) guidelines.**
- **Promote more Industrial Clusters**: Creating industrial zones can help firms scale up by providing **shared infrastructure**, **market linkages** and **improved access to technology, finance and talent**.

3.4. PM GATISHAKTI NATIONAL MASTER PLAN

Why in the News?

Recently, **the PM GatiShakti National Master Plan,** launched **in 2021**, has completed **three years.**

About PM GatiShakti (PMGS)

- **PM GatiShakti: It is an approach** for growth accelerating trustworthy infrastructure through **synchronized, holistic, integrated,** and **comprehensive planning** based on **knowledge, technology and innovation.**
  - **The approach is driven by 7 engines** - Railways, Roads, Ports, Waterways, Airports, Mass Transport, and Logistics Infrastructure.
- **Objectives:** To enhance **ease of living, ease of doing business, minimize disruptions and expedite completion of works with cost efficiencies.**
- **PM GatiShakti National Master Plan (PMGS NMP)**

- It has been developed by the **Digital Master Planning tool** developed by **BISAG-N** (Bhaskaracharya National Institute for Space Applications and Geoinformatics) using **GIS platform**.
- It's built on **open-source tech,** hosted **on Meghraj** (Government of India's cloud) & Integrates ISRO satellite imagery and Survey of India basemaps.
- **It provides comprehensive database of the ongoing & future projects of various Ministries. E.g.,** Bharatmala, Sagarmala, inland waterways, dry/land ports, and UDAN.

PMGS-NMP: Targets

The national highway network aims to reach **200,000 km of national highways.**

Plan include **200 new airports, heliports, and water aerodromes** to support aviation.

Rail cargo capacity to grow to **1,600 tons within FY25.**

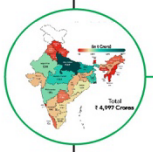
Power grid to extend reach via **454,200 circuit km of lines.**

Increase renewable capacity to **225 GW by FY25 and complete around 17,000 km of gas pipelines.**

Key Achievements of PM GatiShakti

On boarding Whole of the Government on the Single platform: PMGS has integrated 44 Central Ministries and 36 States/UTs with more than 1600 data layers.

Social Sector Impact: PMGS social sector expansion has enabled data-driven planning for schools, hospitals, and anganwadis. **E.g.,** PMGS portal was used to link PM Shri Schools with local industries for district-specific skill training.



PM GatiShakti State Master Plans (SMPs): All 36 States/UTs have developed the PMGS portals, aligned with the PM GatiShakti National Master Plan platform.

Trade Facilitation: PMGS has been instrumental in addressing critical infrastructure gaps, reducing logistics costs, etc. E.g., Planning over 8,891 km of roads using NMP.

Driving Sustainable, Data-Driven Development: PMGS employs GIS tools to ensure efficient infrastructure development. E.g., A 13 GW renewable energy project from Leh (Ladakh) to Kaithal (Haryana) achieved optimal alignment of the 'Green Energy Corridor' for inter-state transmission.

PMGS Delivers Results: Breakthrough assessment of 208 key infrastructure projects totalling $180 Billion.

Why there was a need of PM GatiShakti National Master Plan?

- **Disjointed Planning**
  - **Lack of coordination** leads to **repeated road excavation for** laying cables, gas pipes, and water lines by **different departments independently**, causing continuous **public disruption** and **wasteful expenditure.**
- **Non-/ under-utilization of installed infrastructure**
  - **Capacity inefficient planning** results in completed infrastructure projects **operating below optimal capacity,** leading to **significant revenue losses.**
  - **E.g.,** LNG terminal in Kochi operated below capacity since 2013, due to delayed pipeline connectivity.
- **Lack of Standardization**
  - Each **component of infrastructure** is designed as **a unique project despite similar specifications** which leads to **wasteful expenditure** across departments.
  - **E.g., Every Railway Over Bridge (ROB)** requires fresh **Ministry of Road Transport & Highways design and Ministry of Railways approval**, stretching timelines and causing public inconvenience.
- **Lack of coordination and delays in clearances/approvals:**
  - **Delays in obtaining even a single approval** (clearances, land acquisition, etc) can cascade into significant project setbacks.
  - **E.g.,** A portion of Delhi-Meerut Expressway faced 11-month delay due to pending railway approval for one ROB, despite complete road construction.

How PM GatiShakti is removing barriers for infrastructure growth?

- **Geospatial intelligence for smarter planning & monitoring:** Utilising real-time data from **GIS** and **satellite imagery**, PMGS provides data-driven insights for more informed decision-making.
- **Smart logistics for enhanced efficiency: The Unified Logistics Interface Platform (ULIP**) is designed to improve efficiency, transparency, and coordination within the logistics sector.
- **Breaking silos for a collective vision: The Network Planning Group (NPG**) is synchronising efforts across ministries to ensure cohesive infrastructure development.
- **Revolutionising project planning:** With **digital surveys**, project preparation is now faster and more accurate**. E.g.,** In a year, **the Ministry of Railways** has planned over **400 railway projects** covering **27,000 km of railway lines.**
- **Multimodal Connectivity:** By integrating **highways**, **railways, ports, airports, mass urban transportation, and inland waterways, t**his initiative ensures the seamless movement of goods.
- **Streamlines clearance procedures across agencies: E.g.,** Environment Ministry's online environmental clearance system has reduced approval timelines **from 600 days to just 162 days.**

What are the challenges faced by PM GatiShakti National Master Plan?

- **Issue of interoperability and non-digitization of government data:** Lack of standardization and universal protocols in government data storage and processing hinders data integration and development of integrated solutions.
  - **Inadequate digitization of Government data such as land records** adversely impacts integrated decision-making.
- **Data security concerns**: Ministry of Electronics and IT have expressed reservations about sharing valuable infrastructure data.
  - **Risk** of private companies **potentially monetizing sensitive infrastructure data** from the platform.
- **Limited data sharing with private sector**: It hampers optimal decision-making for projects under Rs 6 trillion **national monetisation pipeline (NMP)** involving core infrastructure assets.
- **Major issue falling beyond the ambit of PMGS**: Land acquisition is frequently the major roadblock to India's development. Due to issues regarding land acquisition, many development projects are postponed.
- **Other Challenges not addressed by PMGS: E.g.,** legal problems, alienation of local populations due to infrastructural development, and environmental standards not complied with, etc.

How can India improve the implementation of PM Gati Shakti?

- **Simplify bureaucratic procedures** related to land acquisition and project approvals. Enhancing inter-departmental coordination can expedite these processes, which is crucial for timely project completion.
- **Address certain key issues:** Address structural and macroeconomic stability issues that result from large public spending.

- **Tackle land acquisition decisions**: Instead of acquiring new lands, policymakers should focus on using GIS and remote sensing to identify and redevelop already degraded or polluted areas for infrastructure projects.
- **Open up Gati Shakti platform to the private sector**: By granting private companies access to non-sensitive, shareable data, the government can foster an environment of collaboration and transparency.
- **District-level expansion**: PM Gati Shakti District Master Plan portal would ensure **decentralized planning, promoting inclusive growth** across regions and local communities.

Conclusion

The PM Gati Shakti initiative represents a transformative approach to infrastructure development in India, aiming to create a seamless and efficient multimodal transportation network. By integrating the efforts of various ministries and leveraging advanced technologies, this initiative seeks to enhance connectivity and reduce logistics costs across the nation.

3.5. 10 YEARS OF MAKE IN INDIA

Why in the News?

Launched on **September 25, 2014**, the "**Make in India**" initiative has recently **completed 10 years.**

About 'Make in India'

- **Aim:** The **'Vocal for Local' initiative** was devised to transform India into a global design and manufacturing hub.
- **Objectives**
  - To increase **the growth rate** of Indian industry **to 12-14% per year.**
  - To create **100 million industrial jobs by 2022.**
  - To increase the share of **the manufacturing sector to 25% of GDP by 2022** (the target year has been revised to 2025).
- **Sectors**: At present, Make in India 2.0 (launched in **2021**) focuses **on 27 sectors** implemented across **various Ministries/ Departments and state governments.**
- **Pillars of 'Make in India'**
  - **New Processes**: The motto '**Ease of doing Business**' became the core for promoting entrepreneurship.
  - **New Infrastructure**: Development of industrial corridors and smart cities, integrating state-of-the-art technology and high-speed communication to create world-class infrastructure.
  - **New Sectors**: FDI opened up in Defence Production, Insurance, Medical Devices, Construction, and Railway infrastructure.
  - **New Mindset**: The government embraced a role as a facilitator rather than a regulator.

Major Achievements under 'Make in India'

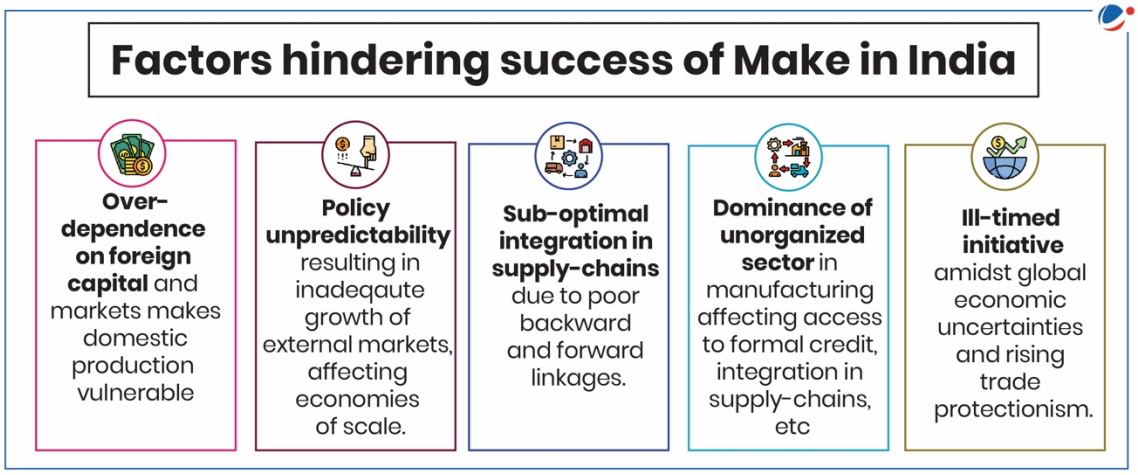
- **India's new manufacturing prowess:** It is evident across sectors – India produces **400 million Toys annually** and it's the world's **4th largest renewable energy producer.**
  - India is the **second-largest mobile manufacturer** in the world and has significantly reduced its reliance on smartphone imports, now **manufacturing 99% domestically**.
- **Improved Ease of doing Business:** Through policy reforms such as the Insolvency and Bankruptcy Code, the GST for indirect taxation, the Jan Vishwas Act, etc.
  - India climbed from **142nd in 2014 to 63rd** in the World Bank's **Doing Business Report (DBR), 2020** before its discontinuation.
- **Boosted India's manufacturing competitiveness:** India has now the lowest tax rates in Asia, enhancing its global economic appeal. **Other steps taken:**
  - Over **40000 compliances** have been **reduced** and **3,800 provisions decriminalized**.
  - **National Single Window System**: Over **seventy-five thousand** approvals granted simplifying investor processes.
- **Resource Mobilization:** FDI inflows have steadily risen, starting from **~$45 billion (Bn)** in **2015** to a record **~$85 Bn in 2022.**
- **Merchandise exports**: Export **of ~$437 Bn recorded in 2024**, reflecting the country's growing role in global trade. India also ventured in **high-end products Export growth.**

    - **E.g., Drugs and pharmaceutical** ($27 Bn); India supplies nearly **60% of the world's vaccines**.
- **Defense exports:** Major defence platforms such as the **Dhanush Artillery Gun System, Main Battle Tank (MBT) Arjun, Light Combat Aircraft (LCA) Tejas, submarines, etc.,** have been developed and exported to various countries.
- **Prioritization of high-value manufacturing and R&D:** As a result, India has risen 42 spots in the Global Innovation Index since 2015, currently ranking 39th, ensuring its global competitiveness.
- **A path taken towards Sustainable growth**: **E.g.,** National Green Hydrogen Mission will generate over **six lakh jobs** and reduce reliance on imported natural gas and ammonia, leading to savings of **₹1 lakh crore**.

Concerns with 'Make in India'

- **Manufacturing sector falls short of 25% GDP target:** Despite 'Make in India' scheme, the manufacturing sector's contribution was still stagnant at **17.7% in 2023.**
    - Manufacturing growth rate has averaged around **6%** since 2014, lower than the **benchmarked 12-14%.**
- **Job losses in manufacturing sector**: Despite a goal of creating 100 million jobs, the manufacturing workforce declined from **51 million (2017) to 35 million (2023).**
- **Slowdown in real GVA**: According to the **National Accounts Statistics (NAS**), the manufacturing real gross value added (GVA) growth rate has slowed down **from ~8% (2012) to 5.5% (2023).**
- **Declining investment rates:** India's rate of productive investment (Gross Capital Formation) has weakened, falling from 39.1% in 2008 to 32.2% in 2023.
- **FDI-driven development strategy has had limited success:** FDI as a percentage of GDP has averaged **~1.8% from 2015 to 2023, down from ~2.1%** in the previous decade.
    - The majority of FDI since 2017 has been concentrated **in just 9 sectors,** starting with **services (especially IT**), while **53 other sectors – mainly manufacturing – have received just 30% of total FDI.**
- **Weakening export performance**: In spite of substantial FDI inflow in absolute terms, India's merchandise exports have fallen steadily in relative terms from **~10% of GDP in 2013-14** to just **~8% in 2022-23.**

- **Concerns related to viability of PLI Schemes:** The growing cost of PLI schemes, such as the $2.75 billion microprocessor factory set up by Micron in Gujarat where the government financed most of the investment.



Way Forward

- **Improving Capabilities:** By adopting new technologies (AI, machine learning, etc), rapidly skilling the labour force, strengthen education ecosystem, etc.
- **Encourage entrepreneurial spirit:** By creating conditions for better educated workers to be entrepreneurial: **E.g.,** India currently produces about 2.2 million STEM graduates, post-graduates and PhDs.
- **Enhance innovation ecosystem:** A triple helix model of academia-industry-government collaboration is essential for translating knowledge into wealth and in this regard, India should establish institutions dedicated to scouting early-stage IP from academia.
    - Recently established **Anushandhan National Research Foundation** (ANRF) as an apex body to provide high-level strategic direction of scientific research in the country is a step in right direction.
- **Optimize core strengths**: It is easier for India to focus on services and manufacturing-related services than to expand in manufacturing.
- **Fostering creative excellence**: By leveraging India's democratic advantage (absent in China) to encourage new ideas and innovations. **E.g.,** Chip technology of Russia (authoritarian) was behind the US (democracy) as Russian could not innovate in that area.

Conclusion

As the "Make in India" initiative celebrates its 10th anniversary, it stands as a testament to India's determination to reshape its manufacturing landscape and enhance its global standing. With strategic reforms, investment-friendly policies, and a strong focus on infrastructure development, the initiative has significantly enhanced India's industrial capabilities.

3.6. POVERTY IN INDIA

Why in the News?

Recently, **World Bank** has released **'Poverty, Prosperity, and Planet: Pathways out of the Polycrisis'** report which offers first post-pandemic assessment of global progress toward these interlinked goals.

Key findings of the Report

- **Stalled Global poverty reduction:** It has slowed to a near standstill during past 5-years impacted by '**polycrisis**'.
    - **Polycrisis** refers to a situation where the **multiple crises of slow economic growth, increased fragility, climate risks**, and **heightened uncertainty** have **come together at the same time**.
    - This makes national development strategies and international cooperation difficult.

Current Status of Poverty in India (as per NITI Ayog)

- **Poverty Headcount Ratio** has decreased from 29.17% (2013-14) to 11.28% (2022-23)
- 24.82 crore Indians escaped multidimensional poverty in last 9 years.
- **Poorer states record faster decline** in poverty indicating reduction in disparities.
    - Uttar Pradesh, Bihar, Madhya Pradesh, Odisha, and Rajasthan saw fastest reduction in the proportion of multidimensional poor.
- **India is on track to achieve SDG Target 1.2** (reducing multi-dimensional poverty by at least half) much ahead of 2030.

- **Non-attainment of targets**: Global population living in extreme poverty is projected to be 7.3% in 2030 (8.5% in 2024). This is double the World Bank target of 3% and farther from the elimination target of SDGs.
- **Global Prosperity Gap**: Stalled progress since pandemic, highlighting slowdown in inclusive income growth.
  - **Prosperity Gap** is the average **factor by which incomes need to be multiplied** to bring everyone in the world to the **prosperity standard of $25 per person per day**.
- **India**: **Significant fall** in Indians living in **extreme poverty** from **431 million (1990) to 129 million (2024).**
  - Currently, **World Bank defines extreme poverty** as living on less than **$2.15 per person per day**

History of Poverty Estimation in India

Pre-Independence

- **Dadabhai Naoroji (**book-**Poverty and the Un-British Rule in India), National Planning Committee (1938),** and **Bombay Plan' (1944) were related with** estimation of poverty.

Post-Independence

- **Planning Commission (1962), VM Dandekar and N Rath (1971), Alagh Committee (1979), Lakdawala Committee (1993) were related to** poverty estimation.

Post 2000s

- **Tendulkar Committee (2009):** It was constituted to review the methodology for poverty estimation**.** The national poverty line for 2011-12 was estimated at Rs. 816 per capita per month for rural areas and Rs. 1,000 per capita per month for urban areas. **It recommended:**
  - To shift away from basing poverty lines from calorie norms
  - uniform all-India urban Poverty Line Baskets(PLB) across rural and urban India instead of two separate PLBs for rural and urban poverty lines
  - use of Mixed Reference Period (MRP) based estimates, as opposed to Uniform Reference Period (URP)
- **Rangarajan Committee (2014):** Constituted in backdrop of widespread criticism of Tendulkar Committee, it **reverted to the practice of having separate all-India rural and urban poverty line baskets** and deriving state-level rural and urban estimates from these.
  - However, **government did not take a call on the report of the Rangarajan Committee.**

Factors behind Poverty in India

- **Historical Reasons:** Exploitative colonial rule destroyed the local industries leading to de-industrialization and drain of wealth resulting in poverty.
  - **E.g. British colonial rules turned India into an exporter of raw materials** and imported of finished goods impacting income of farmers, artisans.
- **Low Agricultural Productivity**: Fragmented land holdings, lack of capital, and reliance on traditional farming methods limit yields.
  - E.g. Lower yield of crops in India than developed economies affects income of farmers.
- **Population Explosion**: India's rapid population growth has led to increased pressure on resources and services exacerbating headcount ratio of poverty.
  - **E.g. India's population is expected to peak in early 2060s (at 1.7 billion) and remain world's most populous country throughout century (UNDESA)**

Key Terminologies Related to Poverty

- **Absolute Poverty:** It usually reflects a minimum cost necessary to cover basic needs without reference to social context or norms. It is **characterized by severe deprivation of basic human needs**, such as food, safe drinking water.
- **Relative poverty:** It defines poverty in relation to the economic status of other members of the society i.e. **people are poor if they fall below prevailing standards of living in a given societal context.**
- **Poverty Rate/ Poverty Incidence/Headcount Ratio:** It is the share or percentage of population living below the poverty line. It measures **'how many are poor?'**
- **Intensity of poverty: It measures** how bad the poverty is for those who are poor or the distance from the poverty line. Thus it measures' **How much poor are the poor?'**
- **Multidimensional Poverty Index (MPI):** It is globally recognized comprehensive measure that captures poverty in multiple dimensions beyond monetary aspects.

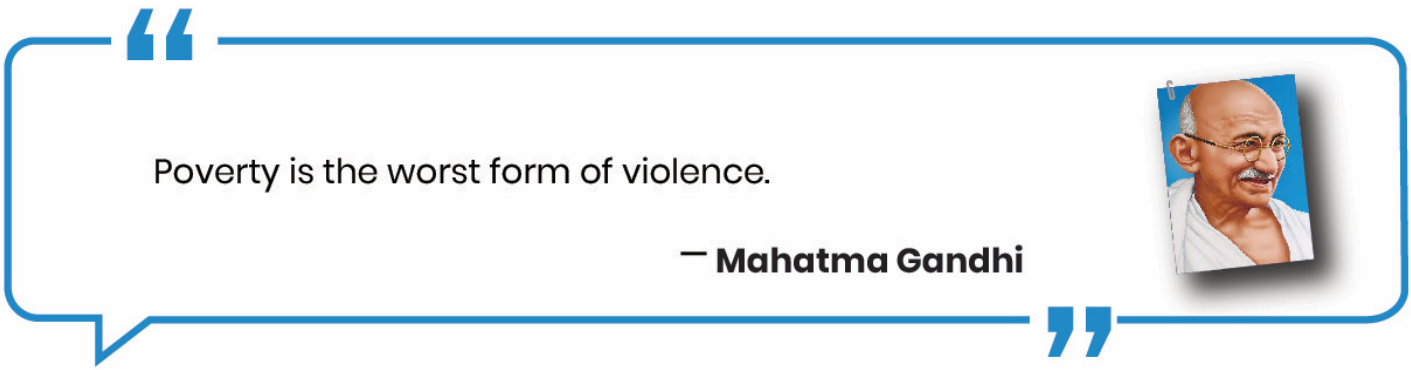
- **Economic Inequality**: Disparities in income and wealth distribution concentrate resources among a few giving rise to relative poverty. **E.g. Top 10% of the Indian population holds 77% of the total national wealth (Oxfam).**
- **Social Inequalities**: Instances such as caste discrimination and gender disparities lead to social exclusion. **E.g. India has 53% of women outside the labour force due to care responsibilities(ILO)**
  - **Moreover,** rigid caste system restricts access to resources and opportunities for marginalized groups, perpetuating poverty across generations leading to **Intra-generational and Intergenerational issues of equity.**
- **Geographical Disparities:** Dense forests, hilly terrains or areas vulnerable to natural disasters contribute to higher poverty rates.
  - E.g. **Recurrent floods in Assam and Bihar** displaces millions of people and pushes them into absolute poverty every year.

Initiatives taken to tackle Poverty

Affordable Healthcare	Social Security and Empowerment	Financial Inclusion and Welfare	Employment and Skill Development	Entrepreneurship
• Ayushman Bharat Yojana • Pradhan Mantri Bharatiya Janaushadhi Pariyojana (PMBJP) • Pradhan Mantri Matru Vandana Yojana (PMMVY)	• Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) • Jal Jeevan Mission • PM Awas Yojana (Rural and Urban) • PM Ujjwala Yojana • Saubhagya Yojana	• PM Jan Dhan Yojana • Atal Pension Yojana • PM Shram Yogi Maandhan Yojana • PM Kisan Maandhan Yojana	• Mahatma Gandhi National Rural Employment Guarantee Scheme • PM Kaushal Vikas Yojana • National Apprenticeship Promotion Scheme	• PM MUDRA Yojana • PM SVANidhi • Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM)

Way Forward

- **Suggestions by NITI Ayog to combat poverty**
  - **Employment-intensive Sustained Rapid Growth:** by creating better jobs and generation of additional revenues for government to expand social expenditures at faster pace. It calls for **second green revolution in agriculture** particularly in eastern India.
  - **Making anti-poverty programs effective:** It can be done by better targeting of schemes with use of technologies to **reduce inclusion and exclusion errors.** E.g. use of **Jan Dhan Yojana, Aadhaar, Mobile (JAM) trinity**
- **Focus on "Amartya Sen's 'Development as Freedom' and the Capability Approach"**: It calls for investment in people's capabilities with a focus on education, skills to expand their opportunities and freedoms thereby leading to citizen's empowerment and reduction in poverty
  - E.g. enhancing slum dwellers capabilities influences their entrepreneurship development and contributes to urban poverty reduction



3.7. GLOBAL INNOVATION INDEX 2024 AND SOCIAL ENTREPRENEURSHIP

Why in the news?

Recently, the **Global Innovation Index (GII), 2024** was released by the **World Intellectual Property Organization (WIPO), Cornell University and INSEAD Business School.**

GII 2024: Key Findings

- **Theme:** Unlocking the Promise of Social Entrepreneurship.
- **Criteria for measurement of innovation**: Institutions, human capital and research, infrastructure, credit, investment, linkages; creation, absorption and diffusion of knowledge; and creative outputs.
- **Top ranking: Switzerland** followed by **Sweden, the US and Singapore**.
- **India**:
  - India ranked **39th among 133 nations**, **improving** ranking by one position from **40th in 2023 with a score of 38.3**.
  - India holds the **top** rank in both **lower middle-income economies** as well as the **Central and Southern Asia region** for Knowledge and technology outputs, Creative outputs, Institutions and Business sophistication.
  - Bengaluru, Delhi, Chennai and Mumbai are among the **top 100 S&T clusters.**

Social entrepreneurship and enterprises

- Social entrepreneurship is a way to achieve the **generation of economic wealth** while addressing various issues like **poverty, environmental sustainability and social injustice**.
  - It **combines efficiency, innovation, and resources of profit-making entrepreneurs** with the **passion, values, mission, and concerns** of non-profit organizations**.**

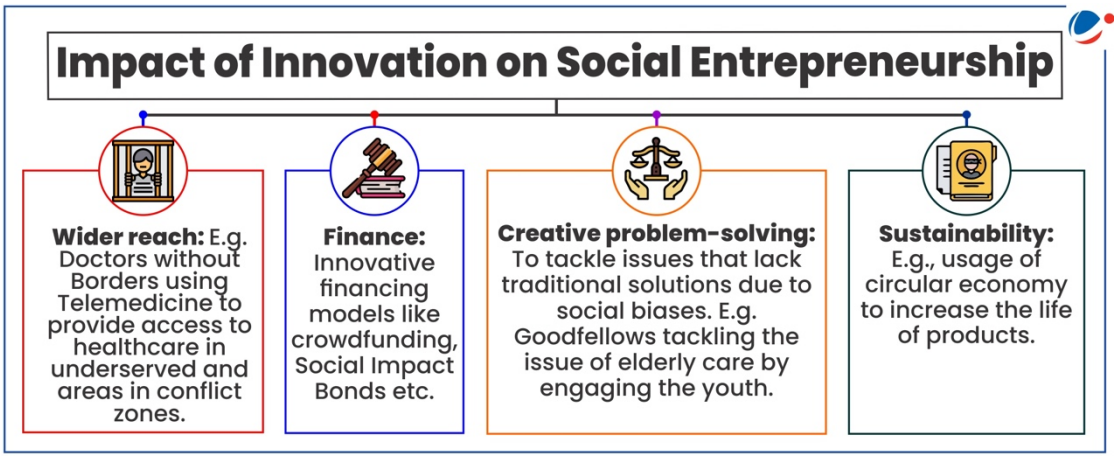
Difference between Traditional companies and Social enterprises

	Traditional Company	**Social Enterprise**
Mission/ Motivation	Generation of **economic value** by tapping the market opportunities and generation of **social value being one of the ways** of generating economic value.	Creation of **social value** by addressing social issues through creative problem-solving to **create economic value.**
Goal of innovation processes	To gain an **economic and market edge** over competitors and have greater **market presence**.	An **inclusive and collaborative approach** with community involvement with **maximising the social benefit**. E.g**. Open-source knowledge**
Utilization of surplus	To increase **economic gains** of **stakeholders**.	**Reinvestment** towards solving the social issue and forwarding the **social mission**.
Expected future changes	Evolving according to the market needs based on **profit maximization.**	Creation of an **inclusive market, uplifting the excluded communities** and prioritising the **social impact**.

Potential/Significance of Social Entrepreneurship and Social Enterprises

- **Economic growth**: Estimates suggest there are up to **11 million social enterprises** and **30 million social entrepreneurs** globally, contributing around **USD 2 trillion to global GDP**.
  - The **estimated market opportunity and potential for social enterprises in India** is estimated to be **US$ 8 billion by 2025**.
- **Influencing Policy through expertise:** According to a study of over 800 social entrepreneurs, **63%** have achieved **legislative change or influenced policy** and 62% have provided **research and or data to policymakers.**
  - E.g. **Ethiopian** policymakers collaborated with **Tebita Ambulance** (a social enterprise) to build **emergency medical service standards and licensing system.**
- **Sustainable development**: Provide for a golden mean for ensuring sustainable development and meeting the **Sustainable Development Goals (SDGs).**
  - E.g. **SELCO**, a social enterprise in India, provides **sustainable energy solutions** to **under-served households** and businesses.

- **Sensitization and engagement**: Provides an opportunity of **educating people** about need for **addressing societal issues** with **collective engagement** along with economic development.



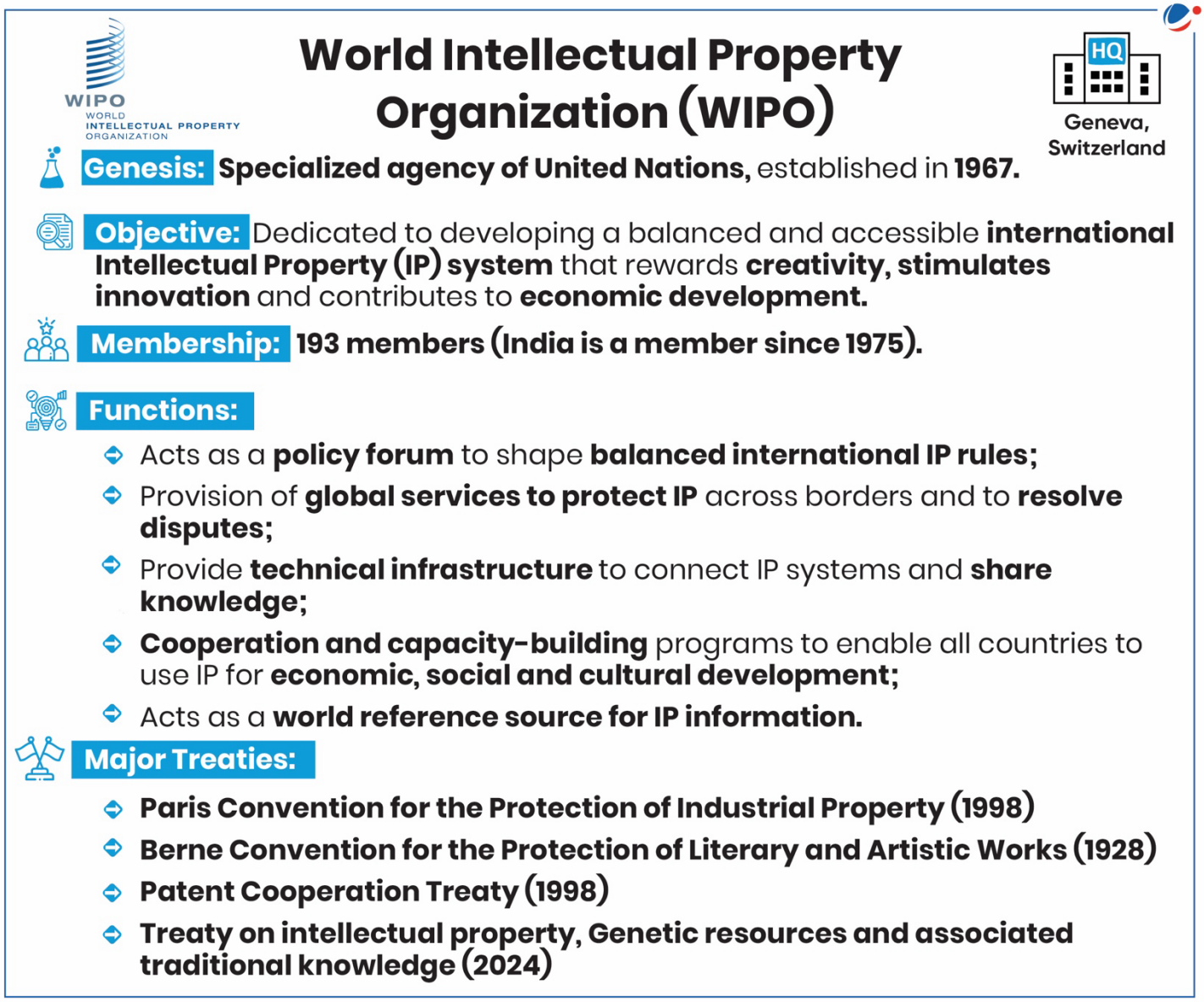
- **Integrate social innovation into Corporations:** Aids traditional corporations in shifting from **Corporate Social Responsibility (CSR) to Corporate Social Innovation.**
- **Social transformation**: **Empowering of the vulnerable sections** of society and tackling the rising **economic inequality** due to traditional business models.

India's Initiatives to promote Social Entrepreneurship

- **Atal Innovation Mission (AIM); ASPIRE – A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship; and Aatmanirbhar Bharat ARISE-ANIC program** to promote research & innovation and increase competitiveness of Indian startups and MSMEs
- **Corporate social responsibility (CSR):** Mandatory provision of **Companies Act, 2013 for** certain Companies to take up CSR projects towards **social welfare activities.**
- **Social Stock Exchange (SSE):** Aimed at providing social enterprises with **enhanced visibility and access to capital.**
- **Social Impact Bonds: Innovative funding method** capitalizing on the increasing investor awareness regarding the social and ecological impact of their investments. **E.g. Green Bonds, Social Bonds, Sustainability Bonds, Skill Impact Bond etc.**
  - **E.g. The Special Window for Affordable and Mid-Income Housing (SWAMIH) Investment Fund** is India's largest social impact fund.
- **The Social Innovation Programme: By NASSCOM foundation is a TechForGood initiative** that fosters inclusion for all by providing a platform for young social innovators to turn their ideas into reality.

Conclusion

Social entrepreneurship and **enterprises** offer a **transformative** approach to tackling global challenges, by **merging business innovation with social goals**. By investing in **supportive policies, infrastructure and financing**, it is possible to create an environment where social enterprises thrive, driving **sustainable development** and creating **lasting positive impacts** on a global scale.



3.8. NATIONAL MISSION ON EDIBLE OILS – OILSEEDS (NMEO-OILSEEDS)

Why in news?

The Union cabinet approved **National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds)** for seven-year period, from **2024-25 to 2030-31.**

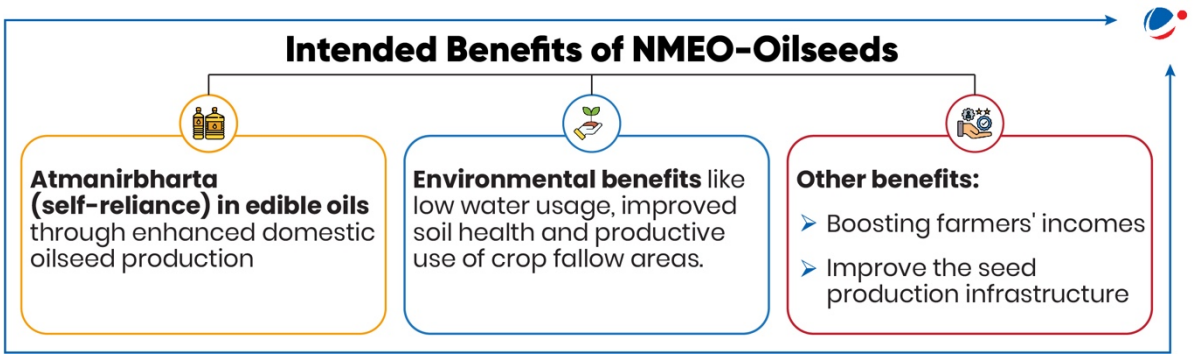
About National Mission on Edible Oils – Oilseeds

- **Targets for 2030-31:**
  - **Increase primary oilseed production to 69.7 million tonnes** (from 39 million tonnes in 2022-23).
  - Increase domestic edible oil production to **25.45 million tonnes** and meet around **72% of our projected domestic requirement** together with NMEO-OP (Oil Palm).

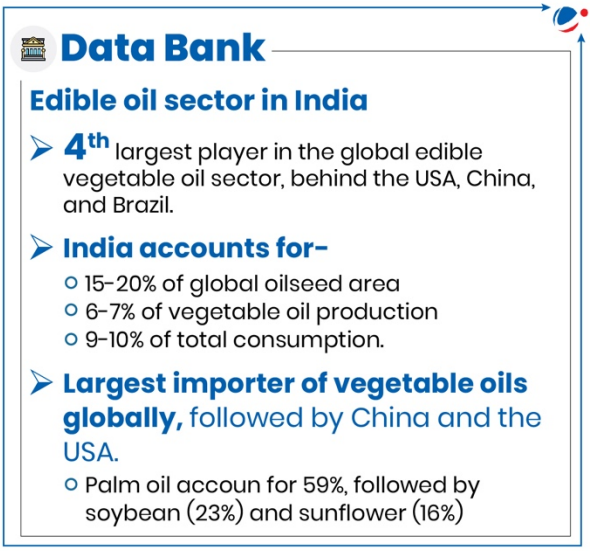
- **Expand oilseed cultivation by an additional 40 lakh hectares** by targeting rice and potato fallow lands, promoting intercropping, and promoting crop diversification.

- **Focus:**
  - **Increasing the production of key primary oilseed crops** such as Rapeseed-Mustard, Groundnut, Soybean, Sunflower, and Sesamum
  - **Enhancing extraction efficiency from secondary sources** like Cottonseed, Rice Bran, and Tree Borne Oils.
- **Key features of the Scheme**
  - **'Seed Authentication, Traceability & Holistic Inventory' (SATHI) Portal:** For an Online 5-year rolling seed plan for timely availability of seeds.
    - It will enable **states to establish advance tie-ups with seed-producing agencies**, including cooperatives, Farmer Producer Organizations (FPOs), and government or private seed corporations.
  - **Development of 600 Value Chain Clusters** across 347 unique districts, covering more than 10 lakh hectares annually.
    - Farmers in these clusters will have access to **high-quality seeds, training on Good Agricultural Practices (GAP), and advisory services on weather and pest management.**
  - **Other features:**
    - **Adoption of high-yielding high oil content seed varieties.**
    - **Utilization of advanced technologies like genome editing** for the development of high-quality seeds.
    - **Setting up of 65 new seed hubs and 50 seed storage units** in public sector.
    - **Information, Education, and Communication (IEC) campaign** for awareness of recommended dietary guidelines for edible oils.
    - Support to FPOs, cooperatives, and industry players to **establish or upgrade post-harvest units**.

Need for self-sufficiency in Edible Oil



- **Importance**: Oilseeds are the **second-largest crop category in India after food grains**, with **nine annual oilseed crops** cultivated across diverse agro-ecological conditions.
- **Increasing demand:** Urbanization and increasing Average Monthly Per Capita Consumption Expenditure (MPCE) in India is expected to increase the consumption of processed foods high in edible oil content.
- **Increasing import dependence:** India is heavily reliant on imports which account for **57% of its domestic demand for edible oils.**



Challenges in attaining self-sufficiency in Edible Oil in India

- **Lower yield per hectare:** The yield gap is primarily due to other countries using genetically modified (GM) herbicide-tolerant varieties.
- **Cultivation challenges**: 76% of oilseed cultivation is rainfed, making it vulnerable to biotic and abiotic stresses.
- **Crop-specific concentrations**: Production of specific oilseeds is concentrated in certain states, calling for policies to encourage more balanced and resilient cultivation.
  - E.g. Gujarat, Rajasthan, Tamil Nadu, Andhra Pradesh, and Karnataka collectively contribute 83.4% of the country's total groundnut production.

- **Demand-Supply Gap:** India is projected to maintain high import growth of vegetable oils to meet growing domestic demand.
- **Low contribution to global palm and sunflower oil production**.

Other Steps taken for self-sufficiency

- **Key programs:**
  - **National Food Security Mission - Oilseeds & Oil Palm (NFSM-OS&OP**): Launched in 2018-19, it focuses on Seed components (breeding, production, distribution), Production inputs (equipment, chemicals, fertilizers) and Technology transfer (demonstrations, training).
  - **National Mission on Edible Oils - Oil Palm (NMEO-OP):** Launched in 2021-22, it aims to increase oil palm cultivation area from 3.70 to 10.00 lakh hectares by 2025-26 and focus on North Eastern States and Andaman & Nicobar Islands.
  - **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)** ensures that oilseed farmers receive MSP through price support scheme and price deficiency payment scheme.
  - **Rashtriya Krishi Vikas Yojana - RAFTAAR (RKVY-RAFTAAR):** Has provisions for crop production related activities on oilseeds.
- **Other measures:**
  - **MSP for seven key oilseeds**, namely groundnut, sunflower, soybean, sesame, nigerseed, rapeseed & mustard, and safflower.
  - **Imposition of 20% import duty on edible oils** to protect domestic producers from cheap imports and encourage local cultivation.
- **2024 Budget announcements:**
  - **Strategy for self-sufficiency in oilseeds** (mustard, groundnut, sesame, soybean, sunflower)
  - Focus on research, modern farming techniques, market linkages, and crop insurance.
- **Yellow Revolution:** It was **a movement started in 1986–1987** to boost the production of edible oil, particularly from mustard and sesame seeds.

Conclusion

The NMEO-Oilseeds will help increase domestic oilseed output and support hard-working farmers by developing **value chain clusters, providing high-yielding, high-oil content seed varieties, and improving overall infrastructure** such as seed hubs, seed storage units etc. Furthermore, expanding **oilseed cultivation to fallow regions,** investments in research and data-driven approaches, as well as public-private partnerships, can be explored to transform the sector.

3.9. NEWS IN SHORTS

3.9.1. RESPONSIBLE CAPITALISM

Need for responsible capitalism for large economies highlighted by Union Finance Minister

- At the Tech Leaders Roundtable in Mexico, Minister while **emphasizing on need for responsible capitalism** said that for large economies, the **challenge is not just to grow but also to reduce inequality** and create opportunities for everyone.

What is meant by Responsible Capitalism?

- It can be understood as an **economic approach that integrates ethical values into business practices.**
- It emphasizes **balancing profit with social responsibility**, ensuring businesses contribute to societal well-being, fairness, and environmental sustainability, rather than focusing solely on shareholder returns.

What's the need for Responsible Capitalism?

- **Addressing global challenges:** It can help companies and governments respond to challenges like sustainability, inequality, and exclusion.
- **Long-term business sustainability:** Purely profit-driven models may not be viable in long-term; responsible capitalism can also help in better adaptation to tech-disruptions like AI, etc.
- **Ethical Governance and Stakeholder Capitalism**: Promotes fairness in decision-making, ensuring stakeholders are treated justly and business operations comply with legal and moral standards.

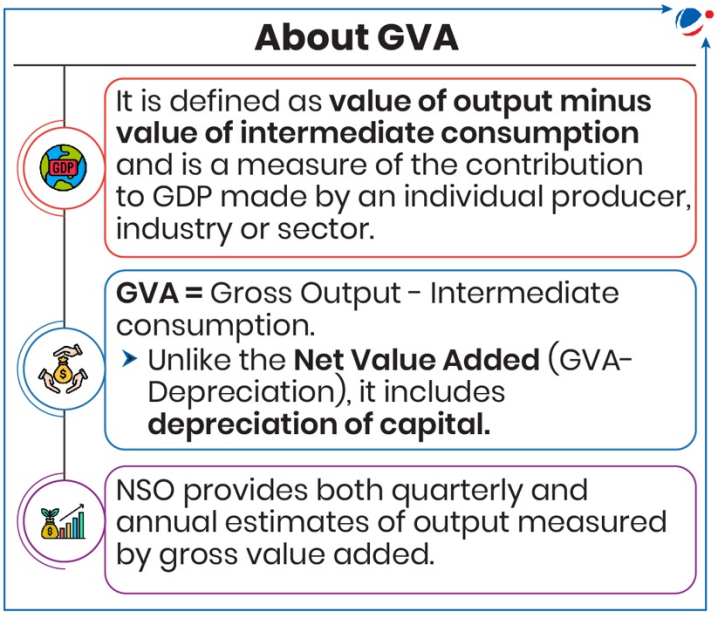
Measures taken to promote Responsible Capitalism in India

- **Corporate Social Responsibility (CSR):** Mandated under **section 135 of Companies Act, 2013**.
- **Environmental regulations:** Plastic Waste Management Rules, stricter emission norms for vehicles under BS-VI, etc.
- **Labor reforms:** Code on Wages, Occupational Safety; Health and Working Conditions Code, 2020, etc.
- **Financial sector initiative:** RBI's Priority Sector Lending norms, SEBI's Green Bond guidelines, etc.

3.9.2. ANNUAL SURVEY OF INDUSTRIES (ASI) FOR FY 2022-23

ASI **released by Ministry of Statistics and Programme Implementation (MoSPI)** for FY 2022-23

- ASI provides insight into dynamics of change in composition, **growth and structure of manufacturing industries** in terms of key economic indicators.



Key Highlights

- **Manufacturing Gross Value Added (GVA):** Grew by **7.3% in current prices in 2022-23** over 2021-22.
  - **Maharashtra** topped followed by Gujarat in terms of **Manufacturing GVA**.
- **Growth in economic parameters:** Surpassed pre-pandemic level in absolute value terms e.g. in invested capital, GVA, employment and wages etc.
- **Growth drivers of Manufacturing-Sector:** Manufacture of Basic metal, Coke & Refined Petroleum Products, Food Products, etc.
- **Employment:** 7.4% increase in manufacturing employment **in 2022-23 over previous year.**
  - **Highest Employing States: Tamil Nadu** followed by Maharashtra.

About ASI:

- Conducted by Collection of Statistics Act, 2008 except in Jammu & Kashmir **(Conducted under J&K Collection of Statistics Act, 2010).**
- **Industries covered:**
  - Factories registered under Sections 2m(i &ii) of **Factories Act,1948**
  - **Bidi and cigar manufacturing** establishments under the Bidi & Cigar Workers (Conditions of Employment) Act,1966
  - **Electricity undertakings** not registered with Central Electricity Authority (CEA)
  - **Units with 100 or more employees** registered in the **Business Register of Establishments (BRE)** maintained by the States.

3.9.3. INPUT TAX CREDIT

Recently, Supreme Court laid down twin tests - 'functionality' and 'essentially' - for Input Tax Credit eligibility in construction.

- Court stated that if a building is **essential for supplying services like renting or leasing (as per Schedule 2, clauses 2 and 5 of CGST Act)**, it may be considered a plant.
- **Functionality test** determines whether a building qualifies as a plant or not.

About Input Tax Credit

- It is a mechanism to **avoid cascading** of taxes, i.e, 'tax on tax'.
- **A registered taxable person** under GST Act who is paying tax due in the course or furtherance of business can claim and avail ITC credited in electronic ledge.

3.9.4. REMISSION OF DUTIES AND TAXES ON EXPORTED PRODUCTS (RODTEP) SCHEME

Government approved changes to the RoDTEP scheme.

Key Changes

- **For Domestic Tariff Area (DTA) units:** Extended by 1 year till 30th September, 2025.
- **For Authorisation holders (except Deemed exports), export-oriented units and special economic zone units:** Applicable till the end of this year.
- **Applicability of New rates:** From October 10th, 2024 based on the recommendations of RoDTEP Committee.

About RoDTEP Scheme

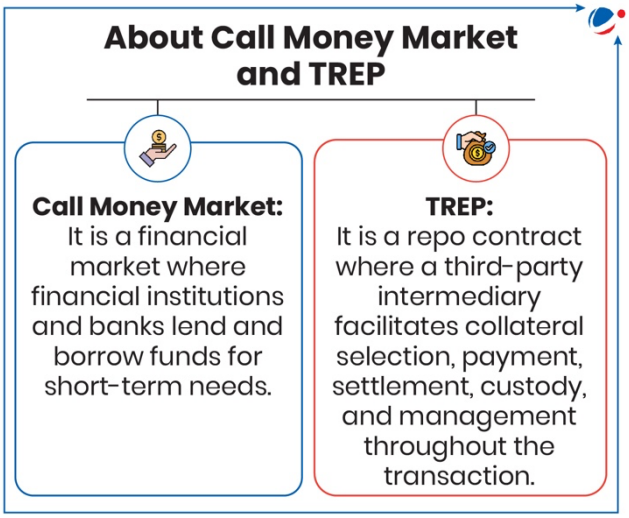
- **Introduced in** 2021 by **Ministry of Commerce and Industry**
- **Aim: Refunding taxes, duties, and levies** at the **central, state** and **local** levels on the **exported products.**
- It **replaced the Merchandise Exports from India scheme** which was challenged at World Trade Organization.

3.9.5. RBI RELEASED REPORT OF THE COMMITTEE ON MIBOR BENCHMARK

Recently, RBI released a report recommending **key changes in methodology for computation of Mumbai Interbank Outright Rate** (MIBOR) and proposed transition to a **new secured money market benchmark** for widely used product derivatives.

What is MIBOR?

- First introduced by **National Stock Exchange** (NSE) in **1998,** it is the **interest rate benchmark** at which **banks borrow unsecured funds from one another** in the Indian interbank market.
- It is computed and published by **Financial Benchmarks India Pvt. Ltd. (FBIL**) on a daily basis.
- Currently, it is computed based on trades executed on **Negotiated Dealing System or NDS-Call system** in the first hour.
- **Issues with current MIBOR:** Based on a **narrow volume (1% of daily money market volume)** of call transactions**,** thin call money market volumes making MIBOR **susceptible to volatility**, etc.



Key recommendations of the report

- **Change in computation methodology of MIBOR:** Include transactions based on first 3-hours instead of first hour, to make MIBOR more representatives of transactions in call money market and potentially increase its reliability.
- **Benchmark based on secured money market:** FBIL to develop and publish a benchmark based on secured money market computed from trades in the first three hours of basket repo and the TREP (tri-party repo) segments.

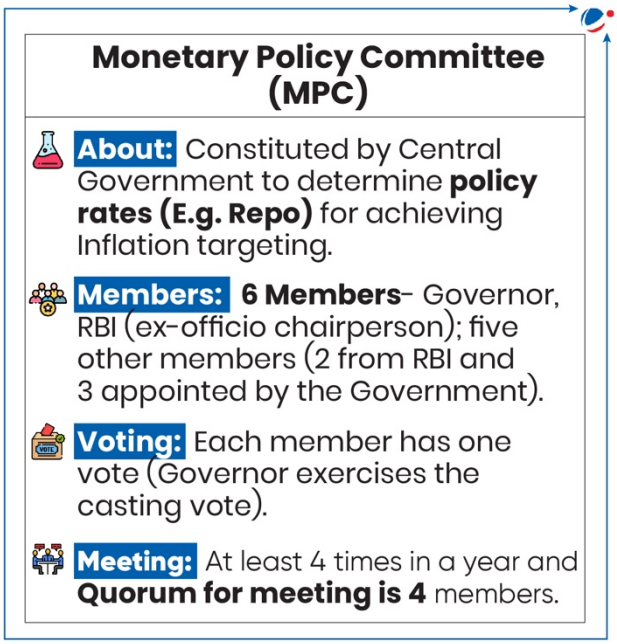
3.9.6. RBI STUDY ON MONETARY POLICY TRANSMISSION

Reserve Bank of India (RBI) released study on **Monetary Policy Transmission (MPT) and Labour Markets in India.**

- Study analyzes **impact of informality in labor markets** on inflation stabilization and monetary policy o**ffering new insights on MPT**.

About Monetary Policy (MP)

- MP is a **set of actions** available to a **nation's central bank (RBI in India)** to achieve **sustainable economic growth** & **Maintaining price stability** by adjusting money supply.
- **Statutory Basis:** RBI, Act,1934 (amended in 2016).
- **MP Framework: Central Government,** in consultation with RBI, **determines inflation target** in terms of Consumer Price Index (CPI) every 5 years.
  - **Flexible Inflation Targeting:** Currently, it is **4% (with a tolerance of +/- 2%)** till March, 2026.
- **Tools: Direct and indirect instruments** like Repo Rate, Reverse Repo Rate etc.
- **Types: Expansionary** (Lowering interest rate to stimulate economic activity); **and Contractionary** (Increasing interest rate to slow down activity and prevent inflation)



Key findings of Study:

- **MP Transmission:** Improves with more formality in the labor market.
- **Impact on Unemployment:** Contractionary Monetary Policy **(CMP)** leads to **Rise** in unemployment in both formal and informal markets.
- **Impact on Macroeconomic variables:** Contractionary Monetary Policy **(CMP)** leads to a **decline** in aggregate consumption, inflation, investment, output, capital stock, etc.

3.9.7. INDIA FOREX RESERVE CROSS 700 BILLION DOLLAR

India is now the fourth country in the world to have over $700 billion in foreign reserves, following **China**, **Japan**, and **Switzerland**.

- India's reserves can cover 11.9 months of imports, well above the general norm of six-months.

About Forex (Foreign Exchange) Reserve-

- It comprises of different assets that are held by a central bank.
  - In India, the **RBI Act of 1934** contains the enabling provisions for the **Reserve Bank of India (RBI)** to act as the custodian of forex reserve, and manage reserves within the defined objectives.
- **Components of Reserve** (in descending order as per their value)-
  - **Foreign Currency Assets (FCA)**: It is valued in currencies other than the country's own
  - **Gold reserves**
  - **Special Drawing Rights**: A reserve asset provided by **International Monetary Fund (IMF)**.
    - It is value is based on a mix of five major currencies- the US dollar, euro, Chinese renminbi, Japanese yen, and British pound sterling.
  - **Reserve Tranche Position (RTP):** It is equal to the member's quota less the IMF's holdings of the member's currency in account.
- **Key deriving factor behind rise in reserve**: Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI), Remittances, etc.

3.9.8. UPI 123 AND UPI LITE

To encourage wider adoption of Unified Payments Interface (UPI), RBI enhances transaction limits for UPI123Pay, UPI Lite.

UPI123Pay

- Started in March 2022 to **enable feature-phone users** to use UPI.
- It is available in 12 languages.
- **Technology alternatives** include IVR number, app functionality, missed-call and proximity sound-based payments.
- RBI enhanced the per-transaction limit from ₹5000 to **₹10,000.**

UPI Lite

- It allows users to **make low-value transactions without entering a UPI PIN.**
- RBI enhanced per-transaction **limit to ₹1,000 from ₹500** and overall **wallet limit to ₹5,000 from ₹2000.**

For more information on UPI, refer to Article 3.2 Unified Payments Interface in January 2024 Monthly Current Affairs Magazine

3.9.9. CAREEDGE RELEASED ITS INAUGURAL SOVEREIGN CREDIT RATINGS

CareEdge released its inaugural report on Sovereign Ratings, covering 39 Global Economies.

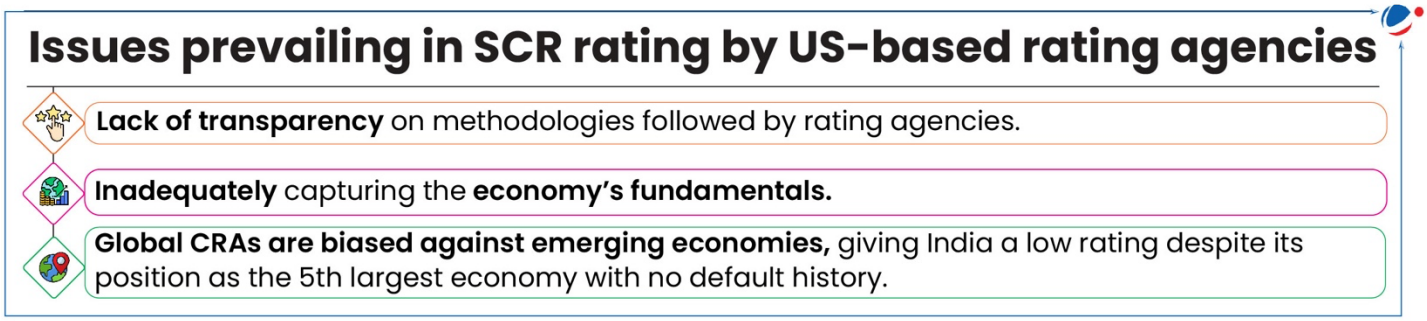
- Thus, CareEdge became the **first Indian credit rating agency** to enter the global scale ratings space, including **sovereign ratings.**

Key Highlight

- Assigned an **AAA rating to Germany, Netherlands, Singapore, and Sweden.**
- **India** was assigned **BBB+,** citing its resilient **post-pandemic recovery** and its **focus on infrastructure investment.**
- **India's general government debt-to-GDP ratio is projected to reduce** from 80% (currently) to 78 % by FY30.

About Sovereign Credit Rating (SCR)

- **Credit ratings** are forward-looking **opinions on the relative ability of an entity to meet its financial commitments**, i.e., **credit risk or relative creditworthiness** of a borrower.
  - **SEBI regulates domestic credit rating agencies** (CRISIL, ICRA, CARE etc.).
- SCR represent an **assessment of a country's** or sovereign entity's **ability to meet debt obligations**, including both **capability and willingness** to repay debt.
- SCR facilitates **borrowing from global capital markets at low cost, boosts investors' confidence, attracts foreign investment,** etc.
- Currently, SCRs are **dominated by 3 US-based rating agencies** – S&P, Moody's, and Fitch.



3.9.10. GLOBAL FAMILY FARMING FORUM (GFFF) LAUNCHED

Global Family Farming Forum (GFFF) was launched at **Food and Agriculture Organization's World Food Forum (WFF).**

- GFFF celebrates **essential role of family farmers** in building **sustainable agrifood systems** and **tackling the impacts of the climate crisis.**
- GFFF also marked the halfway completion of the **United Nations Decade of Family Farming 2019-28 (UNDFF).**
  - UNDFF was declared by **United Nations General Assembly** and it serves as a **framework for countries to develop public policies and investments to support family farming.**

About Family farming

- **Family Farming:** Is a means of **organizing agricultural, forestry, fisheries, pastoral and aquaculture** production that is managed and operated by **a family**, and is predominantly reliant on **the family labour** of both **women** and **men.**
- **Significance of Family farming**
  - **Food security**: With over **550 million farms worldwide**, it is the backbone of food production.
    - It produces **70 to 80**%of the **world's food** in value terms.
  - **Nutritional diversity**: Family farming, in **low- and middle-income countries**, grow **diverse, nutritious food and support crop biodiversity**.
  - **Sustainable stewardship:** Family farmers use **traditional methods**, minimal **external inputs** to maintain **soil health** and build **climate resilience naturally.**
- **Challenges faced by Family farming:** Financial barriers, limited access to assistance, genetics and knowledge., fragmentation of land, market access difficulties, climate threats, lack of generational succession support, etc.

In a related news

- On the **sideline WFF, Food and Agriculture Organization** (FAO) & **Global Framework on Water Scarcity in Agriculture** (WASAG), adopted **the Rome Declaration on Water Scarcity in Agriculture.**
- **The WASAG initiative:** Launched at the **United Nations Climate Conference in Marrakesh in 2016** to support countries in addressing water scarcity challenges.
- **Objectives:** Mobilise greater political support in terms of policies, legal and institutional frameworks, access to financing, and responsible water governance.

3.9.11. COMMITMENT TO REDUCING INEQUALITY (CRI) INDEX 2024 RELEASED

CRI is released by Oxfam and Development Finance International.

- CRI assessed the commitment of 164 countries and regions to fight inequality.
  - **SDG 10** aims to reduce inequality.
- It assessed the performance on the basis of three parameters: **Public Services Spending, Progressive taxation and Labour rights and wages.**

Key Highlights of the Index

- **Ranking**:
  - **Top performers**: Norway, Canada, and Australia
  - **Worst performers**: South Sudan, Nigeria, etc.

- **India's rank:** 127
  - > Other South Asian countries such as **Nepal** (115) and **Sri Lanka** (118) have performed better than India.
- **Rising Inequality:**
  - **Gap** between the **Global South** and the **Global North has suddenly grown more rapidly** than at any time since World War II.
  - Billions of people face the terrible hardship of high and rising food prices and hunger, while the **number of billionaires has doubled in the last decade.**
  - **Key Deriving Factor**: **Conflict, debt crisis,** and **climate shocks,** these are constraining spending in low- and lower middle-income countries.
    - > **84%** of countries have reduced their spending on education, health and/or social protection.

Key Recommendations to Reduce Inequality

- Put in place realistic and **timebound National Inequality Reduction Plans (NIRPs)** to reduce inequality, with regular monitoring
- All countries should ensure that **health budget is at least 15% of total public expenditure** and **education 20%.**
- **Increase progressive taxation** by taxing the income of the richest 1%

Measure taken to reduce inequality in India

- **Job Creation:** E.g. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
- **Financial Inclusion:** E.g. PM Jan Dhan Yojana
- **Education and Skilling:** E.g. Right to education Act, 2009
- **Other:** Startup India, etc.

3.9.12. ALL INDIA RURAL FINANCIAL INCLUSION SURVEY 2021-22

NABARD released Second **All India Rural Financial Inclusion Survey (NAFIS) 2021-22.**

- NAFIS was **launched in 2016-17** as a **national level survey** that offers **comprehensive overview of rural population** in terms of their **status of livelihoods** and **level of financial inclusion** (including loans, insurance, pension etc.).
- Second NAFIS provides **key insight into economic** and **financial indicators of rural development** since **2016-17.**

Key highlights of survey

- **Average monthly income of households increased** by 57.6%.
- **Share of food in consumption basket of households declined** from 51% to 47%.
- **Kisan Credit Card as a prominent instrument of financial inclusion** in rural farm sector has been found to be very effective.
- **Average size of landholding declined to 0.74 hectare** from 1.08 hectare.
- Proportion of respondents indicating good **financial literacy increased** from 33.9% to 51.3%.
- Proportion of agricultural **households that took loans from institutional sources increased** from 60.5% to 75.5%.

Reasons for rise in rural income

- **Government Support:** Example, under Mahatma Gandhi National Rural Employment Guarantee Scheme, 5.6 crore households availed employment (January 2023), thus increasing their incomes and provides livelihood security.
- **Rise in Rural Female Labour Force Participation Rate:** From 19.7% in 2018-19 to **27.7% in 2020-21** (Economic Survey 2022-23).

About NABARD (National Bank for Agriculture and Rural Development)

- It was formed based on **recommendation of B. Sivaraman Committee.**
- It is **India's apex development bank,** established in 1982 under an Act of Parliament to promote sustainable and equitable agriculture and rural development.

NAFINDEX: Measure of Financial Inclusion

- Based on field level data collected through NAFIS 2016-17, NAFINDEX has been constructed for different states of India.
- Three dimensions, **traditional banking products, modern banking products,** and **payment systems**, are considered for constructing the index.

For more information on Financial Inclusion, refer to Article 3.3 Financial Inclusion And 10 Years of PMJDY in September 2024 Monthly Current Affairs Magazine

3.9.13. GOVERNMENT NOTIFIES OFFSHORE AREAS OPERATING RIGHT RULES, 2024

Rules notified under **Offshore Areas Mineral (Development and Regulation) Act, 2002** aim at regulating **exploration and production of minerals** in specified **offshore regions.**

- This is significant in the backdrop of the planned **first-ever offshore mineral auction of 10 blocks.** These blocks will include **sand, lime mud, and polymetallic nodules.**

Key Highlights of Rules

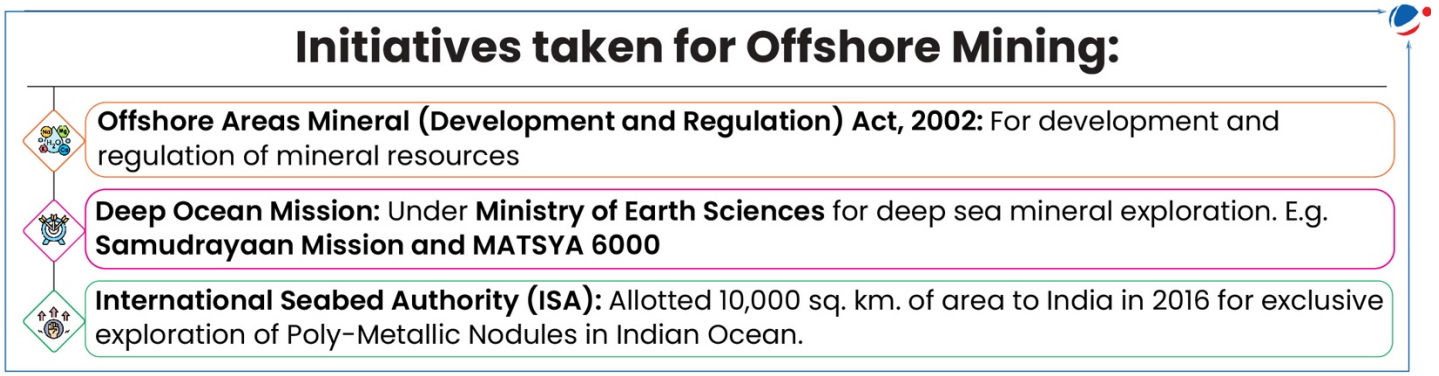
- **Applicability:** All minerals in offshore areas, except Mineral oils and hydrocarbons and specified Atomic minerals
- **Lease Surrender:** Provides for **surrender of lease after 10 years** in case of **uneconomic** production operations.
- **Provide for Priority access to government** and government-owned companies, in case of operating rights for **reserved offshore zones**.

Offshore mining and its significance:

- Also called **deep sea mining**, Offshore mining is process of **retrieving mineral deposits** from **deep seabed** i.e. ocean below 200m.
    - It will cater to **increasing demand for metals** in context of **depleting terrestrial deposits** and reduce **dependence on mineral imports.**

Issues/Challenges in offshore Mining:

- **Potential environmental damage**: Can endanger biodiversity by habitat destruction, underwater noise, and pollution.
- **Impact on fishing communities:** May harm fish populations, impacting livelihood of fishing communities.
- **Technology**: Lack of adequate R&D and technological development for deep-sea mining.



3.9.14. NATIONAL ELECTRICITY PLAN (TRANSMISSION)

Union Ministry of Power launched National Electricity Plan (Transmission).

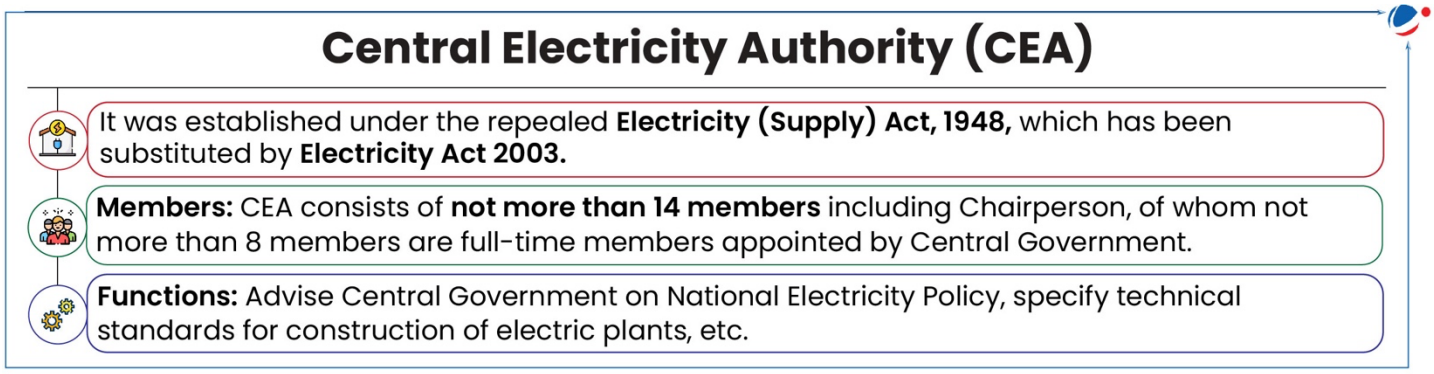
- National Electricity Plan (NEP) (Transmission) has been **developed by the Central Electricity Authority (CEA)**, entrusted under Electricity Act 2003.
- **Transmission system** establishes the link between source of generation and distribution system, which is connected to load / ultimate consumer.

Key highlights of NEP (Transmission)

- Aim of transmitting of **500 GW of Renewable Energy Installed Capacity** by 2030 and over 600 GW by 2032.
- It is aimed at meeting a **peak demand of 458 GW** by 2032 and will **expand transmission network** from 4.85 lakh ckm (circular kilometer) in 2024 to **6.48 lakh ckm in 2032**.
- **Inter-regional transmission capacity** is planned to increase to 168 GW by 2032, from present level of 119 GW.

- **Incorporates innovative elements** in transmission sector such as integration of 10 GW offshore wind farms, 47 GW battery energy storage systems, and 30 GW pumped storage plants.
- **Aims to address power needs** of Green Hydrogen and Green Ammonia Manufacturing hubs of coastal locations.
- **Covers Cross border interconnections** with Nepal, Bhutan, Myanmar, Bangladesh, Sri Lanka and probable interconnections with Saudi Arabia, UAE etc.

Challenges in India's Transmission System: Transmission losses, issues in integration with renewable sources, obsolete technology, skewed focus of regulators towards generation, cyber security etc.



3.9.15. HAND-IN-HAND (HIH) INITIATIVE

Food and Agriculture Organization (FAO) opened the 2024 Hand-in-Hand Investment Forum.

About HIH

- Launched in **2019** by **FAO**
- It supports the implementation of nationally led, ambitious programmes to accelerate agrifood systems transformations by **eradicating poverty (SDG1), ending hunger** and **malnutrition (SDG2),** and **reducing inequalities (SDG10).**
  - It uses advanced **geospatial modeling** and **analytics**, as well as a robust **partnership-building approach**.
- **Areas of intervention:** Developing value chains for priority commodities, building agro-industries, etc.
- **Members:**72 countries (**India** is **not a** member)

3.9.16. NATIONAL AGRICULTURE CODE (NAC)

Bureau of Indian Standards is creating a NAC similar to National Building Code and National Electrical Code.

About NAC

- Code will have two parts. **First will contain general principles for all crops**, and **second will deal with crop-specific standards** for paddy, wheat, oilseeds, and pulses.
- NAC will **cover all agriculture processes and post-harvest operations**, like crop selection, land preparation, sowing/transplanting etc.
- **Objectives**
  - Create national agricultural code that considers agro-climatic zones, crop types, etc.
  - Create **comprehensive guide for farming community** to ensure effective decision making in agricultural practices.
  - **Address horizontal aspects of agriculture** like SMART farming, sustainability, etc.

3.9.17. CENTRAL SILK BOARD

Recently, the platinum jubilee of the Central Silk Board was celebrated.

About Central Silk Board

- **Statutory body** established in 1948 by an Act of Parliament.

- **Ministry**: Ministry of Textiles
- **Mandate**:
  - Advise the government on all matters concerning sericulture and silk industry.
  - Standardization of various production processes, etc.
- **HQ:** Bengaluru

About Silk Production in India

- India is **2nd largest silk producer in the world with 42% of global production (2023)**
- Karnataka contributed around 32% of the total silk production, followed by Andhra Pradesh.
- **Silk Produced**: Mulberry, Eri, Tasar and Muga.

3.9.18. HUMSAFAR POLICY

Union Minister of Road Transport & Highways launched the Humsafar Policy.

About Humsafar Policy

- **Aim:** To provide a comprehensive framework to ensure that the commuters have access to standardized, well-maintained, and hygienic facilities along National Highways and Expressways
- **Key Benefits:**
  - **Registered service providers** will be able to avail a waiver of renewal fees for access permissions, if they maintain an average rating of **3 or higher**.
  - **Reliable passenger** convenience establishments at regular intervals

3.9.19. CRUISE BHARAT MISSION (CBM) LAUNCHED

Mission has been launched by the **Ministry of Ports, Shipping and Waterways**.

About Cruise Bharat Mission

- **Aim:** To excel in India's vision to become a **global hub for cruise tourism** and promote the country as the leading global cruise destination. It also aims to
  - **double cruise passenger traffic** within five years; i.e. by 2029.
    - In 2024 passengers traffic is 4.6 lakh.
  - double volume of cruise calls from 254 in 2024 to 500 by 2030.
- **Phasewise implementation:**
  - **Phase 1 (2024 to 2025):** Focus will be on forming cruise alliances with neighbouring countries, etc.
  - **Phase 2 (2025 to 2027):** Developing new cruise terminals, destinations etc.
  - **Phase 3 (2027 to 2029**): Integrating all cruise circuits across the Indian Subcontinent.
- **Three key cruise segments:**
  - **Ocean & Harbour Cruise segment:** Encompasses ocean cruises, including deep-sea and coastal cruises, along with harbour-based yachting and sailing cruises.
  - **River & Inland Cruise segment**: Focuses on river and inland cruises on canals, backwaters, creeks, and lakes.
  - **Island Cruise segment**: Highlights inter-island cruises, lighthouse tours, etc.

3.9.20. Z-MORH PROJECT

Recently **militants attacked Z-Morh Project site in Jammu and Kashmir.**

About Z-Morh Project:

- It is a **6.4-km tunnel** on the **Srinagar-Sonamarg highway** at an **altitude of 8,500 feet** aimed at **all weather connectivity** to Sonamarg, a famous tourist destination.
- It has acquired its name from presence of a **Z-shaped road stretch** at the construction location.
- **Strategic importance:**
  - It is part of the **Zojila tunnel project** that aims to provide **all weather connectivity from Srinagar to Ladakh** throughout the year.
  - It **connects Srinagar, Dras, Kargil and Leh regions** , apart from this all-weather connectivity **reduces army's reliance on air transport.**

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4. SECURITY

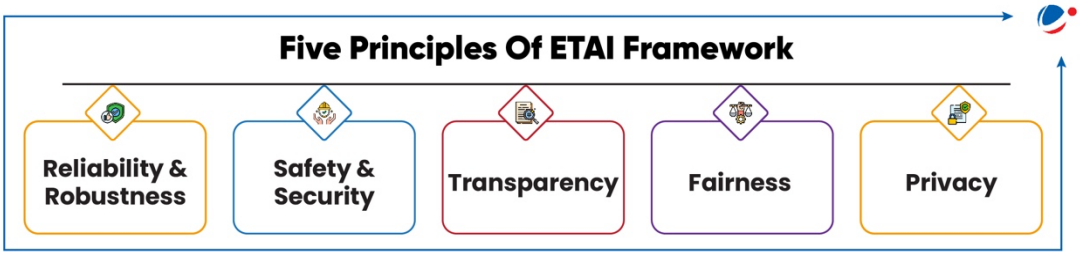
4.1. AI AND DEFENCE

Why in the News?

Evaluating Trustworthy Artificial Intelligence (ETAI) Framework and Guidelines for the Indian Armed Forces were launched by the Chief of Defence Staff.

About Evaluating Trustworthy Artificial Intelligence (ETAI) Framework

- It is the **risk-based assessment framework** designed to ensure integration of reliable emerging technology into critical defence operations.
- It **defines** a comprehensive set of criteria for evaluating trustworthy AI and **ETAI Guidelines provide specific measures** to implement these criteria.



About AI and Defence

- AI systems have been used **two ways** as platforms providing supporting functions and offensive functions in the defence sector:
  - **Supporting functions** such as intelligence, surveillance, navigation, and enhanced Command and Control (C2) capabilities.
  - **Offensive functions** such as selecting targets, and carrying out strikes such as Drone Swarms, AI-driven hacking etc.
- AI also has the skills to study patterns of cyber-attacks and form **protective strategies** such as against Malware attack.

Significance of using AI in various aspects of Defence & Security

- **Autonomous Weapons and Loitering Weapon Systems**: It autonomously searches targets, identifies them and engages; allowing faster and more precise strikes. Eg. Israeli *Harpy* and *Harop* drones.
- **Enhanced Target Recognition and Precision:** To identify and engage specific military targets like missile systems avoiding civilian infrastructure if desired.
  - Eg. The Iranian made Shahed-136 AI drones in the Russia-Ukraine war.
- **Real-Time Data Analysis**: To process huge data from surveillance systems in real-time, providing critical intelligence for battlefield decision-making.
  - For example, **Project Maven**, a U.S. initiative to analyse large quantities of surveillance data.
- **Combat Simulation and Training:** Generative AI can improve military training and educational programs by creating new training materials. Eg. Training modules for Sukhoi 30 MKI aircraft.
- **Prediction of Crimes and Criminal Tracking:** Using Command, Control, Communications, Computer and Intelligence, Surveillance and Reconnaissance (C4ISR) Systems.
  - For example, BEL developed the **Adversary Network Analysis Tool (ANANT)** for the prediction of attacks.
- **Protect Cyber attacks:** AI can **detect potential threats and use predictive analytics** to help predict future attacks using data analytics.
  - For example, **Project Seeker,** developed and deployed by the Indian Army for surveillance, garrison security and population monitoring.

Do you know

- **Article 36** of **Additional Protocol I of the 1949 Geneva Conventions** requires states to conduct legal reviews of **all new weapons,** means and methods of warfare in order to determine whether their use is prohibited by international law.

Issues in using AI in Defence

- **Use by Non-State Actors:** Criminals and terrorists can leverage the power of generative models for planned attacks. Eg; **Islamic State issued a guide on how to use generative AI tools**.
- **Social Engineering:** AI can manipulate the social media algorithm to influence target groups for radicalisation. Eg; sharing **neo-Nazi AI content** on social media sites such as Telegram.
- **New Malware creation:** Functions such as the ability to write malware may make AI dangerous in the hands of bad actors.
  - **For example, BlackMamba, an AI-generated malware**, can evade most existing endpoint detection and response (EDR).
- **No specific international law** to check its limits on civilian protection and human right violations.
- **AI in Surveillance and Privacy Violations:** For example, China's facial recognition surveillance systems in Xinjiang to track Uyghur Muslims violating their human rights.
- **Ethical concerns**
  - **Automation bias:** It is difficult to differentiate between lawful targets and civilian targets leading to potential unpredictable attacks due to lack of data.
  - **Principle of proportionality:** These systems would need qualitative analysis to judge whether an attack carried out against a lawful target would be considered proportionate.
  - **Predictability of an autonomous system:** If a weapon cannot be controlled due to inability of an operator to understand the system these can violate international humanitarian rules.
  - **Objectification of human targets:** The integration of AI-enabled weapon systems facilitates the swift attacks leading to heightened tolerance for collateral damage.

Indian Initiatives in adopting AI in defence

- **Strategic Implementation of AI for National Security and Defense Task force**: Chaired by C. Chandrasekaran, with a view to strengthening AI-based weapon systems.
  - Based on its recommendations, **Defence AI Council (DAIC)** and a **Defence AI Project Agency (DAIPA)** were set up in 2019.
- **Launched 75 newly developed AI technologies:** Indian Defence Minister launched AI technologies during the first-ever '**AI in Defence**' (AIDef) symposium in July 2024.

Steps taken Internationally to regulate AI in defence

- **A Group of Governmental Experts, on the UN Convention on Certain Conventional Weapons (CCW),** was established in 2016 to discuss issues related to technologies in the area of lethal autonomous weapons systems including AI.
- **First Committee of UN Approved New Resolution on Lethal Autonomous Weapons in 2023,** and suggested an algorithm must not be in full control of decisions involving killing regarding.
- **UNIDIR Guidelines** for the development of national strategies on AI in security and defence in October 2024.
- **International Committee of the Red Cross (ICRC):** Advocating for a comprehensive, and binding, set of norms and rules for development and use of autonomous weapon systems of AI.

Way Forward

- **For national security**
  - **Intelligence Surveillance and Reconnaissance (ISR):** The Indian military needs to build working relationships with the private technology sector in India working in the AI space like the US and China.
  - **Develop both offensive and defensive cyber-war capabilities:** As cyber warfare becomes faster, more sophisticated, it becomes necessary to both protect and counterattack.
- **For International regulation**
  - **Need of International law:** To limit the types of targets, the geographical scope, and the context in which they would be employed.
  - **Arms control regime on AI:** States and regional organisations can bring AI weapon systems and industry under arms control regime.
  - **Identify principles for responsible military use of AI:** Codify such principles in official documents through collaborative multilateral processes.

Scan the QR code to know more about Ethics of **Emerging Technologies**

Weekly Focus #80 Ethics of Emerging Technology

4.2. NEWS IN SHORTS

4.2.1. GLOBE NETWORK

India has been elected to steering committee of **GlobE (Global Operational Network of Anti-Corruption Law Enforcement Authorities) network.**

About GlobE Network:

- **Genesis:** Established in 2021 at **UN General Assembly Special Session against Corruption (UNGASS).**
  - It is an initiative launched under G20 framework. Earlier, **Riyadh Initiative** for creation of GlobE network was **approved by G20 in 2020.**
- **Objective:** Operational law **enforcement authorities with an anti-corruption mandate** can join forces to counter transnational corruption cases.
- **Governance:** Governed by its members and supported by United Nations Office on Drugs and Crime(**UNODC) (Its secretariat).**
- **Members:** Includes **121 member countries** and **219 law enforcement authorities.**
  - **Ministry of Home Affairs** serves as Central Authority for GlobE Network in India.
  - **While CBI and ED** represent India as member authorities.

4.2.2. NON-KINETIC WARFARE

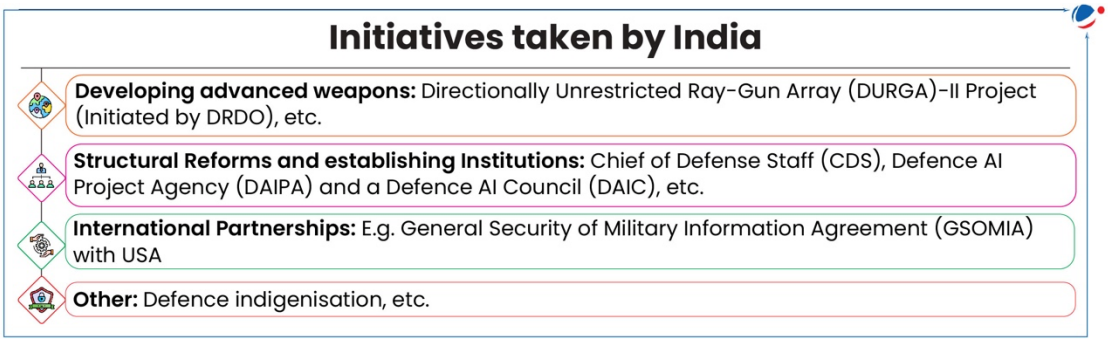
Parliamentary Standing Committee on Defence will study India's preparedness to deal with Non-Kinetic Warfare

About Non-Kinetic or Hybrid Warfare

- It is an evolving concept that extends beyond the usual military tactics and involves **electronic warfare, cyber, information, psychological and economic**, and may include **non-military stakeholders as well.**
  - It may be **deadlier than traditional methods** and may be won even before a bullet is fired. Ex. **massive cyber or malware attack on critical infrastructure** like power grids; hospitals, etc.
- While in case of **Kinetic warfare,** a range of military weapons to physically destroy targets like Tanks are deployed, Non-kinetic ones use **laser or electro-magnetic waves** to disrupt their operations.
- Recent **Pager blasts in Lebanon** is an example of non-kinetic warfare.
  - Also witnessed during Russia-Ukraine, Israel-Palestine Conflicts.

Emerging Threats for India that call for Non-Kinetic Warfare Readiness

- **Hostile Neighbours:** Pakistan on the western and China on the Northern and North-Eastern fronts.
  - China adopts **three warfares** which include psychological, political and legal tactics to achieve its geopolitical goals.
- **Role of Non-state actors:** Hezobollah have recently deployed such methods.
- **Others: Internal Stability** including Naxal challenges in Central India, **emerging technologies** like Artificial Intelligence, etc.



Scan the QR code to know more about **Hybrid Warfare**

Weekly Focus #73 Hybrid Warfare: New Age War warrants a new age response

4.2.3. DEFCONNECT 4.0

DefConnect 4.0 is being organised by **Innovations for Defence Excellence - Defence Innovation Organisation (iDEX-DIO),** under Ministry of Defence.

Key Initiatives launched

- **2nd edition of Acing Development of Innovative Technologies with iDEX (ADITI 2.0):**
  - **Features:** 19 challenges from the Armed Forces and allied agencies in the domains of Artificial Intelligence (AI), Quantum Technology, anti-drone systems etc.
  - **Grants:** Offers up to **₹25 crore** to iDEX winners.
  - **Focus:** 30 Critical and Strategic defence technologies.
- **12th edition of Defence India Start-up Challenges (DISC 12):**
  - **Features:** 41 challenges in key technology domains: UAVs, AI, Networking and Communication.
  - **Grants:** Offers up to **₹1.5 crore** for selected innovations.
  - Launched in **partnership with Atal Innovation Mission** to support start-ups, MSMEs, and innovators to develop prototypes and commercialize products.
  - Introduces **Medical Innovations and Research Advancement (MIRA) initiative** for developing medical technologies for the Armed Forces.

Scheme for Innovations for Defence Excellence (iDEX)

- **Launched** in 2021 by MoD and implemented by **DIO, a not-for-profit company**, under MoD.
- **Grants:** Provides up to **Rs. 1.50 Cr (up to Rs. 10 Cr in case of iDEX Prime)** to Start-ups/MSMEs under **DISC and Open Challenge through the Support for Prototype and Research Kick start (SPARK Framework).**
- **26 products have been developed** under iDEX, for which procurement orders worth more than Rs 1,000 crore have been placed.

4.2.4. 31 MQ-9B DRONES AND NUCLEAR ATTACK SUBMARINES DEAL CLEARS

Cabinet Committee on Security cleared deals for 31 MQ-9B drones from US and two Indigenous Nuclear Attack Submarines

- Procurement of 31 MQ-9B drones and indigenous construction of two nuclear-powered attack submarines (SSNs) will **enhance India's military prowess.**

About MQ-9B Drones

- **Description**: High Altitude Long Endurance Unmanned Aerial vehicles designed for surveillance, reconnaissance, and precision strike missions.
- **Features:** Fly over horizon via satellite for upto 40 hours; hit targets on land, at sea, and in air.
- **Two variants: SkyGuardian** and **SeaGuardian** (maritime variant).
  - Deal includes **16 Sky Guardian** and **15 Sea Guardian variants** (eight each for Indian Army and Air Force).
- **Significance of deal**
  - **Boosts India's surveillance and intelligence for monitoring sensitive areas** like Line of Actual Control with China.
  - Part of **broader defence modernization strategy** aimed at enhancing India's military posture in Indo-Pacific region, further improves operational readiness with advanced technologies.
  - **Deepens defense partnership** between India- U.S.

About SSNs

- **Description**: Designed for anti-submarine warfare, anti-surface ship operations, and intelligence gathering.
- **Features**:
  - **Armed with torpedoes** and sometimes cruise missiles but do not carry ballistic missiles.
  - **Faster, quieter, difficult to detect** and can **remain underwater** for long periods of time.
- **Significance of deal**
  - **Strengthens India's deterrence and operational capabilities,** boosting underwater combat effectiveness.
  - **Bolster indigenous defence manufacturing** under Make in India initiative.

For more information on Drones and its implications for Internal Security, refer to Article 4.1 Drones and Internal Security in September 2024 Monthly Current Affairs Magazine

4.2.5. ABHED (ADVANCED BALLISTICS FOR HIGH ENERGY DEFEAT)

Defence Research & Development Organisation (DRDO), along with researchers of IIT Delhi has developed ABHED.

About ABHED

- These are Light Weight Bullet Proof Jackets.
- These jackets have been created from **polymers and indigenous boron carbide ceramic material.**
- The **design configuration** is based on characterisation of various materials at **high strain rate** followed by appropriate modelling and simulation.

4.2.6. AKASHTEER SYSTEMS

Indian Army has completed the acquisition of 100 Akashteer Air Defence Systems.

About Akashteer Systems

- They are advanced **Air Defence Control and Reporting Systems (ADCRS)** which will serve as a critical asset in safeguarding country from aerial threats, including missile and rocket attacks.
- They are developed **indigenously** by **Bharat Electronics Limited (BEL)**
- **Significance:** Enable **monitoring of low level airspace** over battle areas of Indian Army**,** offers **ability to monitor and respond to enemy attacks in real-time**, etc.

4.2.7. VERY SHORT RANGE AIR DEFENCE SYSTEM

DRDO successfully conducted flight-tests of the **4th Generation, technically-advanced miniaturised Very Short Range Air Defence System (VSHORADS)** at Pokhran Range, Rajasthan.

- The trials showcased **repeatability of hit-to-kill capability** of the weapon system.

About VSHORADS

- It is an **indigenously** developed **man portable air defence system (MANPAD).**
- Designed and developed by **Research Centre Imarat (RCI)** in collaboration with other **DRDO laboratories** and **Development cum Production Partners (DcPPs)**.
- It is meant to **neutralize low altitude aerial threats at short ranges.**
- It employs a **dual thrust solid motor** and a **state-of-the-art uncooled imaging infrared seeker.**

4.2.8. DRAGON DRONE

A new type of drone called "dragon drone" has been used recently in the Russia-Ukraine war.

Dragon Drone

- It is a type of **unmanned aerial vehicle** that can release a substance called **thermite** which is a mixture of **aluminum and iron oxide.**
- **Thermite:** When ignited, it produces a **self-sustaining reaction that makes it almost impossible to extinguish.**
  - Thermite was used in both the world wars. On humans, it causes severe, **possibly fatal, burns and bone damage.**

- **Thermite isn't banned internationally**, but using incendiary weapons in civilian areas is prohibited by the UN's Convention on Certain Conventional Weapons.

4.2.9. THAAD MISSILE DEFENSE SYSTEM

USA announced that it will send its **Terminal High-Altitude Area Defence (THAAD) Battery System** to aid **Israel.**

About THAAD System

- It is an **advanced defence system** against **short, medium,** and **intermediate-range ballistic missile** threats developed by **Lockheed Martin Corporation**.
- It is the **only US system** designed to **intercept targets outside and inside the atmosphere** employing **"hit-to-kill" technology.**
- A **THAAD battery** consists of 95 soldiers, truck-mounted launchers, interceptors, radar surveillance and radar, etc.

Note: India bought **S-400 Triumf** air defence missile system **from Russia.**

4.2.10. HELLFIRE MISSILE

India has signed a deal with the US to acquire **170 AGM-114R Hellfire missiles**.

AGM-114R Hellfire Missiles

- A **short-range Air to Ground Missile (AGM)** with a range of around 7-11 km.
- Precision strike, **Semi-Active Laser (SAL) guided missile.**
- Can **neutralize a broad range of targets** including air defence, patrol boats, armour, enemy combatants etc. with its multi-purpose warhead.
- Can launch from **various platforms**, including aircraft, Unmanned Aerial Vehicles etc.

4.2.11. EXERCISES IN NEWS

- **Exercise KAZIND-2024:** 8th edition of India-Kazakhstan Annual Joint Military Exercise KAZIND-2024 commenced in Auli (Uttarakhand).
- **Exercise Malabar 2024:**
  - **Annual** maritime exercise, which will take place both in harbour and at sea.
  - **Participant**: Australia, Japan, the United States and India.
- **Naseem-Al-Bahr:** It was conducted between the **Indian Navy and Royal Navy of Oman in Goa.**

5. ENVIRONMENT

5.1. JAL HI AMRIT

Why in the News?

Recently, **'Jal hi Amrit'** initiative has been launched under AMRUT 2.0 (Atal Mission for Rejuvenation and Urban Transformation 2.0) reforms during the 100 days agenda of the Government.

About Jal hi Amrit (JHA)

- **Background:** Building on the success of AMRUT 1.0, this second phase aims to create "Water-Secure Cities".
- **JHA initiative aims:**
  - **To incentivize States /UTs** for efficient management of **Sewage Treatment Plants (STPs),** also termed **Used Water Treatment Plants (UWTPs).**
  - **To produce** a continuous supply **of high-quality treated water** that meets environmental standards and supports sustainable water recycling practices
  - **To promote** a circular economy of water by **enabling reuse for various purposes** like construction, industry, and irrigation.
- **Purpose**: To foster inter-city competition, build treatment facility capacities, and incentivize high-quality treated water discharge through systematic improvements.
- **Strategy of rating-based incentives**: UWTPs will be **awarded Clean Water Credits** through **a Star Rating system**. Incentives **will be provided to urban local bodies (ULBs)/Parastatal agencies** based on a comprehensive evaluation process.
- **Rationale of JHA**: **Recycling and reusing treated used water** are the **cornerstones of ensuring sustainable** management of water resources and **reducing the stress on freshwater resources.**

About AMRUT		
	AMRUT 1.0	**AMRUT 2.0**
Launch Year	2015	2021
Duration	Mission period from 2015-2020	Mission period from 2021-2026 (5 years)
Coverage	500 cities and towns	All statutory towns in the country
Focus Areas	Water supply, sewerage and septage management, storm water drainage, green spaces and parks, non-motorized urban transport	Universal coverage of water supply through functional taps to all households in all the statutory towns in the country, coverage of sewerage/ septage management in 500 cities.

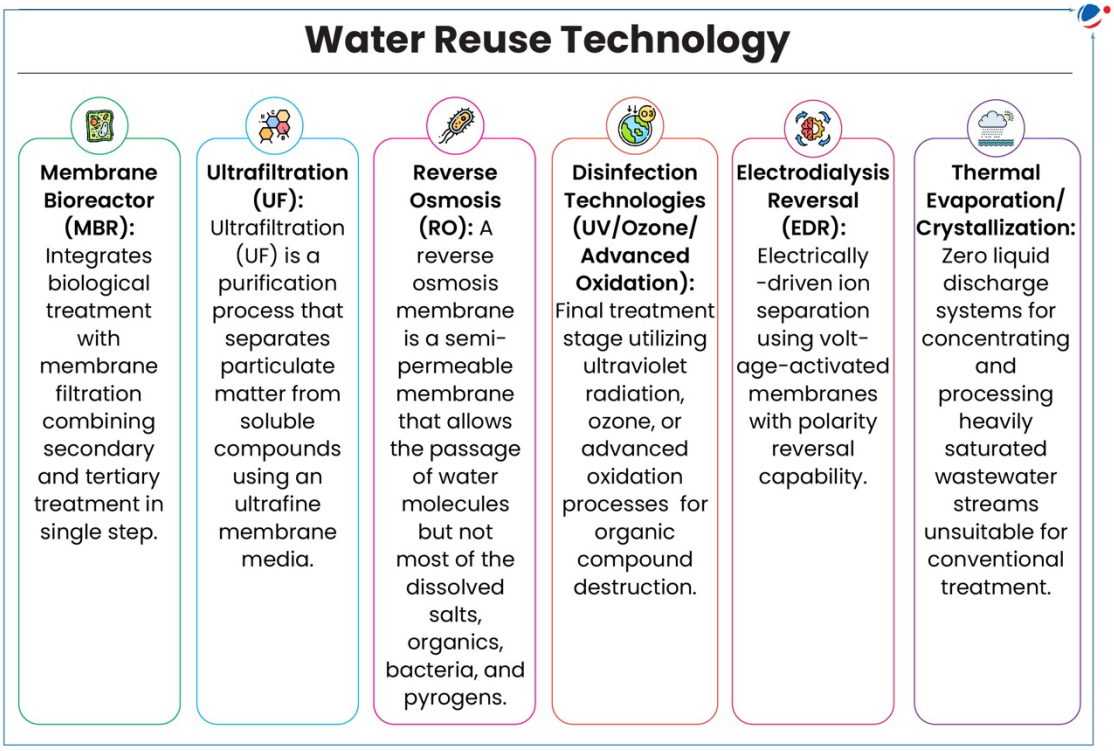
About Water Recycling & Reuse

- **Definition**: Water reuse (also commonly known as water recycling) reclaims **water from a variety of sources then treats and reuses it for beneficial purposes.**
- **Sources of water for potential reuse**: Municipal wastewater, industry process and cooling water, stormwater, agriculture runoff and return flows, etc.

Benefits of Water Recycling & Reuse

- **Environmental benefits**
  - Water recycling decreases **diversion of freshwater from sensitive ecosystems** thereby prevents **deterioration of water quality** and **ecosystem health.**
  - **Saves energy** otherwise required to extract or transport freshwater to the area. **E.g.,** Reusing treated wastewater in irrigation reduces GHG emissions.

- **Recharges groundwater,** avoiding freshwater resource degradation and salinization. **E.g.**, Treated water in **Bengaluru** is used to recharge **shallow aquifers** through natural **percolation by filling lakes**.
- Recycled water may be used to **create or enhance Wetlands** and Riparian (Stream) habitats.



- **Socio-economic benefits**
  - Increases water availability for **potentially water stressed** or **arid areas**.
  - Provides an easily accessible water source to economic sectors such as **industry (e.g.,** In **Karnataka**, industrial estates within 30 km. of STPs are mandated to prioritise treated water) and **agriculture** (**e.g., Haryana's Kurukshetra** repurposes treated water for agriculture use).
  - Improves the **quality of agriculture** through use of **valuable nutrients extracted** from the wastewater.
    - **E.g.,** carbon, nitrogen, phosphorous rich waste water.

Challenges of Water Recycling & Reuse

- **Treating water to a precise specification:** Industrial wastewater requires thorough treatment to remove oils, salts, solids and minerals before reuse.
- **Plant requires significant investment:** Water recycling systems are inherently expensive because they are high-tech and expensive to design and produce.
  - **Membrane fouling and maintenance challenges**: Filtration membranes suffer efficiency loss due to fouling, requiring regular cleaning or costly replacement to maintain optimal performance.
- **Water recycling is energy-intensive:** The lower the quality of the water, and the more intensive the treatment, the more energy is needed to power the recycling process.
- **Absence of guidelines**: Sector-specific requirements for treated water reuse vary widely, as each sector has distinct standards for processed water quality—ranging from basic biological treatment to advanced purification methods like reverse osmosis.
- **Stigma:** Socio-cultural barriers often prevent the acceptance of recycled water on accusations of being 'toilet-to-tap'.

India and Water Recycling & Reuse

- **Need**
  - **Urban:** 31% of the households lack access to piped water & 67% are not connected to a piped sewage discharge system.
  - **Irrigation:** Largest user of India's water reserve, with usage of 78 per cent of total reserve.
  - **India:** Has **18% of the world's population** but only 4% of its water resources, making it among the most water-stressed countries.

    - Average per capita water availability for **2031 has been assessed to be 1367 cubic metres.**
- **Potential**: India has the potential to treat and reuse 80% of the wastewater generated.
- **Measures taken**
    - **Policy Measures:**
        - **National Framework on Safe Reuse of Treated Water in 2022.**
        - **Power Tariff Policy 2016**: Mandates all Thermal Power Plants to use the treated sewage water from Sewage Treatment Plants (STPs) situated within 50 kms radius for non-potable purposes,
        - **The National Water Policy-2012** mandates recycle and reuse of water & **The National Guidelines on Zero Liquid Discharge (ZLD).**
    - **Schemes:** Swachh Bharat Mission-Urban (SBM-U) 2.0, Arth Ganga initiatives being implemented as part of Namami Gange programme.

Way Forward to tackle challenges to Water Recycling & Reuse

- **Setting up water reuse benchmarks for industries:** By using fit-for-purpose standards to promote wastewater reuse and resource recovery while maintaining product quality standards.
- **Incentivising the ecosystem**: Government policies should offer incentives for industrial, academic, and research institutions conducting R&D in water treatment technologies and efficiency practices.
    - **Subsidize dual plumbing systems and offer property tax rebates** to encourage residential areas to use treated water for non-potable applications.
    - **Implement tiered volumetric pricing structure**: E.g., higher rates for non-recycled water, incentivizing municipalities and housing societies to adopt recycled water alternatives.
- **Facilitate PPPs:** By combining government financial support with private sector technical expertise to develop and maintain wastewater treatment infrastructure.
- **Implement tradable water-use credits system**: Based on treated wastewater usage, following World Bank Group's framework for wastewater reuse certificates.

5.2. HYPERLOCAL WEATHER FORECASTING

Why in the News?

Recently, the CoS-it-FloWS, a new system that collects hyper-local data for flood forecast launched in the flood-prone Periyar and Chalakudi river basins was launched in Kerala.

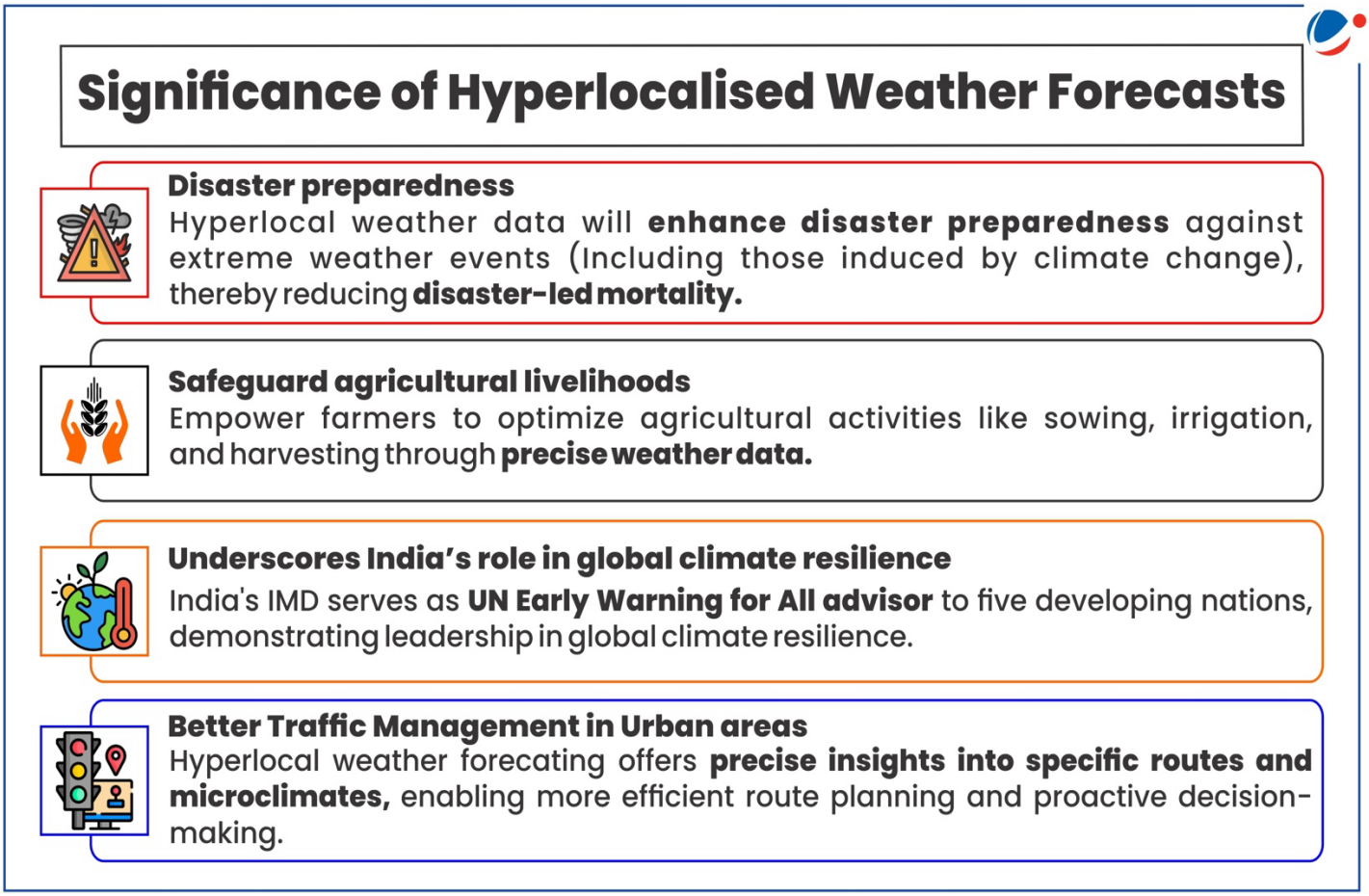
About CoS-it-FloWS

- **CoS-it-FloWS** (Community-Sourced Impact-based Flood Forecast and Early Warning System) is a project run by Equinoct, a Kochi-based **community-sourced modelling solution provider.**
- **Recognized by UNICEF's Climate Tech Cohort,** it **uses 100 rain gauges** installed across Ernakulam, Idukki, and Thrissur.
- **Data** on rainfall, river, tidal and groundwater levels that are **collected primarily by students, women, and youth** at the household level is then analysed and visualised through Insight Gather, a web portal to host the impact-based forecasts in the pilot basins.
- The idea is to **plug gaps in government data** and to scale up the project with greater community participation by **collecting hyper-local data for fighting natural disasters.**

About hyperlocal weather forecasting

- **Definition:** Hyperlocal weather forecasting is a specialized form of meteorology that p**inpoints weather conditions to extremely localized areas.**
- **Current forecasting level**: Currently the **Indian Meteorology Department (IMD)** issues weather **forecasting for district level.**
    - The forecast and warnings issued from National Weather Forecasting Centre (NWFC) are in the **subdivisional scale for the country** as a whole whereas the same from State WFC (SWFC) are in the **district scale for the state concerned.**

- **Need for Hyperlocal forecasting:** In tropical countries like India, weather variability is inherently higher. Hence hyperlocalised weather forecasting is needed for better utility.



Key Challenges in hyperlocal weather forecasting

- **Outdated prediction models:** Currently, most of the prediction software used in forecasting are based on the **Global Forecasting System (GFS) and Weather Research and Forecasting (WRF) Models,** both of which are not the most modern.
- **Lack of weather monitoring ground stations:** Currently, IMD operates around 800 automatic weather stations (AWS), 1,500 automatic rain gauges (ARG) and 37 doppler weather radars (DWR).
    - This is against the total **requirements of more than 3,00,000 ground stations (AWS/ARG) and around 70 DWRs.**
- **Underutilized data from ground stations:** Although state governments and private companies manage over 20,000 ground stations, much of this data is inaccessible to the India Meteorological Department (IMD) due to issues with data-sharing and reliability.
- **Difficulty in predicting small-scale events:** Large systems like monsoons or cyclones are easier to forecast, but sudden, localized events like cloudbursts remain challenging due to their erratic and dynamic nature.
    - Increasing climate volatility leads to frequent and rapid system changes, complicating predictions even further.

Key initiatives taken to facilitate hyperlocal weather forecasting

- **Gram Panchayat (GP)-Level Weather Forecasting:** A joint program of the Ministry of Panchayati Raj Ministry, Ministry of Earth Sciences and IMD for providing hourly forecasts at GP level.
- **Mission Mausam:** It was unveiled recently to Enhance India's Weather and Climate Forecasting by 2026 by installing a wider network of radars, wind profilers, and radiometers for better observations.
- **Weather information network and data system (WINDS):** To install a system of AWS and ARG across India to generate long-term, hyper-local weather data.

- **IFLOWS-Mumbai: Integrated Flood Warning System for Mumbai (IFLOWS-Mumbai) developed by Ministry of Earth Sciences** in coordination with Municipal Corporation of Greater Mumbai for providing **early warning for flooding** specially during high rainfall events and cyclones.
- **Mumbai Flood App:** It is a rainfall forecasting and flood monitoring system **predicting rain hourly and daily for Mumbai.**
    - It is developed by **IIT Bombay,** with funding from **HDFC ERGO,** in collaboration with the MCGM Centre for Municipal Capacity Building and Research (MCMCR).

Conclusion

India needs a comprehensive approach to enhance hyperlocal weather forecasting. This includes **upgrading to advanced models**, **expanding the monitoring network**, **fostering data-sharing**, and **developing robust real-time data systems**. By addressing these areas, India can improve accuracy, especially for localized events, and better prepare for extreme weather.

5.3. NEWS IN SHORTS

5.3.1. STATE OF GLOBAL WATER RESOURCES REPORT

The report has been coordinated by the World Meteorological Organization (WMO).

- **WMO** is a specialized agency of United Nations responsible for promoting international cooperation in atmospheric science and meteorology.

Key Findings

- **Hydrological extremes:** Year 2023 was the hottest year on record.
- **Levels of soil moisture were predominantly below or much below normal** across large territories globally.
- **2023 was driest year for global rivers** in 33 years.
- **Lake Coari** in the Amazon faced below-normal water levels, leading to extreme water temperature.
- **Glaciers:** Glaciers suffered the **largest mass loss** ever registered in the **last five decades**.

5.3.2. NATIONAL WATER AWARDS (NWA)

Recently, President of India presented **fifth NWA in New Delhi.**

About National Water Awards

- **Nodal Ministry:** Ministry of Jal Shakti.
- **Aim**: To create awareness among people about importance of water and motivate them to adopt the best water usage practices.
- **Presented in nine categories**: Best State, Best District, Best Village Panchayat, Best Urban Local Body (ULB), Best School/College, Best Industry, Best Water User Association, Best Institution (other than school/college), and Best Civil Society.
- **Odisha** is best state and **Surat, Gujarat** is Best ULB.

5.3.3. CCPA NOTIFIES GUIDELINES FOR PREVENTING GREENWASHING

Central Consumer Protection Authority (CCPA) has issued guidelines for 'Prevention and Regulation of Greenwashing and Misleading Environmental Claims,2024'.

- These guidelines are in the furtherance to the **Guidelines for Prevention of Misleading Advertisement, 2022** and **prohibits Greenwashing.**

Key provisions of the guidelines

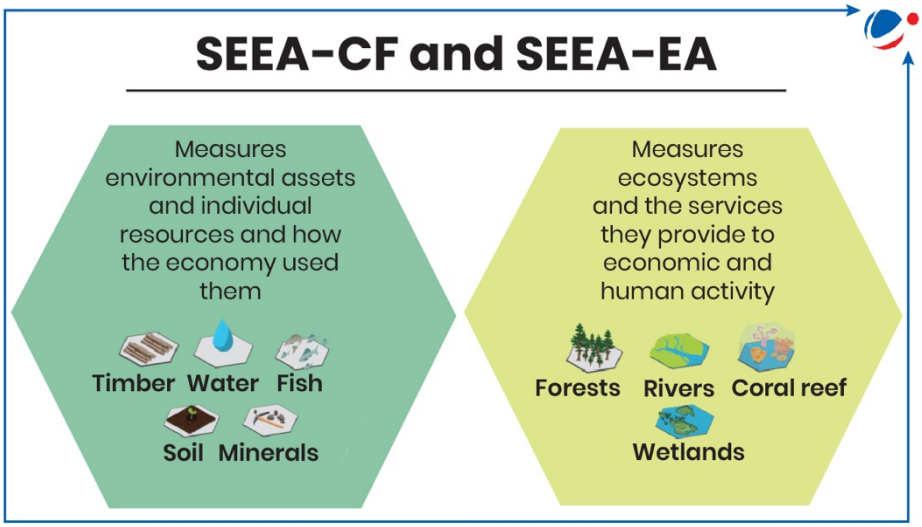
- **Defines greenwashing clearly:** Greenwashing means **any deceptive or misleading practice**, which includes **concealing, omitting, or hiding relevant information,** by exaggerating, making vague, false, or **unsubstantiated environmental claims.**

- **Applicability: All** environmental **claims, a manufacturer, service provide**r, product seller, advertiser, or to an advertising agency **or endorser** whose **service is availed for the advertisement** of such products.
- **Substantiation of Environmental claim:**
  - **Use consumer friendly language and explain meaning or implication of technical terms** like Environmental Impact Assessment (EIA).
  - All environmental claims shall be supported by **accessible verifiable evidence on independent studies and third-party certification.**
- **Adequate Disclosures:**
  - Ensure **all environmental claims in ads or communications** are **fully disclosed**, either directly or through technology like QR codes or web links (for easy accessibility).
  - Claims must **specify whether it refers to the good as a whole or part of it** or manufacturing process, packaging, etc.
  - **Avoid selectively presenting data** to favorably highlight environmental claims.
- **Aspirational or futuristic environmental claims:** Such claims may be made **only when clear and actionable plans** have been **developed** for achievement of objectives.

5.3.4. ENVISTATS INDIA 2024

Union Ministry of Statistics and Programme Implementation (MoSPI) released the 7th issue of the **"EnviStats India 2024: Environment Accounts"**

- EnviStats (Environment Statistics) have been compiled in accordance with the **SEEA (System of Environmental-Economic Accounting) Framework.**
- EnviStats provide **information about environment**, its most important **changes** over time and across locations and **main factors** that influence them.
- **Publication includes Four areas-** Energy Accounts, Ocean Accounts, Soil Nutrient Index and Biodiversity.



Key Highlights of EnviStats India 2024

- India emerged as **world leader in energy transition**.
- Around **72% increase in number and around 16% increase in area** for **Total Protected Area** during 2000 to 2023.
- Coverage of **Mangroves has increased around 8%** during 2013 to 2021.

Significance of EnviStats

- Sustainable management of natural resources, key to long-term development.
- Balance economic growth with environmental sustainability.
- Provide alternate means of measuring prosperity and progress and go beyond GDP.
- Data-driven policymaking.

About System of Environmental-Economic Accounting (SEEA)

- It is an agreed international framework for the **compilation of the Environment Economic accounts**.
- It describes the **interaction between the economy and the environment**, as well as the stocks and changes in stocks of environmental assets.
- **There are two sides of SEEA**- SEEA-Central Framework (SEEA-CF) and SEEA-Ecosystem Accounting (SEEA-EA) (refer infographic).

Environment Accounts in India

- **National Statistical Office** under MoSPI is mandated with the "Development of Environment Statistics and methodology of National Resource Accounts for India".
  - MoSPI released the '**Strategy for Environmental Economic Accounts in India: 2022-26'**.
- **India also participated** in 'Natural Capital Accounting and Valuation of Ecosystem services (**NCAVES**)'.
  - NCAVES was launched by United Nations Statistics Division **(UNSD), UNEP and Secretariat of CBD in 2017.**
- **First EnviStats** were released in 2018 on **recommendations of Sir Partha Dasgupta Committee**.

5.3.5. '2024 FOREST DECLARATION ASSESSMENT: FORESTS UNDER FIRE' REPORT RELEASED

Report focuses on tracking the overarching forest goals: **eliminating deforestation and forest degradation, and restoring 30% of degraded forest area by 2030.**

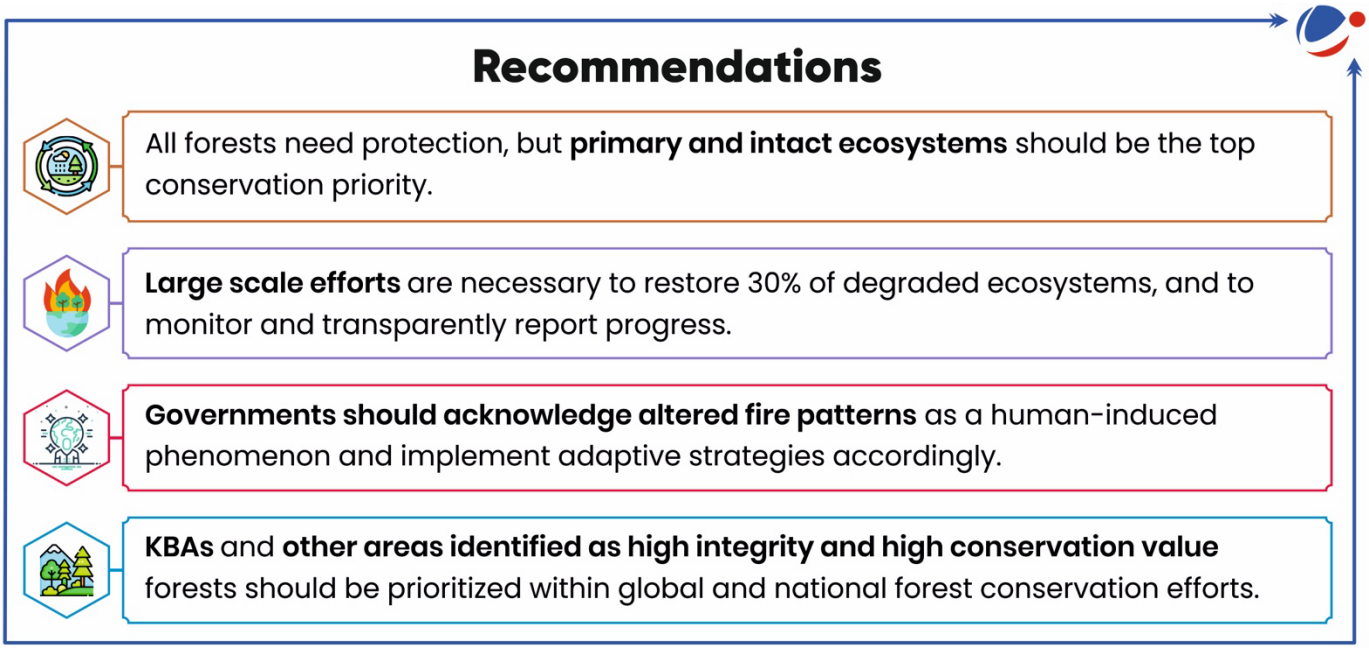
- These goals have been established by **international commitments** such as New York Declaration on Forests (2014), Glassgow Leaders' Declaration (2021), and Kunming-Montreal Global Biodiversity Framework (2022).

Global Forest Goals and Progress

- **Eliminate deforestation by 2030:** Around 6.37 million hectares deforested in 2023 much greater than the targeted 4.38 million hectares.
  - **3.8 billion metric tons of CO2 equivalent in 2023** making deforestation fourth-highest emitter after China, US and India.
- **Eliminate tree cover loss in forested Key Biodiversity Areas (KBAs): Over 1.4 million hectares of forests** were lost within **forested KBAs in 2023.**
- **Controlling Forest Fire:** Nearly **one-third of area lost to fires** since 2001 was burned from 2019-23.
- **Restore 30% of degraded and deforested landscapes by 2030:** Only around **18% of the Bonn Challenge's 2020 target of 150 million hectares** was restored from 2000-19**.**

Drivers of Deforestation

- **Commodity Production:** Agricultural commodities responsible for **57% of global deforestation** over past two decades**.**
- **Shifting agriculture in primary forests:** Responsible for loss of 15.9 million hectares of primary forests from 2015-23.
- **Mining:** From 2000-19, mining volumes from tropical moist forest ecosystems doubled.



5.3.6. EUROPEAN UNION DEFORESTATION REGULATION (EUDR)

The European Commission has proposed to **extend the implementation of the EUDR, by one year.**

About EUDR

- It aims to ensure that a set of key goods placed on the EU market will no longer contribute to **deforestation and forest degradation in the EU and elsewhere in the world.**
- Applies to a wide range of products **including palm oil, soy, beef, cocoa, and timber.**
- This requires companies to **verify the origin of the products** and ensure that they are produced in a sustainable manner.
- It will act as a barrier for countries who **export to the EU.**

5.3.7. BIODIVERSITY CREDITS

A coalition of civil society organizations has raised concerns over promotion of biodiversity credits.

Biodiversity Credits

- **Definition:** An **economic instrument** that **allows private companies to finance** activities, such as **forest conservation or restoration.**
- **Purpose:** To **have a net-positive impact on nature and biodiversity.**
  - Unlike biodiversity offset, biodiversity credits are **not limited to compensating** for companies' negative and unavoidable impacts on nature.
- **Functioning:**
  - **Stakeholders** that have a goal to conserve or restore land **generate a supply of credits, or "certificates.**
  - **Private companies** then **purchase these credits** to **meet their biodiversity- or nature-based commitments.**

5.3.8. GREENING OF ANTARCTICA

Plant cover across Antarctic Peninsula is increasing due to climate crisis.

About Greening of Antarctica:

- **It is growth of vegetation e.g. moss** on a continent dominated by ice and bare rock due to extreme heat waves.
  - Warming in the region is happening much **faster than global average**, accelerating between 2016 and 2021.
- Vegetation has **expanded over tenfold between 1986 and 2021.**
- **Impact**
  - **Invasive species:** Greening may introduce **invasive species, and harm local wildlife.**
- **Worsen Climate effect:** It will **reduce the continent's ability to reflect sunlight (albedo)**, worsening climate effects.

5.3.9. COORDINATION COMMITTEE FOR AIR QUALITY MANAGEMENT IN IGP REGION

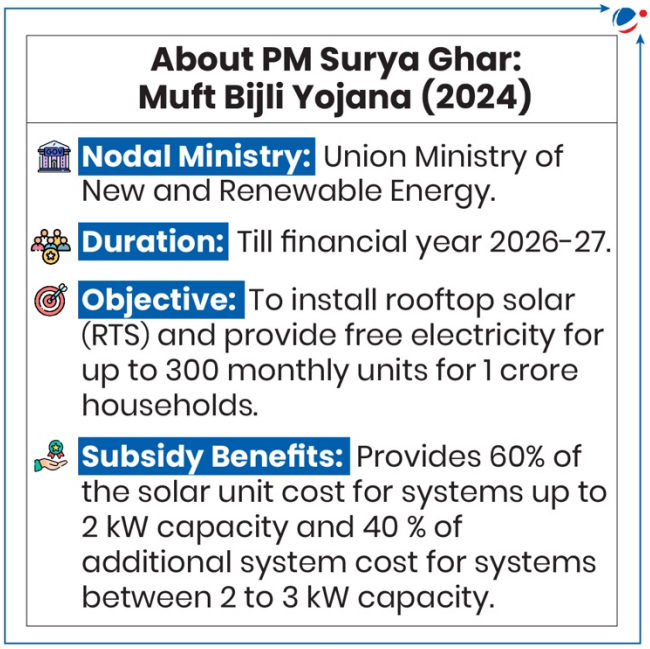
Union Government has set up the Coordination Committee for Air Quality Management in the **Indo-Gangetic Plain (IGP) region.**

- The ten-member panel will work on comprehensive mitigation measures to check air pollution across **Bihar, Chandigarh, Delhi, Haryana, Jharkhand, Punjab, Uttar Pradesh, and West Bengal.**
  - On account of typical geography and meteorology, these states have **high baseline levels of air pollution** which requires regional airshed management to abate air pollution.
- Coordination Panel has been tasked with integrating state action plans to develop **IGP Regional Airshed Management Plan** and monitor its implementation.

5.3.10. PM-SURYA GHAR: MUFT BIJLI YOJANA

Centre notifies guidelines for '**Innovative Projects**' component under PM-Surya Ghar: Muft Bijli Yojana.

- **Ministry of New and Renewable Energy** has notified operational guidelines to encourage advancements in **rooftop solar technologies, business models, and integration techniques.**
- Earlier guidelines had been issued for other sub-components such as Model solar village etc.



About 'Innovative Projects' Component

- **Objective:** To **support startups, institutions, and industries** in piloting new concepts, with a focus on emerging solutions like **blockchain-based peer-to-peer solar trading,** etc.
- **Eligibility/Target Group:** Any entity or individual and International Cooperation (Taking up joint research and design.)
- **Tenure:** Project will have a maximum duration of 18 months.
- **Funds:** ₹500 crore to encourage advancements in rooftop solar technologies,
  - **Funding for Projects:** Financial assistance of up to 60% of project cost or ₹30 crore, whichever is lower.
- **Scheme Implementation Agency:** National Institute of Solar Energy (NISE)

5.3.11. WORLD ENERGY OUTLOOK 2024

International Energy Agency released its flagship World Energy Outlook 2024.

Key Observations

- **Geopolitical tensions and fragmentation are major risks** for energy security.
  - Around 20% of today's global oil and LNG supplies flow through the **Strait of Hormuz**, a **maritime chokepoint** in the Middle East.
- **Clean energy** is entering the energy system at an unprecedented rate, with more than **560 gigawatts (GW) of new renewables capacity added in 2023.**
- **More than half of the world's electricity** will be generated by low-emission sources before 2030.

5.3.12. INTERNATIONAL ENERGY EFFICIENCY HUB (IEEH)

Union Cabinet has approved the signing of a letter of intent enabling India to join the IEEH.

- **Bureau of Energy Efficiency (BEE)** has been designated as the implementing agency for the Hub on behalf of India.

About International Energy Efficiency Hub

- **Genesis:** Established in **2020** as the successor to the **International Partnership for Energy Efficiency (IPEEC)** in which India was a member.
- **Mandate:** It is a **global platform** dedicated to fostering collaboration and **promoting energy efficiency worldwide.**

5.3.13. GLOBAL FRAMEWORK ON CHEMICALS (GFC) FUND

GFC Fund has launched its first project call for **targeting safe and sustainable management of chemicals and waste.**

About GFC Fund

- Setup during **fifth International Conference on Chemicals Management (**ICCM5**)** in 2023 in Bonn, Germany.

- **Executive Board** takes operational decisions and oversees its functioning. It is composed of
  - **2 National representatives of each United Nations region**; and **Representatives of all donors and contributors**.
- It **complements existing financial mechanisms**, like Global Environment Facility etc. and funds that support biodiversity and climate action.
- **Objectives**:
  - **Support low- and middle-income countries**, including small island developing states, in addressing chemicals, including products and waste in line with international standards.
  - **Target medium-scale projects that strengthen national and regional abilities** managing chemicals and waste.

- **Financial Support:** Selected projects will **receive 300,000 to 800,000 USD for up to three years** to minimize harm from chemicals and waste and **protect environment and human health**.
  - Funding is provided through **voluntary contributions.**

About GFC (Bonn Declaration adopted at ICCM5)

- **Multi-sectoral agreement** that outlines **set of 28 targets** to address chemicals and waste management including **prevention of illegal trade**, **elimination of highly hazardous pesticides in agriculture by 2035** etc.

5.3.14. ECOMARK RULES, 2024

Recently, Union Ministry of Environment, Forest and Climate Change notified **Ecomark Rules, 2024**.

- Ecomark labeling system will **promote eco-friendly products** in categories like food, cosmetics, soaps, and electronics, etc.
- It aligns with the **principle of LIFE (Lifestyle for Environment)**, focusing on sustainability and resource efficiency.

Rules notifies

- **Granting Criteria:** To a product that has a licence or a certificate of conformity with **Indian Standards** granted under the **Bureau of Indian Standards Act and/or a mandate of the Quality Control Orders** and that fulfills the criteria as prescribed in the rules.
  - According to rules, the Ecomark may be granted to products that meet **specified environmental criteria** with respect to **resource consumption and environmental impacts.**
- **Application Process-** Manufacturers must apply for Ecomark through the Central Pollution Control Board (CPCB).
- **Duration**- mark will be valid for three years.
- **Oversight and Implementation**- By Steering Committee, headed by the Environment Secretary.

Significance

- It enables consumers to **make informed purchase decisions** as well as encourage manufacturers to **transition to production of environment-friendly products.**
- It will lead to **circular economy and prevent misleading information** on environmental aspects of products.
- It will promote **lower energy consumption, resource efficiency and conservation.**

Other Environmental Certification in India

- **Indian Forest & Wood Certification Scheme**
  - It offers **voluntary third-party certification** designed **to promote sustainable forest management and agroforestry in the country.**
  - It includes **forest management certification, tree outside forest management certification, and chain of custody certification.**
  - It **provides market incentives** to various entities that adhere to responsible forest management and agroforestry practices in their operations.

Scan the QR Code to know more about **LIFE (Lifestyle for Environment)**

Weekly Focus #92 Lifestyle for Environment: From Mindless Consumer to Mindful Citizen

5.3.15. IUCN REPORT ON AGRICULTURE AND CONSERVATION

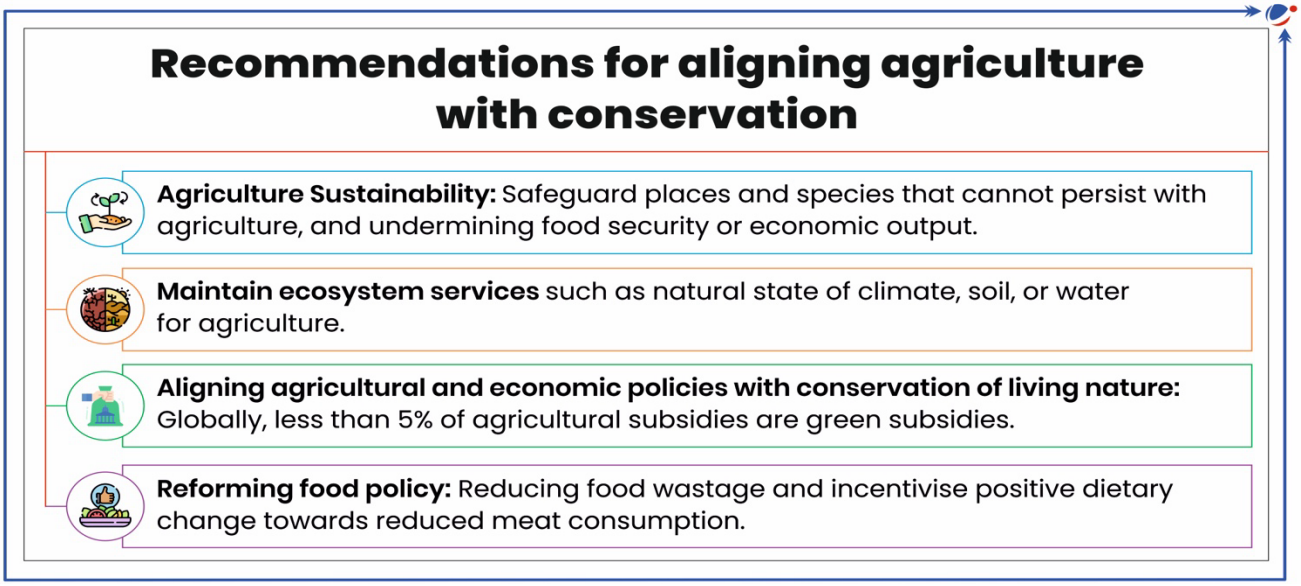
International Union for Conservation of Nature (IUCN) released a flagship report titled "Agriculture and Conservation" which comprehensively **explores the complex relationship between agriculture and conservation.**

Impact of Agriculture on Biodiversity

- **Negative Impacts**
  - Agriculture **directly threatens 34% of species** assessed on the **IUCN Red List of Threatened Species**.
  - **Direct threats** from agriculture include conversion of natural habitats to croplands, pasturelands, plantations and irrigation.
  - **Indirect impacts** through introduction of invasive alien species, nutrient loading, soil erosion, agrochemicals, and climate change.
- **Positive Impact:** About 17% of species on IUCN Red List have agriculture documented as a habitat.

Impact of Biodiversity on Agriculture

- **Positive Impact:** Ecosystems support agriculture through two main categories:
  - **Provisioning services** i.e. production of biomass and genetic materials, and
  - **Regulating and maintenance services** i.e. climate regulation, sediment retention, nutrient cycling, water flow regulation, pollination etc.
- **Negative Impact:** Ecosystem disservices such as crop predation, pests and pathogens.



5.3.16. LIVING PLANET REPORT

World Wildlife Fund (WWF) released the latest edition of its biennial 'Living Planet' report.

Key finding:

- **Biodiversity loss**: **Wildlife population declined by 73% over the past 50 years** (1970–2020).
  - **Freshwater populations** have suffered **heaviest declines** followed by terrestrial and marine populations.
- **Reasons for decline:** Habitat loss, degradation, climate change, invasive species.
- **Findings on India**
  - Adopting **India's consumption patterns worldwide** would need **less than one Earth by 2050.**
  - **Andhra Pradesh Community-Managed Natural Farming (APCNF)** is a good example of the positive socio-economic impacts of nature-positive food production.
  - Praised **India's millet mission**.

5.3.17. KAIMUR WILDLIFE SANCTUARY (KWS)

National Tiger Conservation Authority's (NTCA) has given approval to develop Kaimur Wildlife Sanctuary (KWS) as Bihar's second tiger reserve after **Valmiki Tiger Reserve**.

- NTCA is a statutory body established under **Wildlife (Protection) Act of 1972.**

About KWS

- **Location**: Located on a Kaimur Hills plateau between the **Son** River (south) and Karmanasa River (west).
  - It is spread over Central highlands (include Satpura-Maikal hills and Vindhya-Bagelkhand hills) and Chota Nagpur Plateau.
  - It is linked to Bandhavgarh-Sanjay-Guru Ghasidas-Palamau tiger landscape.
- **Fauna**: leopards, wild boars, sloth bears, etc.
- **Forest Type**: Northern Tropical Mixed Dry Deciduous Forests

5.3.18. INDIAN WILD ASS

10th Wild Ass Population Survey conducted by Gujarat Forest Department has found a 26.14% (6,082 in 2020 to 7,672 in 2024) increase in the population of Indian Wild Ass.

Indian Wild Ass *(Equus hemionus khur)*

- **About:** One of the **five subspecies** of the **Asiatic wild ass**, referred to as 'Ghudkhur'.
- **Habitat:** Arid zone of northwestern Indian subcontinent; presently only restricted to the **Little Rann of Kutch (LRK)** in Gujarat.
- **Behavioral Characteristics:** Solitary, Shy, present in low densities across its distribution range.
  - Horns found only in adult males, for browsing preferred nutrient rich forage.

Conservation Status:

- **IUCN Red List of Threatened:** Near Threatened
- **Wildlife Protection Act, 1972:** Schedule I
- **CITES:** Appendix I

5.3.19. NILE BASIN

Recently, **agreement on the equitable use of water resources from the Nile River basin** has come into force despite the notable opposition of Egypt.

About Nile Basin

- The Nile is the **world's longest river** and has a **drainage area of nearly 10% of the landmass of the African continent**.
- Runs through **11 countries** from south to north.
- **2 main tributaries: White Nile** (Originate from Burundi and Rwanda) and **Blue Nile** (originating in Ethiopia).
- **Other tributaries:** Sobat River, Atbara River, Bahr el Ghazal, etc.

5.3.20. VOLCANIC ERUPTION & IONOSPHERIC DISTURBANCES

A recent study by **Indian Institute of Geomagnetism** establishes the role of volcanism in shaping space weather.

Key findings of the study

- **Ionospheric Disturbance: Volcanic** eruptions produce **strong atmospheric gravity waves** triggering formation of **Equatorial Plasma Bubbles (EPBs).**
  - EPBs, normally observed in the equatorial ionosphere, are **depletions in ionospheric plasma density** formed during post-sunset hours.
- **Impacts Satellite Communication and Navigation Systems:** Generated EPBs can impact satellite communication and satellite-based technologies.

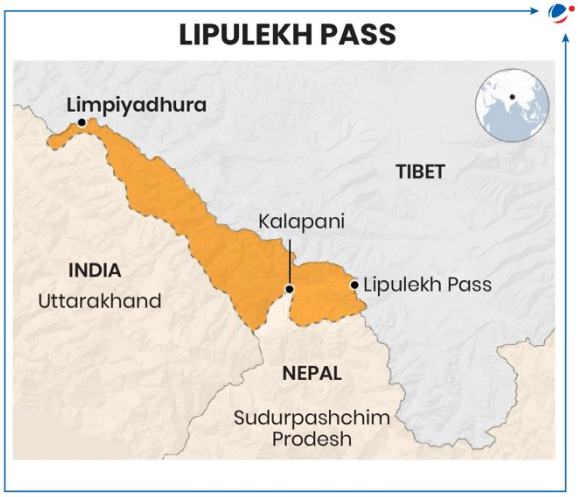
Volcanism and its Impacts

- A volcano is **an opening in Earth's crust** through which lava, ash, and gases erupt. **Recent incidents include Mount Ruang** (Indonesia, 2024), **Whakaari/White Island** (New Zealand, 2024), **etc.**
- **Positive Impacts of Volcanic activities**
  - **Short periods of cooling Earth's atmosphere**: Particles from volcanoes can cause temporary cooling by shading incoming solar radiation
  - **Source of geothermal energy:** can provide free electricity for locals
  - **Improvement in soil fertility** by ejected volcanic ash
  - **Provides Mining opportunities as** magma brings valuable minerals to the surface.
  - **Others:** Tourism potential; ash acts as soil fertilizer, etc.
- **Negative Consequences of Volcanic activity**
  - **Impact on Climate:** With the release of dust, ash, and other gases into the atmosphere.
  - **Lead to disasters such as Tsunami** (**E.g.** Tonga eruptions (2022)
  - **Others: Leads to damage of** lives, property, habitat, and landscapes

5.3.21. LIPULEKH PASS

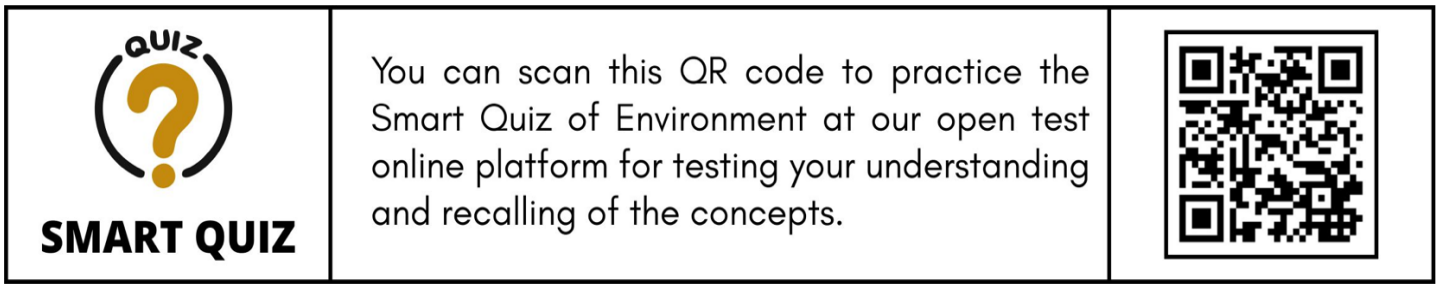
First batch of pilgrims viewed **Mount Kailash** (abode of Lord Shiva) from **Old Lipulekh pass.**

- Previously, pilgrims had to travel to Tibet Autonomous Region (TAR) to view the peak.



About Lipulekh Pass

- **Location: International Mountain pass, above Kalapani valley,** forming tri-junction between **India, Nepal**, and **TAR (China)**.
  - Situated in **Vyas valley, Pithoragarh district**, Uttarakhand inhabited by **Bhutiya people.**
- **Significance:** Ancient trade and pilgrimage route.
  - Closed in 1962 by India fearing Chinese incursions and was reopened in 2020.



6. SOCIAL ISSUES

6.1. MENTAL HEALTH AMONG ADOLESCENTS

Why in the news?

Recently WHO and UNICEF Released **'Mental health of children and young people - Service guidance'** Report on occasion of 'World Mental Health Day' (**10th October).**

More on the News

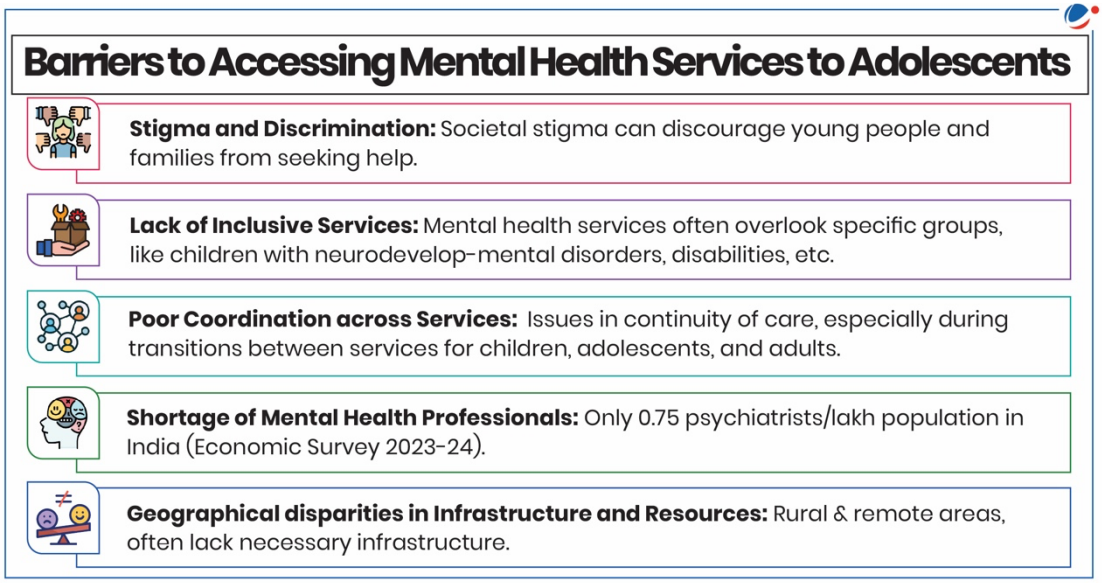
- **According to report, One-third of mental health** conditions emerge **before the age of 14 and half before the age of 18.**
- **An estimated 15% of adolescents aged 10-19 years** experienced mental health conditions with anxiety, depression and behavioural disorders being the most common.
- **Suicide** was **fourth leading cause of death** among those **aged 15–19 years.**

What is Mental Health?

- According to WHO, it refers to "**state of well-being** in which every individual realizes his/her potential, **can cope with normal stresses of life**, can work productively and fruitfully, and is able to make a contribution to her or his community."
- **Impact of Untreated Mental Health Issues**: Untreated mental health conditions can have lifelong consequences, impacting academic performance, relationships, and future employment, and sometimes leading to severe outcomes like substance abuse or suicide.

Determinants of Mental Health Conditions among adolescents:

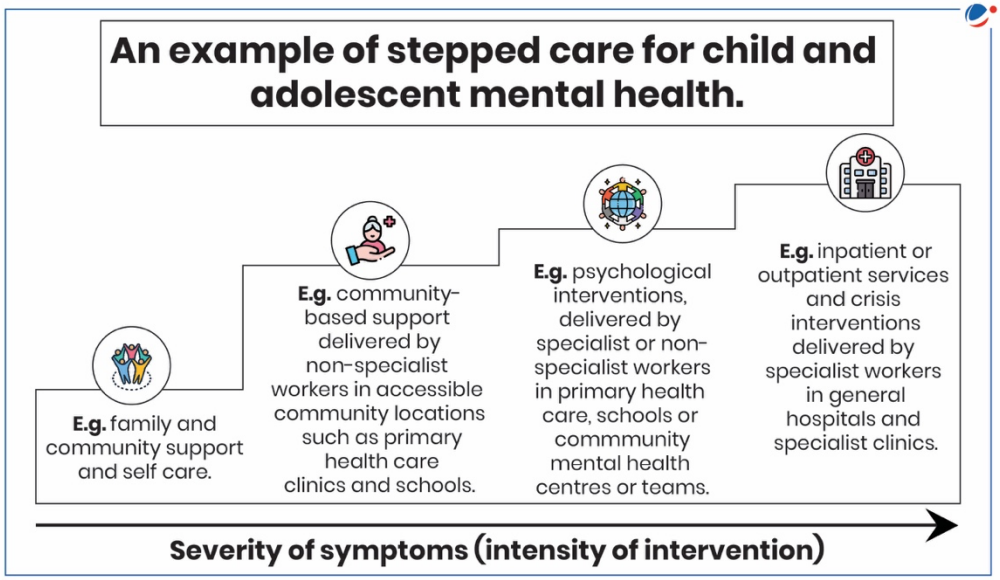
- **Immediate Triggers/Precipitating Factors: A**mong adolescents, these include financial loss, sudden grief, mental health deterioration, and adverse life events such as failing exams or public humiliation **E.g. Suicides in IITs and at Kota coaching classes.**
- **Influence of Social Media:** A 2018 British **study tied social media use to decreased, disrupted, and delayed sleep,** which is associated with depression, memory loss, and poor academic performance.
    - **Cyber bullying: Bullying victimization** is associated with depressive symptoms, suicidal ideation, and suicide attempts.
- **Social isolation and loneliness:** Dysfunctional family dynamics, hormonal changes, substance abuse and issues of gender identity during teenage years.
- **Predisposing Biological Factors:**
    - **Genetic predispositions**, such as alterations in gene expression and family history of suicide, can increase suicide risk by affecting brain function and behaviour.
    - **Gender Difference:** Especially girls and young people with poor social support experience mental health problems more frequently than boys and those with strong social support.



- **Certain personality traits** like impulsivity, along with disabilities and major physical illnesses, may also elevate risk by contributing to feelings of isolation, stress, and depression.

- **Indian Initiatives for Mental Well being among Adolescents:**
  - **Mental Health Care Act 2017**: protect and promote rights of individuals with mental illness and ensures access to mental health care and treatment.
  - **Tele-MANAS**: It offers 24/7 tele-mental health services, including counseling, psychotherapy, and referrals, in multiple languages.
  - **MANODARPAN:** Under "Atmanirbhar Bharat Abhiyan," Ministry of Education launched this initiative to provide psychosocial support to students, teachers, and families during COVID-19.
  - **SAATHI Program**: The Central Board of Secondary Education (CBSE) has introduced the "SAATHI" program to support mental health among students through workshops, online sessions.
- **Global Initiatives for Mental Well being among Adolescents:**
  - **Helping Adolescents Thrive (HAT) Initiative** is a joint WHO-UNICEF effort to strengthen policies and programs for the mental health of adolescents.
  - **Mental health gap action program (mhGAP):** Launched by WHO in 2008, to fill wide gap between resources available and needed to address large burden of mental disorders globally.
  - **Global Coalition for Youth Mental Health (UNICEF):** Launched in 2022 to address increasing mental health conditions in youth through public investment (Globally only 2.1 % of government health expenditure is allocated to mental health.)

Way-forward:



- **Integrating mental health into primary health care:** It can boost mental health promotion and prevention, early detection and care of common mental health conditions in adolescents.
  - **E.g. Trained community psychiatric nurses in Nigeria** provides outpatient mental health services in primary health care clinics, supported by community health care workers.
- **Designing Community-Based Mental Health Services:**
  - **Network of Services:** Mental health care should be integrated within **general health services (e.g., primary care),** complemented by community-specific centers, and supported by services outside health sector, such as schools and youth centers.
- **Early interventions**: For specific mental health conditions that emerge in adolescence and early adulthood, prompt detection and evidence-based care is essential. **E.g. Psychosis, Eating Disorders etc.**
  - **Schizophrenia Research Foundation in Chennai** provides early intervention with first-episode psychosis.
- **Digital interventions:** Digital technologies can be used to deliver or support mental health interventions.
  - E.g. WHO's **Chatbot-based Sustainable Technology for Adolescents and Youth to Reduce Stress (STARS).**

6.2. CHILD MARRIAGE IN INDIA

Why in the News?

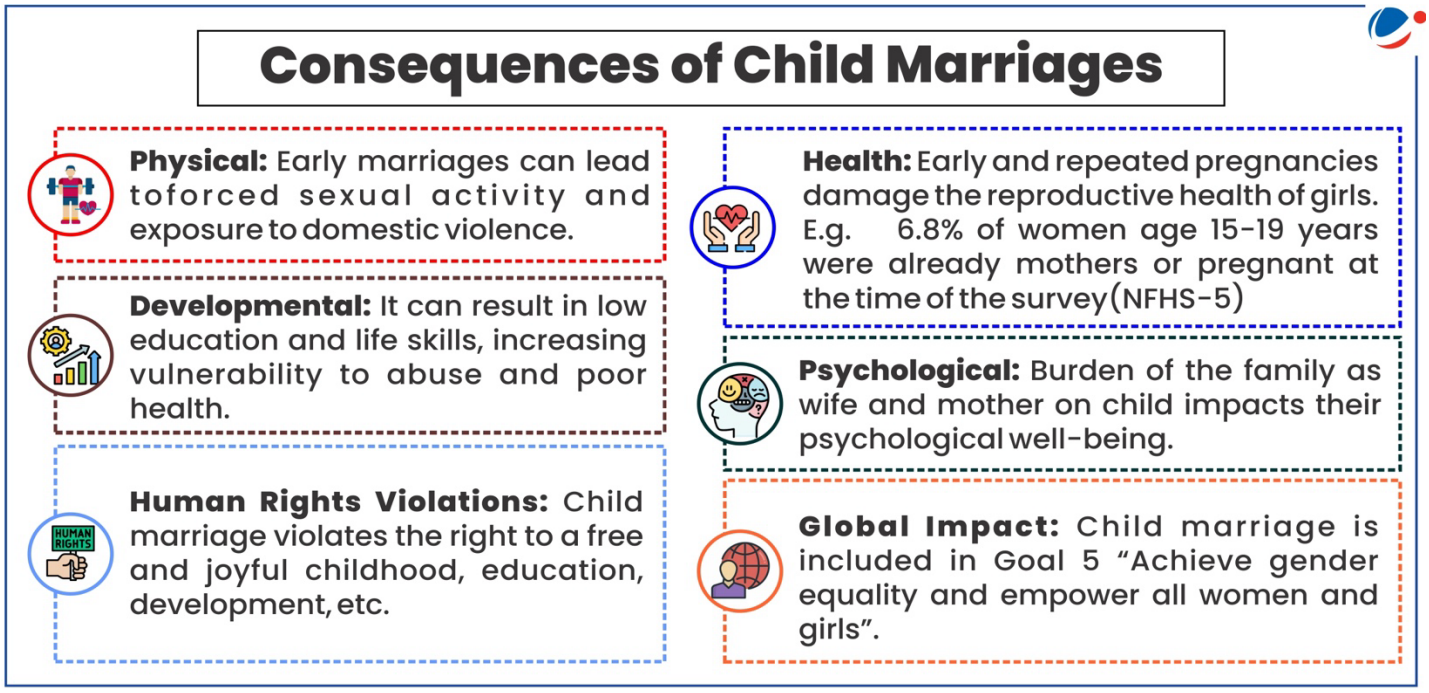
Supreme Court in a petition filed by '**Society for Enlightenment and Voluntary Action'** issued comprehensive guidelines for prohibition of child marriage.

Status of Child Marriage in India (NFHS-5)

- **23.3%** of women aged 20-24 years were **married before age 18 years.**
- **17.7%** of men aged 25-29 years were **married before age 21 years.**
- Prevalence of child marriage has **reduced by half from 47%** (2006) to 23.3% (2019-21)
- **Andhra Pradesh, Assam, Bihar, Jharkhand, Rajasthan, Telangana, Tripura and West Bengal** have higher prevalence of child marriage than national average.
- As per NCRB, **number of cases** registered under **Prohibition of Child Marriage Act**, 2006 during the last five years have increased from 395 (2017) to 1050 (2021).

Reasons for prevalence of child marriages in India

- **Poverty and Resource Scarcity:** Families marry off daughters early to reduce financial burdens, particularly dowries, and view girls as economic liabilities.
- **Deep-rooted Cultural and Traditional Beliefs:** In conservative set-ups**,** child marriage is seen as a way to preserve family honour, ensure virginity, and protect girls from premarital sexual relationships.
  - Traditional, religious, entrenched customs and social acceptance of child marriage is a predominant reason for the prevalence of child marriage.
- **Patriarchy and Gender Inequality:** Girls are seen as a burden on their family and marrying one's daughter at a young age is viewed as a way to ease economic hardship by transferring this 'burden' to her husband's family.
- **Low value placed on Girls education**: Girls are not seen as being worthy of investment in education. Poor educational opportunities limits power of child to resist marriage as alternative aspirations gets diminished.
- **Fear of Safety and Security**: Many parents feel that it is in best interest of girl child to marry early to ensure her safety where girls are at high risk of harassment and physical or sexual assault.
- **Legal and Enforcement Gaps**: Weak law enforcement, lack of awareness, and inadequate monitoring especially in rural and remote areas leads to continuation of menace of child marriage. E.g. Conviction and Reporting of child marriage cases are extremely low



Measures taken by Government

- **Enactment of 'Prohibition of Child Marriage Act (PCMA), 2006':** It prohibits marriage of girls under 18 and boys under 21. Section 16 of Act authorises State Government to appoint Child Marriage Prohibition Officers (CMPO).
- **The Juvenile Justice (Care and Protection of Children) Act, 2015**: It has provisions for care and protection of children who are at imminent risk of marriage before attaining the age of marriage.

- **Beti Bachao Beti Padhao Scheme (2015)**: Implemented by Ministry of Women and Child Development, it aims to break gender stereotypes & challenges son-centric rituals. It incorporates components of celebration of Birth of Girl Child, linking Sukanya Samriddhi accounts with birth of girl child and preventing child marriages.
- **The National Commission for Protection of Child Rights (NCPCR)**: It undertakes various activities with stakeholders such as representatives of Child Welfare Committees (CWC), Police, Women and Child Development Department and Civil Society organizations on the issue of child marriages
- **National Action Plan to Prevent Child Marriage:** It is a comprehensive framework which aims at providing support to girls who are at risk of early marriage. It includes better data collection, awareness programs, and stronger coordination between state and local governments.
- **Emergency Outreach Services**: Government of India has introduced CHILDLINE with short code 1098, a 24X7 telephone emergency outreach service for children in crisis, including for prevention of child marriages
- **Partnership of State Governments with UNICEF and other NGOs**: E.g. UNICEF(in Bihar) is building capacity of local faith-based leaders and kathavachaks on child marriage and creating a fleet of Yuvacharyas to act as door messengers at the village level

Way Forward

Supreme Court has issued comprehensive guidelines to prevent child marriages in India covering various components:

- **Legal Enforcement: Appointment and accountability of CMPO by state governments and Union Territories (UTs) at the district level**. These officers should not be burdened with additional duties that could impede their focus on preventing child marriage.
  - **District-Level Responsibility for Prevention of Child Marriages** to Collectors and Superintendents of Police
  - **Establishment of a Special Police Unit and Special Child Marriage Prohibition Unit**
- **Judicial Measures: Empowering Magistrates to take Suo Moto Action** to prevent solemnization of child marriage
  - **Exploration of Special Fast-Track Courts** for Child Marriage Cases
  - Mandatory action against neglectful public servants
- **Community Involvement:** Adoption of the **Child Marriage Free Village Initiative** and **"Child Marriage Free"** certifications for villages and gram panchayats on the lines of "Open Defecation Free Village" under the Swachh Bharat Mission
- **Awareness Campaigns and Capacity Building: Comprehensive Sexuality and Rights Education** by integrating it into school curricula
  - Training for community health workers, educators, law enforcement and judicial officers
- **Use of Technology: Establishment of a Centralized Reporting Portal for Child Marriages** by Ministry of Home Affairs, Ministry of Women and Child Development, and NALSA
  - **Leveraging Technology for Support Services by states and UTs to disseminate information against child marriage across all media, focusing on high-risk regions.**
  - Data analytics to identify high-risk areas and patterns for swift interventions.
- **Funding and Resources:** Dedicated Annual Budget Allocation for each State specifically aimed at preventing child marriage
  - Institutionalization of **Juvenile Justice Fund established under Section 105 of the Juvenile Justice Act.**

Scan the QR Code to know more about **Child Rights**

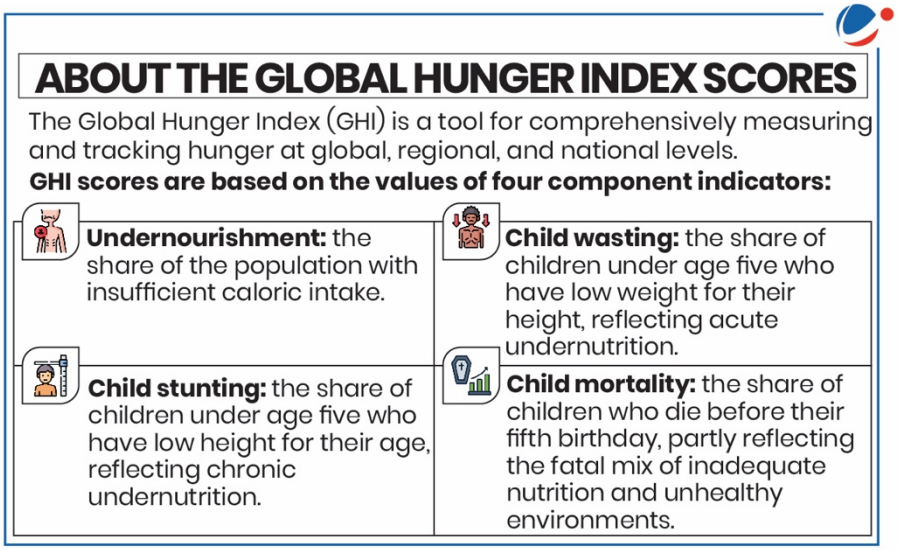
Weekly Focus #70 Protection of Child Rights: An unfinished agenda?

6.3. GLOBAL HUNGER INDEX

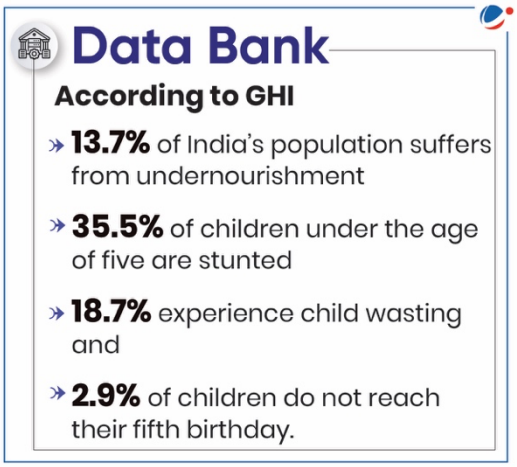
Why in the news?

Global Hunger Index (GHI) 2024 has been released by **Concern Worldwide and Welt Hunger Hilfe,** Non-Government organizations from Ireland and Germany respectively.

Key findings of the GHI



- **Global Findings:**
  - **Hunger levels** in **42 countries** are at alarming levels, making **goal of Zero Hunger by 2030 unattainable**. At this pace of progress, world will not even attain a **low hunger level until 2160.**
    - > World's GHI score is 18.3, which is considered **moderate in the severity of hunger scale.**
  - Report highlights **link between Gender inequality, climate change, and hunger**. Gender is intertwined with climate and food security challenges in ways that respective policies and interventions often ignore.
    - > **Women and girls** are typically hardest hit by **food insecurity and malnutrition**. They also suffer disproportionately from the effects of weather extremes and climate emergencies.
- **India Related findings:**
  - India ranks **105th out of 127th countries (**up from 111th in 2023), **falling under "serious" category** with 41 other nations, including Pakistan and Afghanistan.
  - **India's GHI score:** 27.3
  - **India's GHI score** has fallen since 2000, however, **child wasting and stunting** remain very high.
  - **Child under-nutrition in India** goes hand in hand with **poor nutritional status of mothers underscoring need for attention** to maternal health and nutrition.



However, according to experts, Global Hunger Index continues to be an erroneous measure of hunger with serious methodological issues and shows a malafide intent. Some of the issues highlighted by experts are:

Key issues with GHI

- **Methodology:** Three out of four indicators used for calculation of index are related to health of Children and cannot be representative of entire population.
  - **Child stunting, wasting and under-5 mortality** are outcomes of complex interactions of various other factors like drinking water, sanitation, genetics, environment and **utilization of food intake** apart from hunger.
- **Faulty indicator:** Studies challenge use of stunting as an indicator of under nutrition, showing it occurs in well-nourished populations as well.
- **Out-dated data set:** Source of data used to construct Global Hunger Index is outdated and far from convincing.
  - For example, the National Family Health Surveys (NFHS) data on stunting/wasting in under 5 years children are not available annually but every 8-10 years.
- **Small sample size:** The indicator of Proportion of the Undernourished (PoU) population is based on an opinion poll conducted on a very small sample size.
  - The report lowers India's rank based on the estimate of the PoU population for India at 16.3%.

Factors Behind Hunger Crisis

- **Conflict:** Almost 70% of 309 million people **facing acute hunger** are in **fragile or conflict-hit countries**. Violence and instability in Middle East, East, Central and West Africa as well as in the Caribbean, southern Asia and Eastern Europe are particularly concerning.

- Conflict **disrupts food production, forces people from their homes and sources of income**, and often hinders humanitarian access to people in most need.

- **Climate crisis:** It is one of leading causes of steep rise in global hunger. Climate shocks e.g. Drought destroy lives, crops and livelihoods, and undermine people's ability to feed themselves.
- **Poor Economy:** Sluggish global growth and economic stressors, linked to **slow pandemic recovery and fallout from the war in Ukraine**, continue to affect **low and middle-income countries.**
  - This limits investment in social protection programmes, at a time when food prices remain at crisis levels.
- **Displacement:** Forcibly displaced people face specific vulnerabilities in relation to food insecurity including limited access to employment, livelihoods, food and shelter, and reliance on dwindling humanitarian assistance **E.g. Darfur area in Sudan**.

Factors behind prevalence of Malnutrition in India

- **Urbanisation:** It reshapes food systems, diets, and lifestyles. It increases access to cheap, ultra-processed foods and beverages, promotes sedentary behaviours. According to Euromonitor International 2019, the sales of processed foods in India almost doubled between 2012 and 2018.
- **Undernourished Mothers:** Most Indian women are anaemic and poor women and undernourished mothers give birth to undernourished babies. The prevalence of anemia, according to the National Family Health Survey 5 is 57.0 percent in women (15-49 years), 59.1 percent in adolescent girls, 52.2 percent in pregnant women.
- **Low Education Level & Socio-economic Status:** Children born to mothers with no schooling and children in the lowest wealth quintile are most likely to be undernourished.
- **Vulnerable Sections:** Children from Other Backward Classes (OBC) have highest Minimum Dietary Diversity Failure (79%), followed by Scheduled Castes (77.2%) and Scheduled Tribes (76%).

Initiatives taken for Tackling Hunger in India

- **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** launched to provide food grains free of costs to 80 crore poor.
- **Pradhan Mantri Matru Vandana Yojna:** Registered women were provided Rs 5000/- on the birth of their first child for wage support and nutritious food during pregnancy and post-delivery period.
- **POSHAN Abhiyan (National Nutrition Mission):** Aims to achieve improvement in key nutrition parameters for children and women.
- **Eat Right Movement:** Aims to transform the country's food system to ensure safe, healthy and sustainable food.
- **Integrated child development scheme (ICDS):** Supplementary Nutrition is one of the six services provided under the ICDS. It is intended primarily to bridge gap between Recommended Dietary Allowance and Average Daily Intake.
- **National Food Security Act (NFSA), 2013:** NFSA is an Act of the Parliament of India intended to provide subsidised food grains to approximately two-thirds of India's 1.2 billion people, Recognizes the right to food as a statutory right.

Initiatives taken for Tackling Global Hunger:

- **SDG 2 (**Zero hunger): It aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
- **World Food Programme:** Food assistance branch of United Nations, established in 1961. Its mission is to combat hunger worldwide by providing food aid, promoting food security, and enhancing nutrition.
- **Zero Hunger Challenge:** An initiative by the UN Secretary-General that invites countries to work towards a future where everyone has access to adequate nutrition.
- **Rome Declaration on Nutrition:** Declaration commits countries to eradicate hunger and prevent all forms of malnutrition worldwide – particularly undernutrition in children, anaemia in women and children, among other micronutrient deficiencies.
- **Food and Agriculture Organization of the United Nations (FAO): It** aims to ensure people have regular access to enough high-quality food.

Conclusion

Policy recommendations made in the document include **strengthening accountability to international law** and the **enforceability of the right to adequate food,** promoting **gender-transformative approaches to food systems** and climate policies and programs, and making investments that **integrate and promote gender, climate, and food justice.**

6.4. NATIONAL HEALTH ACCOUNTS ESTIMATES

Why in the news?

Recently, Union Ministry of Health and Family Welfare (MoHFW) released the National Health Account (NHA) estimates for the fiscal years 2020-21 and 2021-22.

About National Health Accounts Estimates

- NHA estimates **released by MoHFW** since 2013-14. NHA for India was **envisaged in National Health Policy, 2002**.
- The NHA offers a **detailed description of the financial flows within India's health system**, illustrating how funds are collected from various sources, how they are spent across the healthcare sector, and how healthcare services are utilized.
- NHA estimates are **derived within the framework of National Health Accounts Guidelines for India, 2016** and prepared by using **System of Health Accounts, 2011**.
- **National Health Accounts Technical Secretariat (NHATS) prepared the NHA estimates** with constant guidance and support from NHA Steering Committee and NHA Expert Group for India.

System of Health Accounts (SHA) 2011

- It is a **global standard framework** for producing health accounts and **facilitates comparison of estimates across countries.**
- It provides a **standard for classifying health expenditures** according to the **three axes of consumption, provision and financing.**
- It is a result of a **joint cooperation** among Organization for Economic Cooperation and Development (**OECD**), World Health Organization (**WHO**), and **Eurostat.**

Key findings of NHA Estimates for India

Health Indicator	Trend in 2021-22 (since 2017-18)	Detail
Total Health Expenditure (THE) as percent of GDP and Per Capita	THE as **percent of GDP increased** to 3.83% from 3.31%. THE **per capita increased** to Rs. 6,602 from Rs. 4,297	• THE constitutes **current and capital expenditures** incurred by **Government and Private Sources** including External funds. • **THE as a percentage of GDP** indicates health spending relative to country's economic development. • **THE per capita** indicates health expenditure per person in the country.
Government Health Expenditure (GHE) as percent of THE	**Increased** to **48%** from 40.8%	• GHE constitutes **spending under all schemes funded and managed by Union, State and local Governments** including quasi-Governmental organisations and donors in case funds are channelled through Government organisations.
Current Health Expenditures (CHE) as percent of THE	**Decreased** to **87.3%** from 88.5%	• CHE constitutes only **recurrent expenditures for healthcare purposes** net all capital expenditures. • **CHE as percent of THE** indicate operational expenditures on healthcare that impact health outcomes of population in that particular year.

Out-of-Pocket Expenditures on Healthcare (OOPE) as percent of THE	**Decreased** to **48.8%** from 64.2%	• OOPE are **expenditures directly made by households** at the point of receiving healthcare. • This indicates extent of financial protection available for households towards healthcare payments.
Social Security Expenditure (SSE) on health as percent of THE	**Decreased** to **8.7%** from 9%	• SSE includes **government-funded health insurance schemes** (PMJAY, RSBY etc.), **social health insurance programs**, and **medical reimbursements** to government employees for healthcare purposes and Social Health Insurance scheme expenditures.
Private Health Insurance Expenditures (PHIE) as percent of THE	**Increased** to **7.4%** from 5.8%	• PHIE constitute **spending through health insurance companies**.
External/ Donor Funding for health as percent of THE	**Increased** to **1.1%** from 0.5%	• It constitutes **all funding available to the country** by assistance from donors.

Conclusion

The ongoing healthcare reforms will pave the way for a healthier, more equitable future for all citizens. Increasing healthcare spending plays a crucial role in strengthening healthcare infrastructure, expanding testing and treatment facilities, and plays a critical role in addressing pandemics like COVID-19 in the future.

6.5. DIGITAL HEALTH

Why in the News?

Ayushman Bharat Digital Mission (ABDM), launched in 2021, marks three-year towards enabling Digital Health.

About Ayushman Bharat Digital Mission (ABDM)

- **ABDM** aims to connect the **digital health solutions of hospitals** across the country.
- **ABDM, as a 'Digital Ecosystem',** will also enable a host of other **facilities like digital consultation, consent of patients, etc.**
- **Key Principles**: Inclusivity; **Free of Cost Registration**; **Opting out of the ABDM Ecosystem** as per one's will; **single source of truth** with no other parallel copies of one's medical records; **Federated structure** to ensure **privacy**; **Voluntary** Participation.
- **Implementing agency:** The **National Health Authority**, an attached office of Union Ministry of Health & Family Welfare.
- **Components of ABDM Architecture**
  - **Ayushman Bharat Health Account (ABHA) ID**: A unique 14-digit number to store and manage health records.
  - **Healthcare Professionals Registry (HPR):** A unified repository of healthcare professionals across all medicine.
  - **Health Facility Registries (HFR**): Repository of health facilities of the nation (both public and private).
  - **Health Information Exchange and Consent Manager (HIE-CM)**: To ensure that data exchange is driven by informed consent.
  - **Unified Health Interface (UHI):** To Facilitate the discovery and delivery of health services.
  - **National Health Claims Exchange (HCX**): To standardize the insurance payment ecosystem.

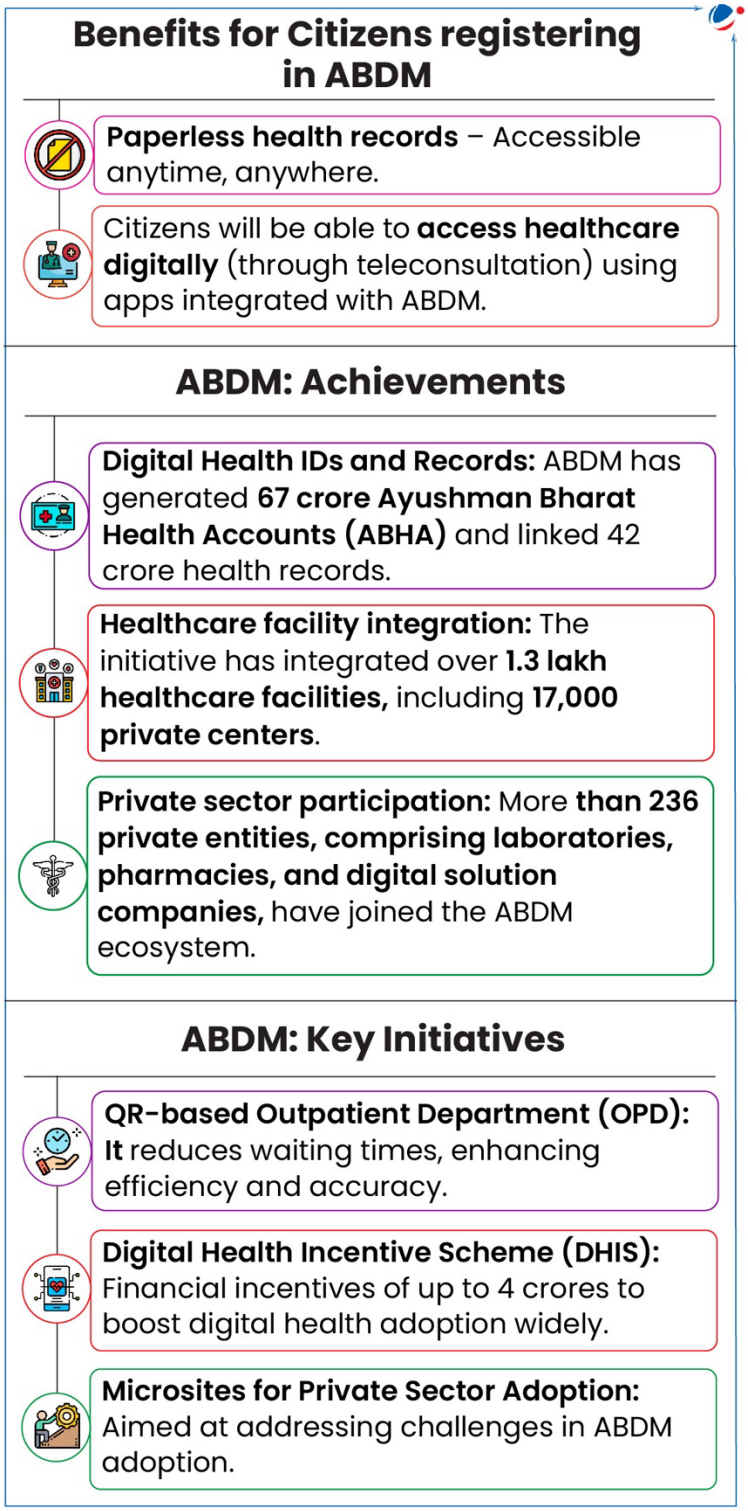
About Digital Health

- The **WHO** defines digital health as the "field of **knowledge and practice** associated with the development and use of **digital technologies to improve health." It includes:**
  - **Digital health applications:** Electronic Health Records; Telemedicine; Wearable Devices to monitors health aspects; and Health Information Systems for managing, storing, and exchanging health information.

- **Digital health technologies:** AI and Big Data to quickly identify patterns in tremendous volumes of data; Internet of Medical Things (interconnected medical devices); Augmented Reality to make medical procedure more efficient; Digital Genomics, etc.

Significance of promoting Digital Health

- **Seamless medical record sharing:** Enables Indians to use IT-enabled tools to share prescriptions, blood test reports and X-ray diagnostics with doctors.
- **Unique personalised medical account**: Creates a unique health ID for every citizen and digital registry to facilitate seamless interactions between healthcare experts.
- **Chronic disease management:** Helps manage chronic diseases which have become a critical public health challenge in the past 15 years.
  - Also, improve public health monitoring and advance evidence-based policymaking in the long run.
- **Enhanced treatment for critically ill patients**: Data portability could expedite treatment of critically ill patients, especially those suffering from multiple ailments.
- **Comprehensive medical history repository**: Creates repository alerting doctors to patient's medical history with one click, important for treating patients with comorbidities as highlighted during Covid-19.
  - Also, gives patients options to choose which records they want to share with healthcare providers.
  - This ecosystem will ensure old medical records are not lost as every record will be stored digitally.



Concerns pertaining to Digital Health

- **Privacy and security issues:** Unauthorized data access and breaches can compromise **patient privacy** and lead to **identity theft**.
  - **E.g.,** Personalized data collected can be exploited by insurance companies and pharmaceutical firms for targeted advertisement.
- **Algorithmic bias:** Technologies such as AI can result in unfair or discriminatory treatment. **E.g.,** might lead to racial & ethnic disparity in healthcare.
- **Equity and access issues:** Unequal access to digital health technologies and digital literacy skills can exclude vulnerable populations.
  - **E**.g., Poor internet connectivity in **rural areas can make data entry** and **utilization of digital healthcare services** a challenge.

- **Lack of trust in digital healthcare systems**: **E.g.,** The failure of the UK's National Health Service digital system highlights the importance of earning the trust of healthcare providers.
- **Lack of standardization in digital Cards:** India struggles to standardize coverage and quality of existing digital cards (e.g., One Nation One Ration card, PM-JAY card, Aadhaar card, etc.), leading to data migration and transfer issues, as well as concerns over data security**.**
- **Communication challenges in diverse healthcare ecosystems**: Due to its linguistic and cultural diversity in India.

Way Forward

- **Enhance universal reach:** Ensure the **Intelligent Health Solution** is evaluated across a **diverse user base, including displaced populations and diverse racial/cultural backgrounds,** to improve quality of life and collaborative decision-making.
- **Strengthen technical proficiency: Improve digital skills** among **medical teachers and students** to better leverage digital health tools.
- **Enhance targeted solutions: Create customized and individualized approaches** to digital health tools, supported by empirical evidence.
- **Build ethical oversight: A formal governance body** can be established to develop frameworks for data collection, sharing, and usage and draft a "**code of ethics".**

6.6. NEWS IN SHORTS

6.6.1. UN WOMEN RELEASED 'WORLD SURVEY ON THE ROLE OF WOMEN IN DEVELOPMENT' REPORT

The theme of the report is **Harnessing social protection for gender equality, resilience and transformation.**

- It takes stock of progress, gaps, and challenges in building **comprehensive, gender-responsive social protection systems.**

Need for Gender responsive social protection (GRSP)

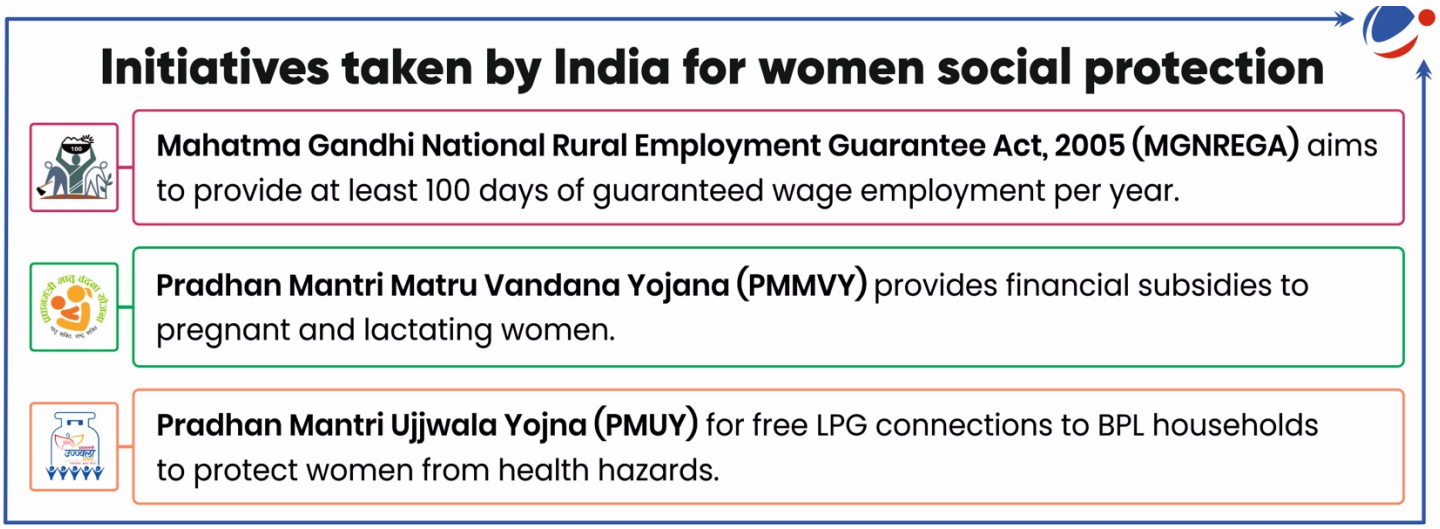
- **Gender-responsive approaches** for social protection actively seek to respond to gender-specific risks, vulnerabilities and constraints such as
  - Women's lesser access to resources, disproportionate responsibility for unpaid care and domestic work, gender based violence and lack of voice in decision making.
- **GRSP** approaches acknowledge the **nature and intensity of risks and constraints** based on gender.

Key findings of the report

- **Two billion women and girls lack access to any form of social protection,** such as cash benefits, unemployment insurance, pensions or healthcare.
- Over **63 per cent of women** globally still give birth **without access to maternity benefits.**
- Gender-specific risks and vulnerabilities are **exacerbated by factors like conflict, climate change and economic shocks.**

Key recommendations

- **Address gender gaps and biases** in existing social protection systems, policies and programmes.
- Improve **coordination** with gender-responsive **employment policies and public services.**
- Adapt **social protection policies and programmes** to meet the needs of women and girls **during sudden and protracted crises.**
- Take a **rights-based approach** to social protection delivery.



6.6.2. E-MIGRATE PORTAL

Ministry of External Affairs and Ministry of Labor & Employment launched the **e-Migrate portal and mobile app.**

About e-Migrate portal

- Online Platform to **facilitate and manage the migration** of Indian workers seeking employment abroad.
- It aims to provide **various services to migrant workers** including information access, documentation, helpline support etc.
- Feature a **24/7 multilingual helpline** and will be integrated with Digilocker for secure document storage and obtain paperless clearance at immigration.
- It also brings **foreign employers, registered recruitment agents and insurance companies** on one common platform designed to promote **safe & legal migration**.

6.6.3. PM YASASVI

Ministry of Social Justice and Empowerment **highlighted that impact of PM-YASASVI (PM Young Achievers Scholarship Award Scheme for Vibrant India)** Initiative.

About PM-YASASVI

- Objective: Streamline educational support for socially and economically disadvantaged students.
- It is an **umbrella scheme** that aims to provide quality **education** to students from **Other Backward Classes, Economically Backward Classes (EBCs), and Denotified Tribes (DNTs)**.
- It **subsumed earlier initiatives like Dr. Ambedkar Post-Matric Scholarship Scheme** for EBCs and DNTs.

6.6.4. GOVERNMENT EXTENDS SUPPLY OF FORTIFIED RICE ACROSS WELFARE SCHEMES UNTIL 2028

Free Fortified Rice will be supplied under **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) and other welfare schemes.**

- **Rice fortification** involves **adding Fortified Rice Kernels** (containing micronutrients like Iron, Folic Acid, and Vitamin B12) **to normal Rice** (Custom Milled Rice) **as per standards prescribed by FSSAI.**
  - **Fortification** is the addition of **key vitamins and minerals** to staple foods such as rice, wheat, oil, milk and salt **to improve their nutritional content and combat malnutrition.**

About Fortified Rice Initiative

- **Background:** The initiative launched **in 2022,** and the **three-phase rollout** of this scheme was **completed successfully** by March 2024.

- **Rationale:**
  - **Combating malnutrition:** Fortification is a cost-effective method for **combating Anaemia and micronutrient malnutrition.**
  - **Higher reach: Rice** is an ideal vehicle for supplying micronutrients as it is a **staple food for 65% of India's population.**
- **Schemes covered:**
  - Targeted Public Distribution System (TPDS),
  - Integrated Child Development Services (ICDS),
  - PM POSHAN (formerly the Mid-Day Meal scheme), and
  - other welfare programs across all states and Union Territories.
- **Funding:** Central Sector Initiative with **100% funding by the Centre** as part of the **food subsidy component of PMGKAY.**
  - Under PMGKAY, free foodgrain is being provided (for 5 years) to **81.35 crore beneficiaries of the National Food Security Act 2013.**

QUIZ

SMART QUIZ

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.

PERSONALITY DEVELOPMENT PROGRAMME

CIVIL SERVICES EXAMINATION - 2024

ADMISSION OPEN

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FEATURES OF THE PERSONALITY DEVELOPMENT PROGRAM

- Pre-DAF Session: For a nuanced understanding of DAF entries and how to fill it mindfully to reflect desired personality traits.
- Mock Interview Sessions: With Senior Faculty, Ex-Bureaucrats and Educationists for enhanced Interview readiness and instilling confidence.
- Interaction with toppers and serving bureaucrats: Interactive Session for facilitating query resolution, interactive learning, and motivation from the experience of Topper and serving bureaucrats.
- DAF Analysis Session: Thorough DAF analysis and discussion with Senior Experts and Faculty Members on expected questions and their answers.
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7. SCIENCE AND TECHNOLOGY

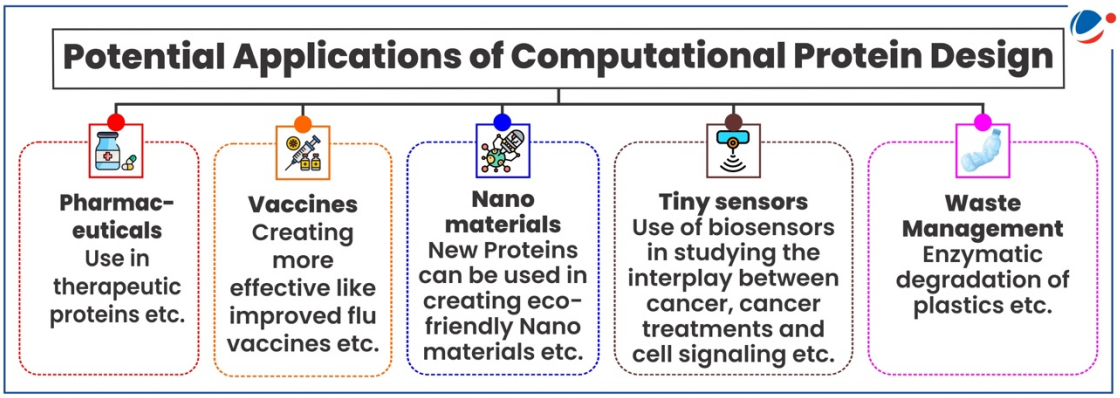
7.1. NOBEL PRIZE IN CHEMISTRY 2024

Why in the News?

The Royal Swedish Academy of Sciences has awarded the **2024 Nobel Prize in Chemistry** to **David Baker** for **computational protein design** and jointly to **Demis Hassabis and John Jumper** for **protein structure prediction.**

David Baker's work on computational protein design

- **Computational protein design (CPD)** aims to create new proteins with novel functions or properties not found in nature.
  - The first successful design of a small protein via computation was published by **Dahiyat and Mayo** in 1997.
- **David Baker** successfully created new proteins (synthetic proteins), starting with his **first designed protein 'Top7'** in 2003.
  - It was an entirely new protein, both **structurally and sequence-wise**, designed by automated computation.
- **Rosetta software** developed by Baker and his team in 1999, assembles proteins from short structural fragments, enhancing structure prediction and design.



Work of Demis Hassabis and John Jumper on protein structure prediction

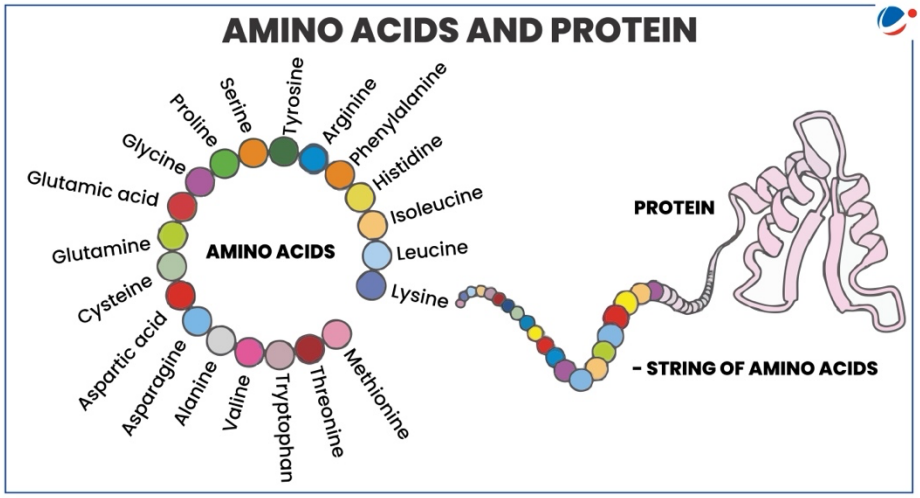
- **Demis Hassabis and John Jumper** used Artificial Intelligence (AI) to solve a 50-year-old problem of predicting proteins' complex structures i.e., how proteins fold into shapes that determine their functions.
- **Significance of discovery:** Knowing protein shapes is key to **understanding cell function** and better structure prediction aids in areas like **drug design**, understanding **antibiotic resistance**, developing **enzymes to break down plastic**, crop resilience etc.

Do you know

> The word protein is derived from **Greek word, "proteios"** which means primary or of prime importance.

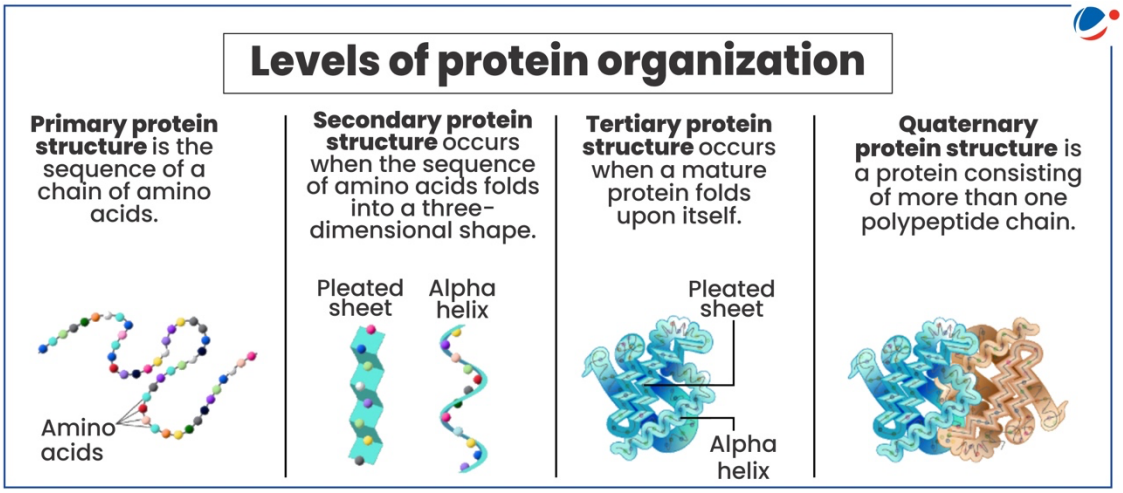
About Proteins

- Proteins are one of the **four major types of biomolecules** (the other three being carbohydrates, lipids and nucleic acids).
- They are **biopolymeric structures,** composed of linear chains of **20 naturally occurring amino acids**, linked by peptide bonds (see infographic).



- **Composition of amino acids and their orde**r in proteins decide the structure of a protein.
- Peptide bond is formed when the **carboxyl (-COOH) group** of one amino acid reacts with **the amino ($-NH_2$)** group of the next amino acid with the elimination of a water moiety (process called dehydration).

- Proteins are one of the **most abundant macromolecules** present in all cells from simplest bacteria to human beings and plants.
  - **Collagen** is most abundant protein in animal world and **Ribulose bisphosphate Carboxylase-Oxygenase (RuBisCO)** is the most abundant protein in the whole of the biosphere.



Key Functions of proteins

- **Structural Support:** Proteins provide structure and support for cells. E.g., **Actin,** found in the filaments of muscle fibres, provides mechanical support and determines cell shape.
- **Catalysts:** Proteins act as **enzymes,** facilitating biochemical reactions. E.g., **amylase** breaks down starches into sugars during digestion.
- **Hormones:** Some proteins function as chemical-signaling molecules called hormones. E.g., **Insulin** plays a key role in regulating metabolism.
- **Antibody:** Antibodies bind to specific foreign particles, such as viruses and bacteria, to help protect the body. E.g., Immunoglobulin G (IgG) etc.
- **Transport/storage:** These proteins bind and carry atoms and small molecules within cells and throughout the body. E.g., **Ferritin** stores iron in cells and **GLUT-4** enables glucose transport into cells.

7.2. NOBEL PRIZE IN MEDICINE 2024

Why in the news?

Nobel Prize in Physiology or Medicine 2024 has been awarded to Victor Ambros and Gary Ruvkun for the discovery of **microRNA** and its role in **post-transcriptional Gene Regulation.**

About the Discovery

- In 1993, Victor Ambros and Gary Ruvkun discovered **microRNA and** its role in gene regulation after transcription.
  - Till 1993, it was believed that **gene regulation** is limited to **specialised proteins** called **transcription factors**, which bind to specific regions in **Deoxyribonucleic acid (DNA)** and determine which **messenger Ribonucleic acid (RNA)** (mRNA) are produced.
  - However, it was discovered that regulation by microRNAs occurs at a later stage in the process of gene expression, post-transcription.
- They discovered role of microRNA by investigating mutant **Caenorhabditis Elegans nematodes** with developmental defects caused by alterations at two positions in their gene.
- Discovery revealed a completely **new principle of gene regulation** that turned out to be essential for multicellular organisms, including humans.

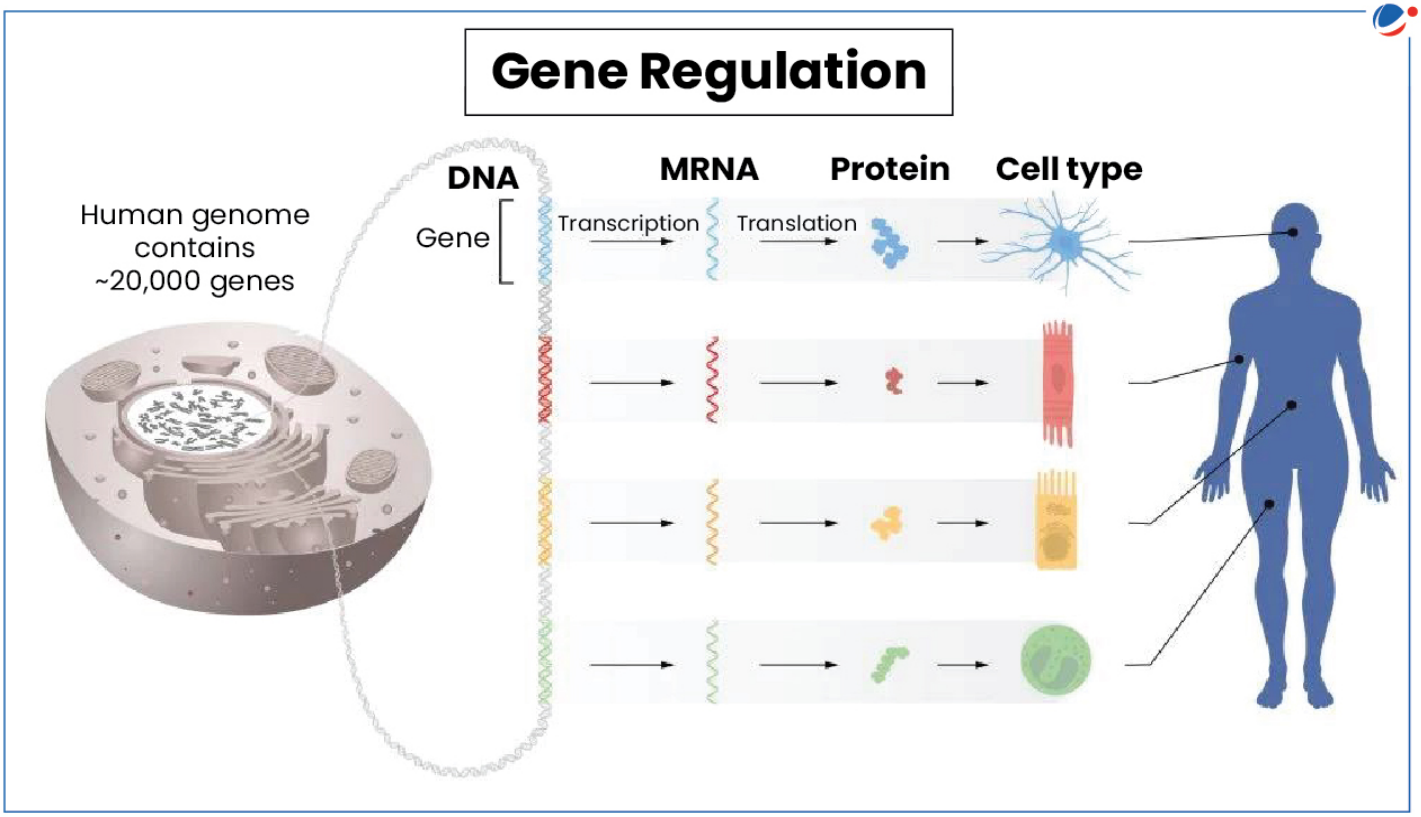
About microRNA (miRNA)

- It is a **small non-coding RNA** (single-stranded molecules playing key role in turning DNA instructions into proteins) that helps **cells regulate gene expression**.

- It **controls gene expression by binding with mRNA** and preventing them from being translated into proteins or by degrading/destroying mRNA altogether.
    - Proteins in the nucleus regulate **RNA transcription** and splicing while **microRNAs control the translation** and degradation of mRNA in the cytoplasm.
- There are more than a **thousand genes for different microRNAs** in humans, and gene regulation by microRNA is **universal among multicellular organisms**.

About Gene Regulation

- **Gene regulation** is the process used to control the timing, location and amount in which **genes (**out of many genes in a genome) are **expressed**.
    - **Genetic information flows** from **DNA** to mRNA, via a process called **transcription**, and then on to the cellular machinery for **protein production**.
- It is important for an organism to respond to **environmental changes**.
- **Gene Expression:**
    - Human organs and tissues consist of **different cell types**, the chromosomes in the cell contain the same set of genes with the same set of instructions.
    - However, due to gene regulation, these **different cells** (like muscle cells, nerve cells etc.) **express unique sets of proteins**, enabling them to perform their specialized functions.



About Transcription and Translation

- **Transcription**:
    - It is the process by which the **information** in a **strand of DNA** is copied into a **new molecule of** mRNA.
    - It is carried out by an enzyme called **RNA polymerase** and a number of accessory proteins called **transcription factors**.
- **Translation**
    - In this, information encoded in mRNA directs the addition of **amino acids** during **protein synthesis**.
    - It takes place on **ribosomes** (site for the synthesis of proteins) in the cytoplasm, where mRNA is read and translated into the string of amino acid chains that make up the synthesized protein.

Significance/Application of the Discovery

Discovery of microRNA helps in understanding different aspects related with gene regulation and role played by it different process such as:

- **Cellular Development**: miRNAs are involved in the self-renewal and differentiation of stem cells and development of tissues and organs.
- **Immune Response**: miRNAs regulate innate and adaptive immune responses.
- **Oncogenesis**: Abnormal regulation by microRNA can contribute to cancer, and mutations in genes causing conditions such as congenital hearing loss, eye and skeletal disorders.
- **Disease diagnostics:** Used as biomarkers for human cancer diagnosis, prognosis, and therapeutic targets.

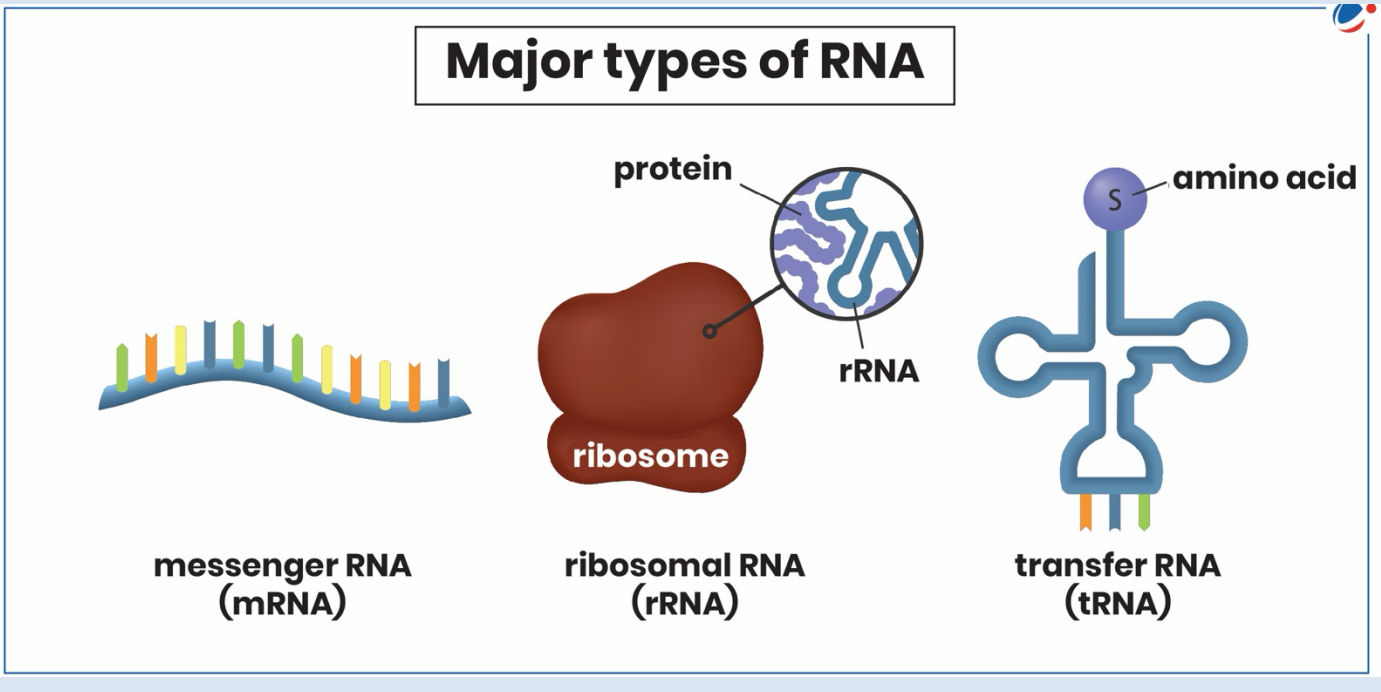
Know the term

- **Biomarkers:** A biological molecule found in blood, other body fluids, or tissues that is a sign of a normal or abnormal process, or of a condition or disease.
  - Also called **molecular marker** and **signature molecule.**

About Ribonucleic acid (RNA)

- It is a nucleic acid that is present in the majority of living organisms and viruses.
- It is made up of **nucleotides**, which are ribose sugars attached to nitrogenous bases and phosphate groups.
  - The nitrogenous bases include **adenine**, **guanine**, **uracil**, and **cytosine**.
- RNA mostly exists in the single-stranded form.
- Actively involved in transcription and translation process.

Major Types of RNA		
messenger RNA (mRNA)	**transfer RNA (tRNA)**	**ribosomal RNA (rRNA)**
mRNA is made from a DNA template. Its role is to carry protein information from the DNA in a cell's nucleus to the cell's cytoplasm.	Serves as a link (or adaptor) between the mRNA molecule and the growing chain of amino acids that make up a protein.	Helps to form the structure of ribosome, binds mRNA and tRNA to ribosome and directs the translation of mRNA into proteins.



7.3. NOBEL PRIZE IN PHYSICS 2024

Why in the News?

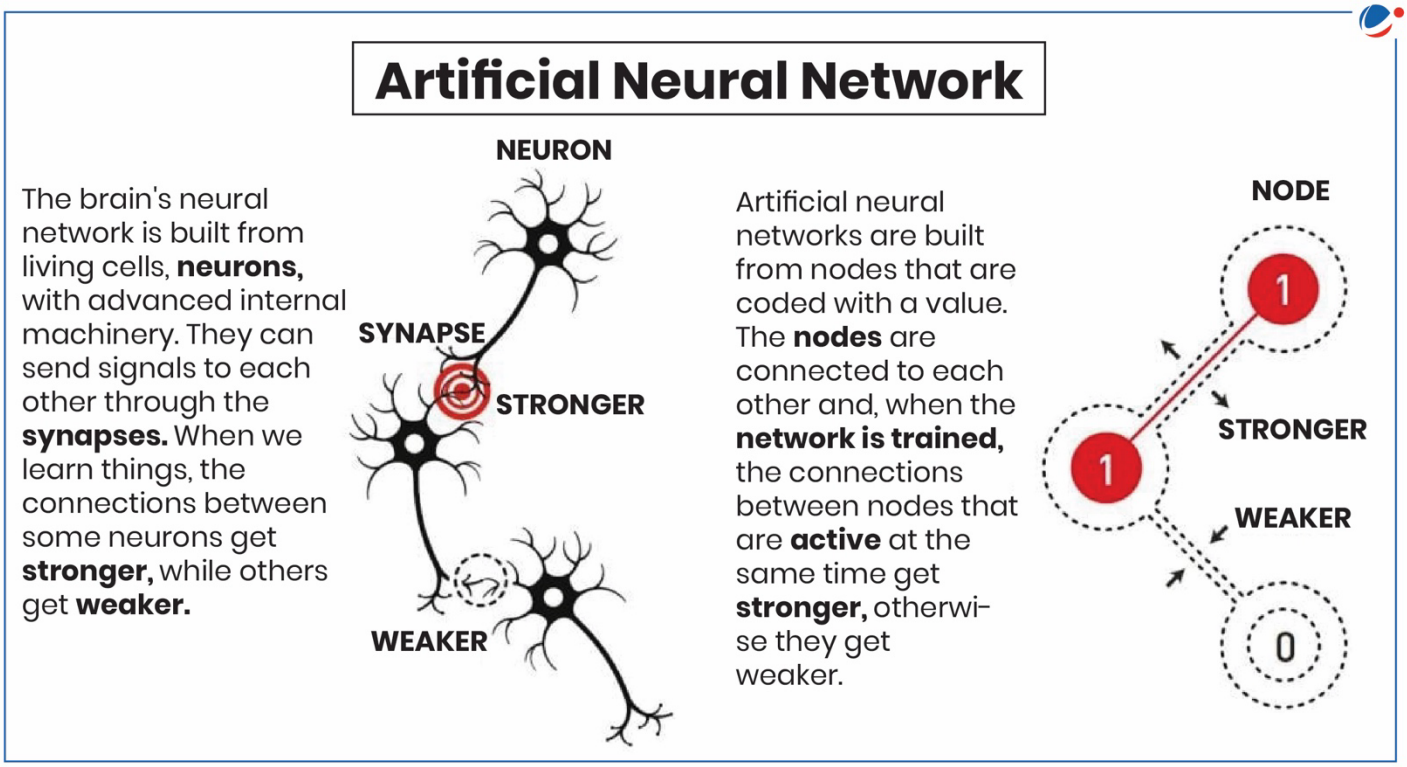
Nobel Prize in Physics 2024 has been awarded to **John J. Hopfield and Geoffrey Hinton** for foundational discoveries and inventions that **enable Machine Learning (ML) with Artificial Neural Networks (ANNs)**.

Discoveries that were awarded Nobel Prize

- **John Hopfield invented Hopfield network**, a type of **recurrent neural network** that can **store and reconstruct information**.
  - These networks work like a memory system, where they can **store patterns (like images) and retrieve them.**
  - Network relies on **Donald Hebb's hypothesis** - when neurons act together, they can **enhance network's capability** to process and store information.
  - Hopfield networks can be used for **tasks like image recognition and data reconstruction**, making them valuable for various applications in machine learning.
- **Geoffrey Hinton** invented a method (**Boltzmann machine**) that can **independently discover properties in data** and has become **important for large ANNs** now in use.
  - Boltzmann Machine is an **early example of a generative model**, which can **create new patterns or examples** based on what it has learned.
    - A trained Boltzmann machine can **recognise familiar traits in information** it has not previously seen.

Artificial Neural Networks (ANNs)

- **Definition:** ANN is a **ML program or model** that makes decisions in a **manner similar to the human brain**, by using processes that mimic the way **biological neurons work together** to identify phenomena, weigh options and arrive at conclusions.
- **Working: Human brain is the inspiration** behind neural network architecture.
  - Human brain cells, called **neurons**, form a complex, **highly interconnected network** and **send electrical signals** to each other to help humans process information.
  - Similarly, an ANN is made of **artificial neurons or nodes** that work together to solve a problem.



- **ANN Structure:** Basically, every neural network consists of layers of **artificial neurons** interconnected in three layers:

- **Input Layer:** Process the data, analyze or categorize it, and pass it on to the next layer.
- **Hidden Layer:** Analyzes output from input layer, processes it further, and passes it on to next layer.
  - ANNs can have a **large number of hidden layers** with each layer.
- **Output Layer:** It gives final result of all data processed by ANN.

- **Major types of ANN:**
  - **Deep Neural Networks:** These are neural networks with many layers, each building on the previous layer to refine and optimize the prediction or categorization.
  - **Convolutional Neural Networks (CNNs):** Used primarily in **computer vision and image classification** applications.
    - They can **detect features and patterns** within images and videos, enabling tasks such as object detection, image recognition, pattern recognition and face recognition.
  - **Recurrent Neural Networks (RNNs):** Typically used in **natural language and speech recognition** applications as they use sequential or time-series data.
    - **Use-cases** include stock market predictions, image captioning, natural language processing etc.
  - **Generative Adversarial Networks (GANs):** Used to create new data resembling the original training data.
    - These can include images appearing to be human faces—but are **generated, not taken of real people**.

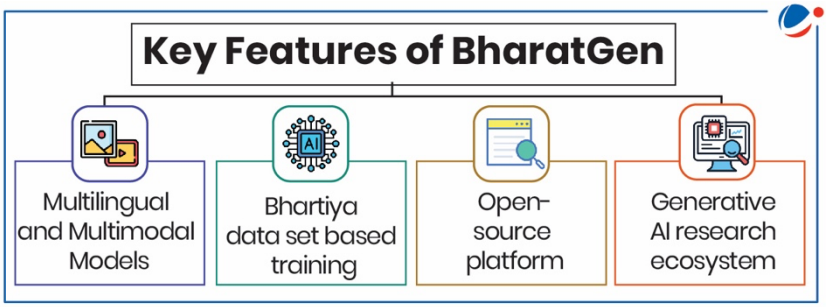
Machine Learning

- Machine Learning is a component of **AI** that focuses on using data and algorithms to **enable AI to imitate the way that humans learn**, gradually improving its accuracy.
- In machine learning, **computer learns by example**, enabling it to tackle problems that are too vague and complicated to be managed by step-by-step instructions.
  - One example is **interpreting a picture to identify the objects** in it.
- **Working:** ML works by **training algorithms on sets of data to achieve an expected outcome** such as identifying a pattern or recognizing an object.
  - **Neural Networks or Artificial Neural Networks (ANNs)** are commonly used, specific class of ML algorithms.
- **Applications of ML:**
  - **Research & Scientific Advancement:** Instrumental in discovery of higgs particle and search for exoplanets.
  - **Natural Language Processing (NLP):** Automatic Speech Recognition or speech-to-text or Generative AI.
  - **Computer Vision:** Deriving meaningful information from digital visual inputs like images, videos.
- **Challenges and ethical issues:**
  - **Explainability:** Understanding why a model does what it does is actually a very difficult question as it learns through examples instead of clear instructions.
  - **Superintelligence:** It raises questions related to accountability and responsibility. For instance, who will be held liable in case of accident of a self-driving car.
  - **Bias and Discrimination:** Machines are trained by humans, and human biases can be incorporated into algorithms, perpetuating forms of discrimination.
  - **Other:** Privacy concerns, regulation concerns, misuse etc.

7.4. BHARATGEN PROGRAMME

Why in the News?

Ministry of Science and Technology launched BharatGen, a pioneering initiative in generative Artificial Intelligence (AI).

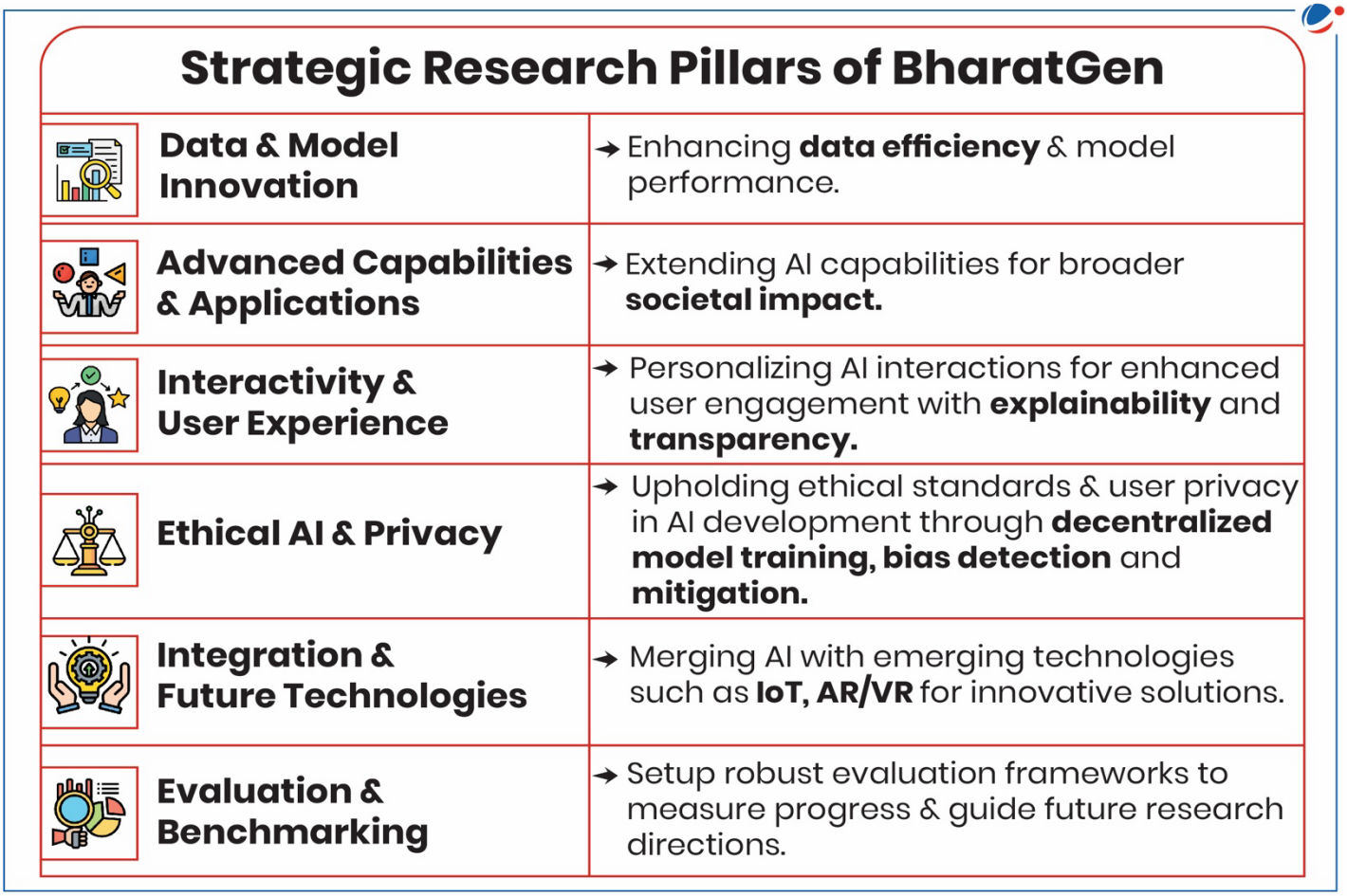


About BharatGen Programme

- **BharatGen is a** Multimodal Large Language Model (LLM) project focused on creating **Generative AI systems** that can generate **high-quality text and multimodal content (audio and imagery)** in various Indian languages.
- **Aim and Purpose**:
  - To revolutionize **public service delivery and boost citizen engagement through AI.**

- Position **India as a leader in the generative AI** space.
- Crafting a **path tailored to India's diverse linguistic, cultural, & societal fabric**.
- Pushing AI technology boundaries & ensuring **relevance to India's context & use cases**.

- **Implementing Agency: TIH Foundation for IOT and IOE** (a Section-8 company (not-for-profit) by IIT Bombay) under the **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)**.
- **Timeline:** Project is expected to be completed in **two years (July 2026)**.
- **Bharat Data Sagar:** A core part of BharatGen, it aims at establishing a vast repository of India-centric data that ensures the AI models are deeply rooted in the country's unique context.



National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS)

- **About:** A comprehensive mission approved in 2018 for a **period of five years**.
- **Aim:**
  - Complete convergence with all stakeholders- academia, industry, Government and International Organizations.
  - **Development of technology platforms** to carry out R&D, Translational Research, Product Development etc.
  - To promote **translational research in Cyber-Physical Systems (CPS)** and associated technologies
  - To set up **world-class interdisciplinary centers of excellence** in several academic institutions.
- **Implementing Agency:** Department of Science & Technology (DST).
- Under the NM-ICPS, **25 Technology Innovation Hubs (TIHs)** have been established in reputed institutes across the country with each hub being assigned a **Technology Vertical in the areas of advanced technologies** like AI, ML, robotics, cyber security etc.

About Generative AI and Large Language Models (LLMs)

- **Generative AI:** Generative AI is AI that can create original content—such as text, images, video, audio or software code—in response to a user's prompt or request.

- Generative AI tools are built on underlying AI models, such as a **Large Language Model (LLM)**, which is the foundation for text-based generative AI tools like ChatGPT.
- Generative AI **relies on deep learning models** - algorithms that simulate the learning and decision-making processes of the human brain.

- **LLMs:** LLMs are a category of foundation models (large AI models) **capable of understanding and generating natural language** and other types of content to perform a wide range of tasks.
  - LLMs work by **learning patterns from vast amounts of data** and becoming capable of recognizing and interpreting human language.
  - LLMs are typically based on a type of **neural network** called **transformer architecture** and consist of **multiple layers of neural networks and self-attention mechanisms** that enable them to learn patterns.

Comparison Between Traditional AI and Generative AI		
Features	**Traditional AI**	**Generative AI**
Key Focus	Analyzes data, performs specific tasks and automate decision making.	Creates new data (text, images, music etc.)
Learning Approach	Explicit rules and algorithms	Data-driven learning (Neural Networks)
Output	Structured outputs such as predictions, solutions or classifications	Entirely new content or creative outputs
Adaptability	Require manual intervention and reprogramming	Automatically adjust and improve its performance over time
Analogy	Master chef following a recipe	Innovative chef creating new dishes
Applications	Accuracy, Efficiency, Reasoning	Creativity, Content Generation

Significance of BharatGen Programme

- **Government Backing:** This initiative marks the **world's first government-funded Multimodal Large Language Model (LLM) project** focused on creating efficient and inclusive AI in Indian languages.
- **AI as public good:** BharatGen will deliver generative AI models and their **applications as a public good** by prioritizing India's socio-cultural and linguistic diversity.
- **Inclusive AI:** It strives to address India's broader needs such as social equity, cultural preservation, and linguistic diversity, while ensuring that generative AI reaches all segments of society.
- **Aligns with the vision of Atmanirbhar Bharat:** By creating foundational AI models, BharatGen aims to **reduce reliance on foreign technologies** and **strengthen the domestic AI ecosystem**.

Other initiatives to promote AI development in India

- **IndiaAI Mission:** A comprehensive **national-level program to democratize and catalyze the AI innovation ecosystem**.
- **National AI Portal (INDIAai):** A joint venture by MeitY, National e-Governance Division (NeGD) and NASSCOM.
- **AI Research Analytics and Knowledge Dissemination Platform (AIRAWAT):** for providing a common compute platform for AI research and knowledge assimilation.
- **Global Partnership on Artificial Intelligence (GPAI):** An international initiative to guide the responsible development and use of AI.
  - **India** is a **founding member**.
- **National AI Skilling Program:** Enhancing AI skills through customized training modules with industry leaders.

7.5. SPACE DOCKING EXPERIMENT (SPADEX)

Why in the News?

Recently, a Hyderabad-based private firm handed over two 400 kg class satellites to ISRO, which will be part of the Space Docking Experiment (SPADEX) planned at the end of 2024.

About Space Docking

- Space docking involves **precise connection of two spacecraft**, whether manned or unmanned, allowing those **to operate as a single unit for critical tasks** such as refuelling, repair, and crew exchange.
  - It enables the construction of cutting-edge facilities (like International Space Station) in orbit and advancing space exploration.
- Some spacecraft dock with the International Space Station and others berths with the station.
  - **In Docking,** the spacecraft can maneuver and attach to the station by itself.
  - **In Berthing,** an astronaut uses the station's robotic arm to capture the spacecraft. Then Mission Control takes control from the ground and directs the arm to maneuver the spacecraft to the attachment site.

About Space Docking experiment (SPADEX)

- ISRO's SPADEX is **a technology demonstration experiment** aimed at mastering autonomous docking, a critical capability that only a select few countries (the US, Russia, and China) have.
- The two satellites named '**Chaser'** and '**Target'** will be launched into slightly different orbits by a **single PSLV-class vehicle** with an aim to dock at an **altitude of about 700 km.**
  - They will align precisely at speeds of approximately **28,000 km/h** to perform a 'space handshake' docking to become a single orbiting entity.
- These satellites will perform **complex maneuvers**, including:
  - **Autonomous Rendezvous and Docking**: The spacecraft must autonomously navigate, approach, and securely dock while coordinating with each other.
  - **Formation Flying**: Demonstrating precise orbital control to maintain relative positions, a key skill for future in-space assembly and satellite servicing.
  - **Remote Operations**: The mission will experiment with controlling one spacecraft using the Attitude Control System of the other in docked configuration.
    - Additionally, it will explore the **use of robotic arm** technologies for in-space manipulation and servicing.

Significance for India

- **Space Exploration**: SPADEX focuses on **scalable and cost-effective** docking technology developed in India, essential for India's space exploration ambitions such as
  - **Gaganyaan** for human space flight,
  - **Chandrayaan-4** for lunar sample returns,
  - **Bharatiya Antariksha Station (BAS)** for permanent infrastructure in outer space, etc.
- **Private Sector Participation**: Marks a milestone in private sector participation, enabled by space sector reforms like IN-SPACe.
  - This is the first instance of complete satellite integration by a private company to be used by the ISRO.
- **Future Impact**: Enables **international collaboration** opportunities for building space infrastructure and deep space exploration along with earning crucial **foreign exchange**.
- **Other Potential Applications:** Longevity of Geostationary Satellites, future interplanetary missions (such as Mars), assembling space solar stations for generating electricity from the Sun, etc.

Challenges

- **Complex Docking Mechanism**: Satellites travelling at immense speeds (about 8-10 km per second) requires precise communication and coordination for docking.
  - Any errors in the navigation and control system can result in collision or failure to dock as seen recently in the Sunita Williams' case.
- **Automated Systems**: Autonomous complex maneuvers in real-time is technologically challenging due to various dynamic factors such as relative speeds and trajectories.
- **Sensor Reliability**: The sensors used for docking (e.g., cameras, LIDAR, and radar) can face difficulties in the harsh environment of space.
- **Other challenges**: Space debris threat, microgravity effects, data transfer and communication stability, etc. must also be considered at the planning stage.

Conclusion

The development of advanced space technologies by India represents a significant leap forward in space exploration capabilities. Such advancements reflect the nation's commitment to scientific and technological self-reliance and its aspirations to be a frontrunner in global space research and development, in line with the Atmanirbhar Bharat vision.

7.6. SPACE-BASED SURVEILLANCE

Why in the News?

Recently, **Cabinet Committee on Security (CCS) has approved the third phase of the Space-based Surveillance (SBS-3) project** for better land and maritime domain awareness for civilian and military applications.

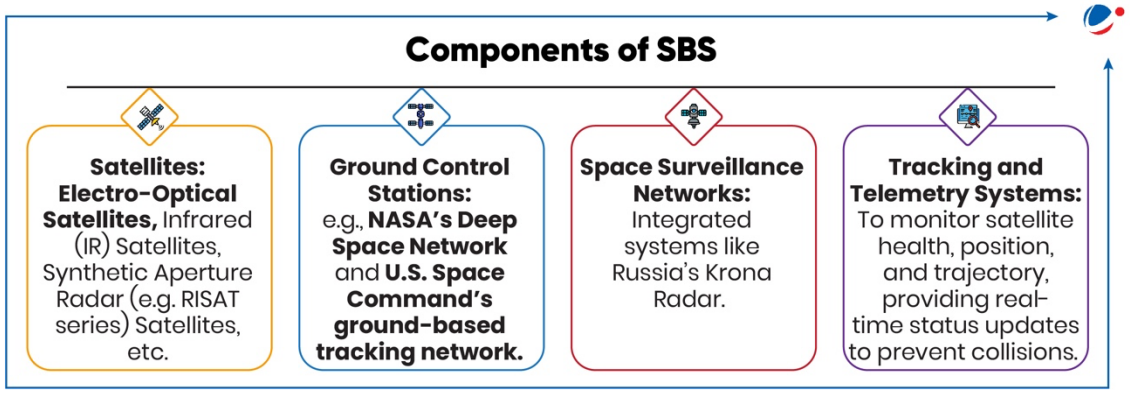
More on the News

- SBS-3 includes **52 satellites** in **Low Earth Orbit (LEO)** and **Geostationary Orbit (GEO)** for surveillance.
- The new fleet of satellites will be at different orbits **based on artificial intelligence (AI)** and will be able to **"interact with each other in space to gather geo-intelligence"** on the Earth.
    - When a satellite in GEO (36,000 km) detects something, it can request a closer look from a satellite in **LEO (400–600 km),** providing more detailed information.
- Earlier, Union Cabinet also **gave clearance to purchase 31 weaponised Predator drones** from US-based General Atomics to enhance surveillance capability of the SBS-3 mission.

India's SBS Projects		
SBS-1 (approved in 2001)	**SBS-2 (approved in 2013)**	**SBS-3**
Focused on basic surveillance capabilities.	Focused on enhanced surveillance capabilities, particularly for maritime domain awareness.	Proposes to utilize both LEO and GEO satellites for comprehensive coverage.
Involved launch of 4 surveillance satellites - Cartosat-2A, Cartosat-2B, RISAT-2, and Eros-B	Involved the launch of 6 additional surveillance satellites - Cartosat-2C, Cartosat-2D, Microsat-1, RISAT-2A etc.	Three services will have dedicated satellites for their land, sea, and air based missions.

About Space-based Surveillance (SBS)

- It involves the **use of satellites and other space assets to monitor and collect data on objects and activities in space and on Earth.**
- SBS systems are used **primarily for national security, space situational awareness, environmental monitoring**, and data gathering for scientific research.
- Major spacefaring nations, including the U.S., Russia, China, and India, are actively investing in SBS for national security.
    - The U.S. has the most extensive network, including systems like the **Space-Based Infrared System (SBIRS)** and the **upcoming Next-Generation Overhead Persistent Infrared (Next-Gen OPIR) satellites** for missile detection and surveillance.

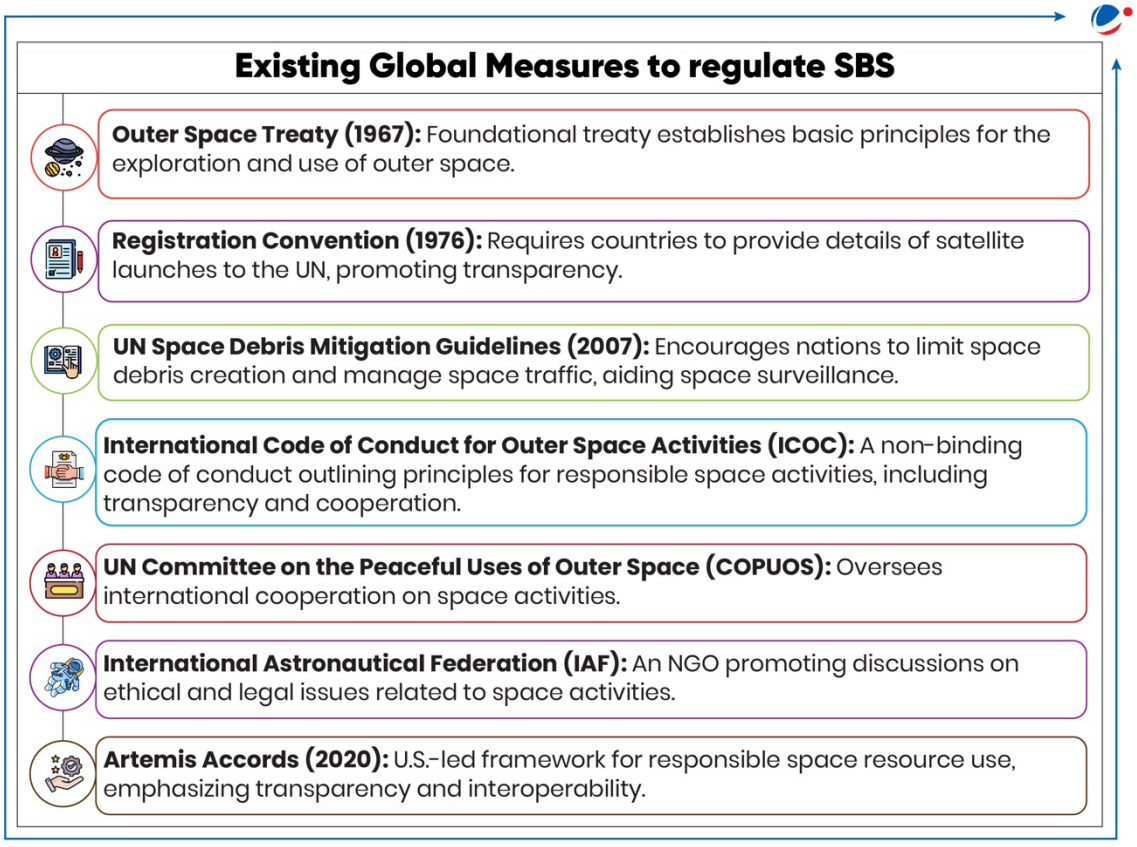


Significance of Space-based Surveillance (SBS)

- **National Security and Defence:** Detecting, tracking, and monitoring potential threats, such as missile launches, military activities, and unauthorized satellite manoeuvres.
  - **e.g.,** India's EMISAT satellite provides electronic intelligence by intercepting signals.
- **Space traffic management and collision avoidance:** ISRO'S **NETRA** (Network for Space Object Tracking and Analysis) initiative aims to track space debris and provide space situational awareness to safeguard India's space assets.
- **Protection of Space assets:** India conducted its **Mission Shakti** ASAT test in 2019, showcasing its ability to protect and defend its space assets, while also emphasizing the need for surveillance to monitor space-based threats.
- **Environmental monitoring and disaster response:** SBS is crucial for real-time monitoring of natural disasters, climate change, and environmental changes like deforestation, glacier melt, and ocean health.
  - **E.g.,** CARTOSAT satellites used by India.
- **Scientific research and data collection:** SBS allows for the collection of data on cosmic phenomena (like solar flares, asteroids, and space weather) and Earth observations.

Concerns with Space-based Surveillance (SBS)

- **Dual-use Technology**: Space surveillance technologies can be used for both peaceful and military purposes due to ambiguities in intentions, difficulties in verification of regulatory compliances, etc.
- **Potential for Militarization and arms race in Space:** Increased military interest in space raised concern of an arms race as nations compete to secure strategic advantages in space.
  - **E.g.**: The **U.S. established the Space Force in 2019**, and Russia formed the **Aerospace Forces** in 2015, both aimed at enhancing military capabilities in space.
- **Violations of privacy:** High-resolution satellites can potentially monitor ground-level activities, raising concerns about individual privacy and national security.
- **Legal and Regulatory Gaps:** Foundational treaties like **Outer space Treaty (1967)** which mandates that space should be used for peaceful purposes, **lacks specific language addressing surveillance and other modern military uses of space.**
- **International Tensions:** Unauthorized surveillance can heighten diplomatic tensions and lead to accusations of espionage.
  - **e.g.**, In 2023, a **Chinese surveillance balloon detected over U.S. territory** led to diplomatic strain, illustrating the risks of international surveillance conflicts.



- **Space Debris and Collisions:** More satellites in crowded orbits, increasing the risk of collision with space debris or other operational satellites.

Conclusion

Space-based surveillance stands as a powerful tool with the potential to transform our understanding of the planet, enhance disaster response, and foster scientific collaboration. As we advance into an era of increasing reliance on satellite technology, it is crucial for the global community to create transparent and fair frameworks that prevent misuse, encourage responsible innovation, and ensure that space remains a domain for shared progress and stability.

7.7. UNIFIED GENOMIC CHIP

Why in the News?

Prime Minister launched **Unified Genomic Chip** and **indigenous sex-sorted semen technology for the benefit of livestock in India**.

Know the term

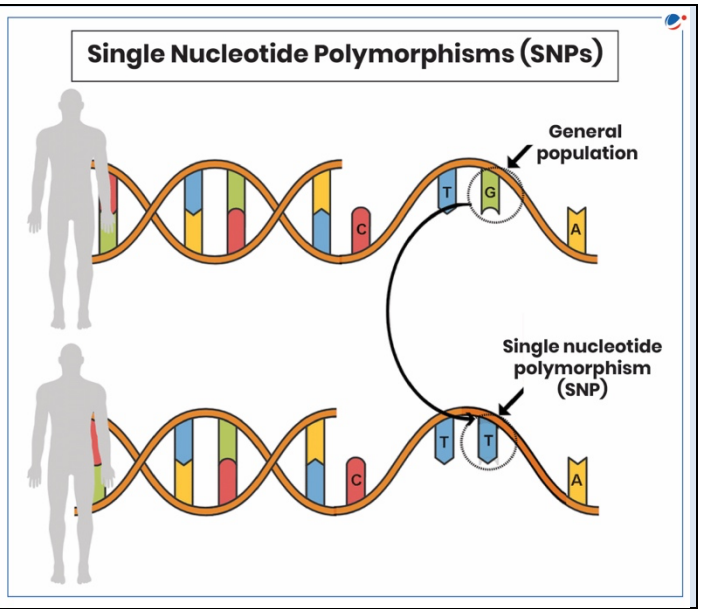
- **Genomics:** It is the study of all of an organism's genes (the genome), including interactions of those genes with each other and with the environment.

About Unified Genomic Chip

- It is a **Single Nucleotide Polymorphism (SNP)** chip.
- **Objective**: Designed for **genomic profiling** and **evaluation** of **Indian cattle breeds.**
  - It has enabled the direct application of **DNA technologies** to enhance the **genetic potential** (genetic improvement) of diverse dairy animal populations in the country.
  - These chips will **help farmers to identify high-quality cattle early** and enhance dairy farming efficiency.
- **Variants of the chip**:
  - **Gau** chip for cattle
  - **Mahish** chip for buffaloes
- **Developed by**: Consortium led by the **Department of Animal Husbandry and Dairying (DAHD),** Ministry of Animal Husbandry, Dairying and Fisheries.
  - It comprises of National Dairy Development Board (NDDB), National Institute of Animal Biotechnology (NAIB), etc.

About Single Nucleotide Polymorphisms (SNPs)

- It refers to a variation in a DNA sequence where a single nucleotide is different from the reference sequence.
  - DNA sequences are formed from a chain of four nucleotide bases: **Adenine** (A), **Cytosine** (C), **Guanine** (G), and **Thymine** (T).
  - An SNP may replace the nucleotide **Guanine** (G) with the nucleotide thymine (T) in a certain stretch of DNA.
- These are the most common type of **genetic variation among people**.
- They are **commonly used in research studies and by genetic testing companies.**



About Sex-sorted Semen Technology

- Sex Sorted Semen is the **'gender selected' semen used in Artificial Insemination (AI)** for cattle and buffaloes.
- It ensures the birth of only female calves with more than 90% accuracy whereas conventional semen produces equal proportion of male and female (50:50) calves.

- Under the 'Make in India' and 'Atmanirbhar Bharat' initiative, the NDDB has developed the indigenous technology of sex sorted semen.
    - Till now it was manufactured by multinational companies.

About Genetic/Breed Improvement

- It involves selecting animals with **superior traits**, producing frozen semen, and disseminating it in the respective breeding tracts, in order **to increase productivity of dairy animals.**
    - It also **promotes conservation of indigenous breeds.**
- It involves different techniques such as **Artificial Insemination**, **In-Vitro Fertilization (IVF)**, **Embryo transfer technology (ETT)**, etc.
- **Need for Genetic/Breed Improvement:**
    - Building a **disease free closed herd**
    - Developing **climate-tolerant** and **disease-resistant** breeds.
    - Contributes to the overall **genetic pool** of the breed, ensuring long-term sustainability.
    - **Empowering farmers** and building resilient livelihoods
    - Reducing **dependence over exotic species** and cross breeds

Other Initiatives Taken by India for Genetic/Breed Improvement

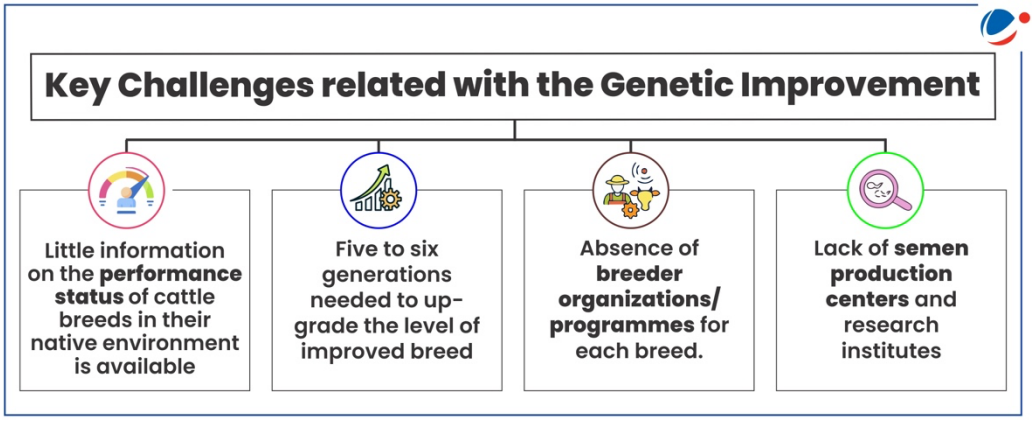
- **Rashtriya Gokul Mission (2014)**: Launched with the aim of development and conservation of indigenous bovine breeds and **genetic upgradation** of bovine population. Under it, following initiatives have been taken
    - Implementation of **Nationwide Artificial Insemination Programme**
    - Accelerated breed improvement programme using bovine **In-Vitro Fertilization technology (IVF)**
    - **Progeny Testing** and Pedigree Selection Programme to produce high genetic merit bulls.
    - Delivery of quality artificial insemination services at farmers doorstep through **Multi Purpose Artificial Insemination Technicians in Rural India (MAITRIs).**
    - Establishment of **breed multiplication farm**.
- **IndiGau**: India's **first Cattle Genomic Chip** for the conservation of pure varieties of indigenous cattle breeds like, Gir, Kankrej, Sahiwal, Ongole etc.
    - Launched by NAIB (under the aegis of the Department of Biotechnology).
- **Other initiatives**:
    - Breed improvement under **National Livestock Mission (NLM), 2014**.
    - **e-pashuhaat Portal** for connecting breeders and farmers regarding availability of bovine **germplasm**.
    - **Information Network for Animal Productivity and Health (INAPH)**: Developed by NDDB, facilitates capturing of real time reliable data on Breeding, Nutrition and Health Services.

Know the term

Germplasm: Genetic material of an individual that may be transmitted from one generation to another.

Conclusion

Launch of Unified Genomic Chip for cattle and indigenous sex-sorted semen technology will help in improving the genetic potential and productivity of the cattle and increase in farmers' income. Also, it will support food security of the country.



Important Indigenous Cattle/Buffaloes Breeds	
Cattle	
Breed	**Breeding Tract**
Gir and Kankrej	Gujarat
Tharparkar and Sahiwal	Punjab and Rajasthan
Badri	Uttarakhand
Deoni, Dangi and Khillari	Maharashtra
Ongole	Andhra Pradesh
Buffalo	
Breed	**Breeding Tract**
Banni and Jaffarabadi	Gujarat
Bhadawari	Uttar Pradesh and Madhya Pradesh
Murrah	Haryana and Delhi
Mehsana	Gujarat and Maharashtra

7.8. DRUG QUALITY IN INDIA

Why in the news?

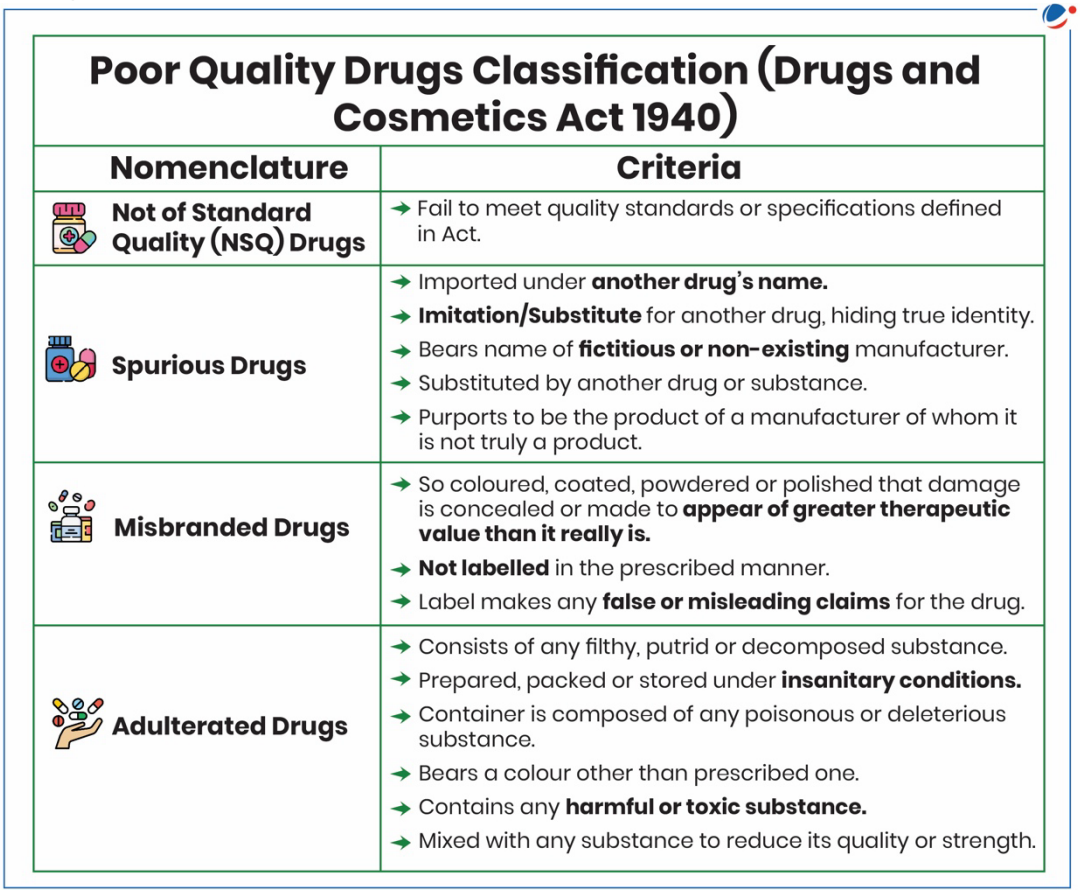
Central Drugs Standard Control Organisation (CDSCO) directed manufacturers of 49 medicines to recall their products after samples were found to be "not of standard quality".

More on the News

- Drug samples that failed quality tests included **Metronidazole tablets** (for treating infections); **Oxytocin** injection; **Metformin hydrochloride** (helps control amount of blood glucose; **Diclofenac sodium** tablets (painkiller) etc.
- Every month, drugs samples are picked from sales/distribution point, analyzed and **list of Spurious Drugs and Not of Standard Quality (NSQ) Drugs** are displayed on CDSCO portal.

Regulation of drugs in India

- **CDSCO:** Central Drugs Standard Control Organisation (CDSCO), under Ministry of Health and Family Welfare, is **primary regulatory body for pharmaceutical sector**.
    - It regulates **quality, safety and efficacy of Drugs, Medical Device and Cosmetics** in the country under the provisions of **Drugs & Cosmetics Act, 1940** and Drugs and Cosmetics Rules, 1945.



- **Drugs and Cosmetics Act (DCA), 1940:** It along with Drugs and Cosmetics Rules, 1945, regulates import, manufacturing, sale and distribution of drugs in India.
  - Regulatory control is exercised through a **system of licensing and inspection by the State Licensing Authorities**.
- **State Drug Regulatory Authorities (SDRAs):** Responsible for licensing of manufacturing establishments, surveillance over sale of spurious drugs, instituting legal prosecution and monitoring of objectionable advertisements.
- **Statutory Bodies:** DCA 1940 provides for establishment of:
  - **Drugs Technical Advisory Board (DTAB):** Guides and advises central government on technical issues arising out of implementation of regulation.
  - **Drugs Consultative Committee (DCC):** An advisory committee to advise central government, state governments and DTAB on any matter tending to secure uniformity in administration of DCA.
  - **Central Drugs Laboratory (CDL):** National statutory laboratory for quality control of Drug and Cosmetics.

Issues with drug quality in India

- **Weak Enforcement:** Division of regulatory responsibilities between the centre and states, without any single agency has led to **fragmentation and undermined effectiveness**.
- **Challenges to State-Level Authorities (SLAs):** SLAs face challenges like ill-equipped testing labs, paucity of drug inspectors, poor understanding of rules, patchy surveillance and lack of legal expertise to take action against violators.
- **Non-Compliance with Standards:** In 2023, just about 2,000 out of 10,500 manufacturing units were found to be compliant with WHO- **Good Manufacturing Practices (**GMP) standards.
  - Bulk of API is imported from China, Taiwan, among other countries, which requires effective quality monitoring.
- **Financial Disbursement:** SDRAs and CDSCO are financially reliant on government funding and have to go through a complicated system of approvals for financial disbursement.
- **Information Asymmetry:** This is due to non-mention of time frame for completion of regulation stages, no centralised record keeping, absence of national database of manufacturers and non-uniformity in implementation of law.
- **Limited reach of Pharmacovigilance:** Limited outreach of Pharmacovigilance Programme of India among patients as well as healthcare professionals, with little or no information about measures taken after adverse drug reports.
- **Data Integrity:** There are data integrity problems found in Indian manufacturers of bioavailability (to establish the in vivo performance of a new drug product) and bioequivalence (to compare the performance of the original formulation to a to-be marketed drug product) studies.

Measures taken to ensure quality of Drugs

- **'Strengthening of States' Drug Regulatory System (SSDRS):** It is a Centrally Sponsored Scheme which envisages to strengthen the laboratory infrastructure and up-gradation of existing State Drug Controller offices in States.
- **Amendment to DCA 1940:** Drugs & Cosmetics (Amendment) Act 2008 provides stringent penalties for manufacture of spurious and adulterated drugs and made certain offences cognizable and non-bailable.
- **Amendments to Drugs and Cosmetics Rules, 1945:** Making inspection of manufacturing establishment mandatory by Central and State Drug Inspectors before the grant of manufacturing license.
  - Revised the schedule M to the rules to integrate **WHO- GMP** standards.
- **Revamping Pharmaceuticals Technology Upgradation Assistance Scheme (PTUAS):** Government has expanded the eligibility beyond MSMEs to include any pharmaceutical manufacturing unit with a turnover of below Rs 500 crore that requires technology and quality upgradation.
- **Special Courts:** States/UTs have set up special Courts for trial of offences under DCA for speedy disposal.

Way Forward

- **Uniformity:** Ensure uniform drug regulatory standards nationwide by greater centralisation of powers in CDSCO and empowering SDRAs to partner effectively with CDSCO through an expanded role of DCC.
- **Strengthen Regulation:** Need to **priorities and invest in regulatory resources** on aspects such as granting manufacturing licenses, inspections, sampling and testing (overall drug quality).

- **Financing: Financial autonomy in revenue generation and disbursement** for efficient functioning of drug regulatory authorities will address delays arising from complicated and lengthy approval systems for financial disbursement.
- **Leveraging digital technologies** to significantly enhance patient safety monitoring and pharmacovigilance.

Scan the QR Code to know more about **Pharma Industry in India**

Weekly Focus #107 India: Pharmacy of the World

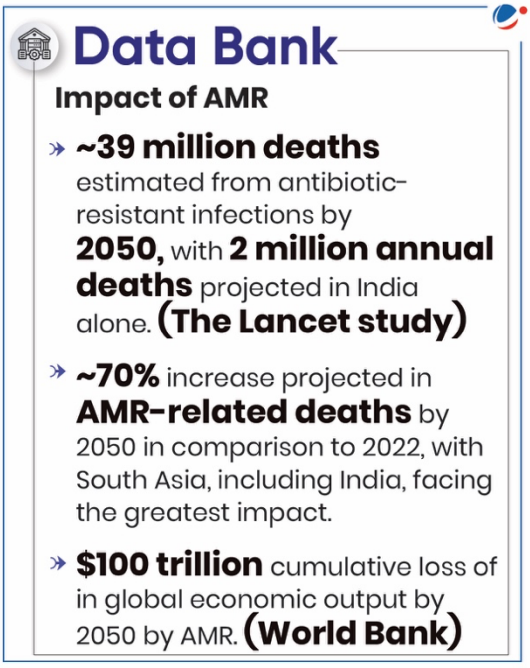
7.9. ANTI-MICROBIAL RESISTANCE (AMR)

Why in the News?

In the 79th United Nations General Assembly **(UNGA) High-Level Meeting on Antimicrobial Resistance (AMR),** Global leaders have approved a **political declaration on antimicrobial resistance (AMR).**

More on the News

- The declaration establishes clear actions and targets aimed at reducing the estimated **4.95 million annual human deaths** linked to bacterial **AMR by 10% by 2030**.
  - Declaration also calls for sustainable national funding and an **additional US$100 million in catalytic** funding to combat AMR.
- **Declaration called for following**:
  - **Global multisectoral action** that needed to reach targets by 2030.
  - **On human health**: at least 70% of antibiotics used for human health globally should belong to the WHO Access group antibiotics.
  - **On agriculture and animal health**: meaningfully reduce the quantity of antimicrobials used globally in the agri-food systems by 2030.
  - **On the environment:** declaration underscores the need to prevent and address the discharge of antimicrobials into the environment.



What is Anti-Microbial Resistance (AMR)?

- AMR is a **condition when microorganisms** such as bacteria, viruses, fungi, and parasites change in ways that render the **medications used to cure the infections they cause ineffective.**
- Major **factors contributing to AMR**:
  - **Pharmaceutical Manufacturing**: Industrial waste from production of Active Pharmaceutical Ingredients (APIs) for antibiotics.
  - **Agriculture**: Overuse of antibiotics for growth in sectors like livestock, aquaculture, etc.
  - **Healthcare Facilities**: Improper management of unused medications, patient excretion, and disposal of expired drugs.
  - **Waste Management**: Landfill leachate, untreated wastewater, and sewage effluents.

Why AMR is a Global Health threat?

- **Economic cost**: The **World Bank** estimates that AMR could result in **US$ 1 trillion additional healthcare costs by 2050.**
  - Drug-resistant infections also **impact the health of animals and plants**, reduce productivity in farms, and threaten food security.

- **Gains of modern medicine at risk**: It makes infections harder to treat and makes other medical procedures and treatments – such as **surgery, caesarean sections and cancer chemotherapy** – much riskier.
- **Widespread environmental contamination:** Improper disposal of antibiotics leads to environmental contamination, creating reservoirs for resistance genes.
- Impact on Vulnerable Populations: Individuals with weakened immune systems, the elderly, and children are particularly vulnerable to AMR-related infections.
- **Limited R&D for alternatives**: There is an inadequate research and development pipeline for alternative treatments in the face of rising levels of resistance.

Way Forward

- **Implementing WHO Guidance on Wastewater and Solid Waste Management for Antibiotic Manufacturing**: It sets targets for liquid effluent, solid waste and Zero Liquid Discharge (ZLD) from pharmaceutical manufacturing. It also makes following recommendations such as–
  - Use **established tools like hazard analysis etc.**, along with internal audits and public communication.
  - **Conduct external audit and certification** to ensure robust implementation of risk management plans and to verify performance against targets.

Initiatives taken to address AMR

Global

	Global Action Plan on Antimicrobial Resistance (GAP): A comprehensive plan developed by the World Health Organization (WHO) to address AMR.
	Global Antimicrobial Resistance Surveillance System (GLASS) by WHO: To track AMR patterns globally, promoting standardized data collection to guide effective action.
	One Health Global Leaders Group on Antimicrobial Resistance – Tripartite collaboration of WHO, FAO and World Organisation for Animal Health (OIE).
	ReAct - Action on AntibioticResistance: Independent Network supported by WHO

India

	National Program on AMR containment: Launched during 12th FYP in 2012-17 to carry out surveillance of antimicrobial usage in healthcare settings.
	National Action Plan on AMR (NAP –AMR),2017: Focuses on One Health approach.
	National AMR surveillance network of state medical college labs (NARS-Net): To generate quality data on AMR for priority bacterial pathogens of public health importance.
	Red Line campaign: To combat the irrational use of antibiotics.
	Ban on inappropriate fixed dose combinations (FDCs).
	Operation AMRITH (AMR Intervention for Total Health) by Kerala: To detect the over-the-counter sales of antibiotics without prescriptions.

- **One Health Approach**: Recognize the interconnectedness of human, animal, and environmental health and address AMR in a holistic manner.
- **Strengthening Regulations**: Environment (Protection) Amendment Rules, 2019, which impose stringent limits on residues of 121 antibiotics in treated effluents from drug production units, should be effectively implemented.
- **Agriculture Operations**: Sustainable farming practices such as organic farming can be promoted to limit the use of antibiotics in livestock and aquaculture.
- **Promoting Responsible Use**: Healthcare facilities should implement antibiotic stewardship programs for responsible antibiotic use.

Related News

Antibiotics in the definition of New Drugs

- **Drugs Technical Advisory Board (DTAB)** has recommended the inclusion of all antibiotics in the definition of new drugs in the **New Drugs and Clinical Trial (NDCT) Rules, 2019.**
  - DTAB is the **highest statutory decision-making body on technical matters** related to drugs in the country under the **Central Drugs Standard Control Organization (CDSCO).**
- **Under Rule 122 E of the Drug and Cosmetic Rules, 1945**, a new drug is defined as one that has not yet been used in the country.
  - Additionally, it has **not been recognized as safe and effective** by the licensing authority for the proposed claims.
- DTAB recommendations were made **to curb AMR caused by the misuse of antibiotics**.

7.10. NEWS IN SHORTS

7.10.1. 'ATOMS4FOOD'

Bhabha Atomic Research Centre (BARC) Participated in International Atomic Energy Agency (IAEA) Scientific Forum 'Atoms4Food'.

About 'Atoms4Food'

- **Genesis:** Jointly launched by **IAEA and FAO** at the **2023 World Food Forum in Rome (Italy).**
- **Purpose:**
  - To provide countries with tailored solutions by **harnessing the advantages of nuclear techniques along with other advanced technologies** to enhance agricultural and livestock productivity, reduce food losses, etc.
  - To help countries **boost food security and to tackle growing hunger.**
    - > **Nearly 600 million** people are projected to be **chronically undernourished by 2030 (FAO).**
    - > **By 2050 the world's population** will have **increased by one-third,** mostly in developing countries (UN).

Nuclear Technologies for agriculture

- **Irradiation technique:** Extends shelf life of foods by **reducing or eliminating microorganisms and insects.**
- **Fallout radionuclide (FRN) technique**: Analyzes soil radionuclide concentrations **to measure erosion patterns.**
- **Cosmic-ray neutron sensor (CRNS) technology:** Measures soil moisture over large areas by detecting cosmic ray neutrons reflected from soil.
- **Radioimmunoassay (RIA) technology:** Detects hormone levels in animals enabling **precise timing for artificial insemination.**
- **Sterile insect technique (SIT):** Controls pests by r**eleasing sterilized insects to mate with wild** populations.
- **Other technologies**: **Nitrogen-15** to measure nitrogen fixation in roots; **isotropic tracing techniques** for crop nutrition and water management; etc.

7.10.2. MACE OBSERVATORY INAUGURATED

Department of Atomic Energy (DAE) inaugurated the **Major Atmospheric Cherenkov Experiment (MACE) Observatory at Hanle, Ladakh.**

The inaugural of MACE Observatory was a part of the **Platinum Jubilee** year celebrations of the DAE.

- DAE was set up under the direct charge of the Prime Minister through **executive order in 1954** in accordance with **Atomic Energy Act, 1948.**
- DAE leads Research and development for the peaceful uses of atomic energy.

About MACE Observatory

- It is largest imaging **Cherenkov telescope in Asia** and **2nd largest in the world.**
  - **Cherenkov Telescope Array (CTA),** consisting two arrays located at Spain and Chile, respectively, will be the **largest Cherenkov telescope** in the world. It is currently under construction.
- It is located at an altitude of ~4,300 m, the highest of its kind in the world.
- **Objective:** Observe **high-energy gamma rays** to understand the most energetic phenomena in the universe (such as supernovae, black holes, and gamma-ray bursts).
- It is named after scientist **Pavel Alekseyevich Cherenkov,** who discovered that charged particles glow when they pass through a non-conducting medium under certain conditions (referred as **Cherenkov radiation**).
- Indigenously built by **Bhabha Atomic Research Centre (BARC)** with support from **Electronics Corporation of India (ECIL)** and other partners.
- It will also complement global observatories such as **High Energy Stereoscopic System (HESS)**, etc.

What are Gamma Rays?

- Gamma rays have the **smallest wavelengths a**nd the most energy of any wave in the electromagnetic spectrum.
- **Sources:**
  - **In the universe,** such as neutron stars and pulsars, supernova explosions, and regions around black holes.
  - **On Earth**, generated by nuclear explosions, lightning, and the activity of radioactive decay.

Why Hanle in ladakh is chosen for observatory?

- **Hanle Valley** of Changthang (4250m above msl), the site is a dry, cold desert with sparse human population.
- **Cloudless skies** and **low atmospheric water vapour** make it one of the best sites in the world for optical, infrared, sub-millimetre, and millimetre wavelengths.
- In 2022, the Hanle Dark Sky Reserve (HDSR) was notified for astro-tourism.

7.10.3. EUROPA CLIPPER

NASA's Europa Clipper embarked on long voyage to Jupiter to investigate its **moon Europa**.

About Europa Clipper

- **Objective:** Determine whether Europa has conditions that could support life.
  - Evidence suggests presence of **enormous, salty ocean** with more water than Earth beneath Europa's ice.
- It is the **largest spacecraft NASA** has ever **developed for a planetary mission**.
- It is also the first NASA mission **dedicated to studying an ocean world beyond Earth**.
- It will begin **orbiting Jupiter in 2030** and conduct **flybys of Europa from 2031**.
- Its **instruments** include ice-penetrating radar, cameras and a thermal instrument to look for any recent eruptions of water.

7.10.4. LUPEX MISSION

National Space Panel Clears India's 5th Lunar Mission **'Lunar Polar Exploration Mission (LUPEX)'.**

- LUPEX will be a **precursor to the country's lunar sample return mission** and for sending **the first Indian to the moon by 2040.**

About LUPEX Mission

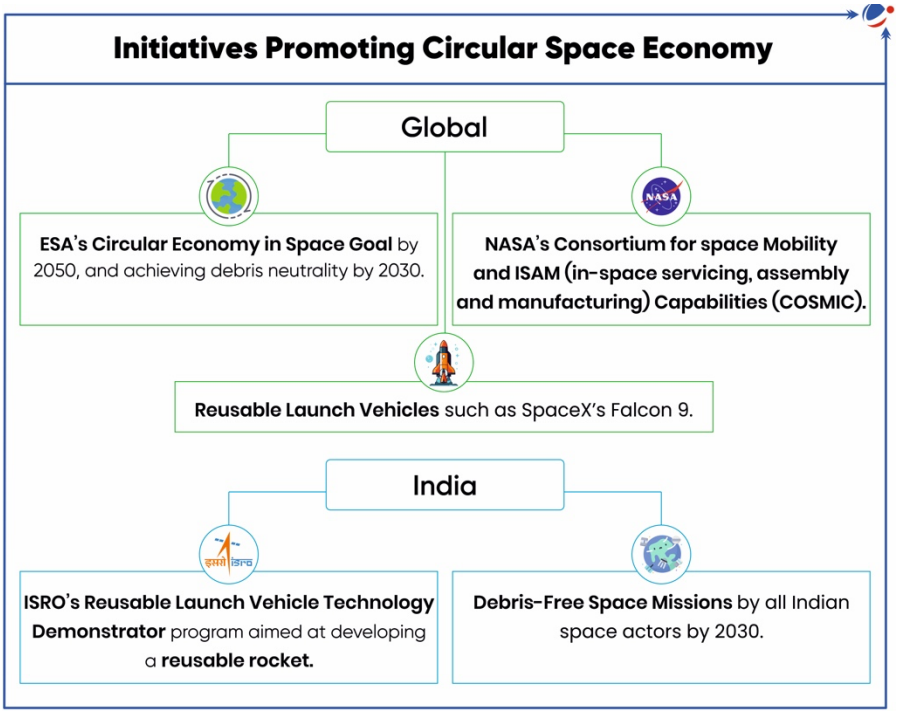
- **Purpose:** It will **investigate the quantity and quality of water on the Moon** and is envisaged to **explore the dark side of the moon.**
  - Dark side of the moon refers to the **'Far side' of the moon as it is never visible from the Earth** due to the **'Tidal Locking'** of the Moon with the Earth.
- **International collaboration project: ISRO** is in charge of the lunar **rover** and Japan's **JAXA** is responsible for the **lander.**
  - **Observation instruments from NASA and the ESA** will also be mounted on the rover.
- **Landing Location:** Landing point will be the **south pole of the moon** as this area is believed to **have a high-water potential.**

- However, landing on the south pole is challenging as there are **very few flat, easy landing sites with good illumination and communication conditions.**
  - The successful landing of the Vikram Lander, onboard **Chandrayaan 3, made India the first country to land on its south-pole** and the **4th country** to land on the Moon (after US, Russia and China).

7.10.5. RISE MISSION

RISE (Remove Debris In-Orbit Servicing) is **first in-orbit servicing mission of European Space Agency** which is a significant step towards **refuelling, refurbishment, and assembling in orbit** - all essential elements for creating a **circular economy in space**.

- It will be **launched in 2028** and will have the ability to **dock and control orbit of geostationary satellites**.
- RISE will rise up to the **so-called geostationary graveyard**, about 100 km higher, where satellites are 'parked' after they have reached the end of their mission.



Circular Space Economy

- **Circular space economy** draws inspiration from the broader concept of a circular economy, which aims to minimize waste and maximize resource efficiency.
- **Key aspects of circular space economy** include **satellite refurbishment & repair, space debris removal, resource utilization** (materials extracted from asteroids or the Moon), etc.

Significance of Space Circular Economy

- **Reduced Space debris** helps to **mitigate the risk of collisions** and further debris generation.
- **Resource Conservation** due to reusing and recycling materials in space.
- **Cost Reduction** by extending lifespan of satellites.
- **Faster development times** by assembling and manufacturing space systems directly in orbit.

Challenges to Space Circular Economy

- **Technological limitations:** Developing necessary technologies for in-orbit servicing, recycling, and asteroid mining.
- **Funding:** Developing specialized equipment, conducting R&D etc. require significant investment.
- **Regulatory Challenges:** Establishing global standards & regulations for space sustainability.

7.10.6. MOONLIGHT PROGRAMME

Recently, **European Space Agency** has launched the Moonlight Lunar Communications and Navigation Services (LCNS) programme.

About Moonlight Programme

- **Objective:** To provide services for >400 moon missions planned by space agencies and private companies over the next two decades.
- It will be a **constellation of five lunar satellites** (satellites that orbit the moon).
- **Benefits**: Enable precise, autonomous landings and surface mobility, **facilitate high-speed communication and data transfer** between Earth and Moon, **offer coverage at the Moon's South Pole,** etc.
- **Initial services are expected to begin by the end of 2028**, and the system is to be fully operational by 2030.

7.10.7. NEUTRINO FOG

Recently, the **LUX-ZEPLIN (LZ)** (USA) **dark-matter detector** failed to identify any definite particle behind the dark matter due to presence of 'Neutrino Fog'.

- Other **similar experiments** in the past such as, **PandaX-4T** (China) and **XENONnT (Italy)**, have also failed to detect the 'unknown particles' behind the dark matter.
  - **Dark matter is the invisible stuff making up most of the mass in the universe**, responsible for giving the cosmos its current looks.
- The LZ detector is located 1.5 km below the earth's surface at the Sanford Underground Research Facility in South Dakota, USA.

About Neutrino fog

- Neutrino fog refers to the **background noise** (interference) created by the vast number of neutrinos produced in the universe, particularly from cosmic sources like the Sun, supernovae, and other astrophysical phenomena.
  - These neutrinos **interact very weakly with matter**, making them difficult to detect, but they are everywhere, permeating the universe.
- As a result, **distinguishing between the signals from potential dark matter** and those from neutrino interactions becomes a critical task.

7.10.8. CHARON

Scientists have detected carbon dioxide and hydrogen peroxide on **Charon (Pluto's moon) using NASA's James Webb Telescope.**

Significance of Findings:

- Understanding the origin of **Charon and other moons of Plato.**
- Could help in understanding origins **and evolution of icy bodies** in the outer Solar System.

About Charon

- It is **largest among five moons of Plato.**
- It is so big that Pluto and Charon **orbit each other like a double planet.**
- Pluto is a **dwarf planet** located in a distant region of our solar system beyond **Neptune known as the Kuiper Belt.**

7.10.9. SKY SHIELD

Switzerland joins **European Sky Shield Initiative (ESSI)**

About ESSI

- **Genesis:** Founded in 2022 after Russia invaded Ukraine
- It is a German led **European Iron Dome-style defence system.**
- **Aim:** Bolstering Europe's defence against air strikes as it will strengthen NATO's integrated air and missile defence.
- **Members:** 21 member states, including the UK
- At the heart of this initiative is the **Arrow 3**, an **Israeli-American missile** defence system that can intercept long-range ballistic missiles.

7.10.10. GLOBAL STRATEGIC PREPAREDNESS, READINESS AND RESPONSE PLAN (SPRP)

World Health Organization (WHO) **launched SPRP.**

About SPRP

- **Aim:** To tackle **dengue and other Aedes-borne arboviruses** (Zika and chikungunya) by fostering a **global coordinated response.**
- **Tenure:** Over **one year** until September 2025.
- **5 key components:**
  - Emergency coordination

- Collaborative surveillance
- Community protection
- Safe and scalable care
- Access to countermeasures

- **Aligns with other Global initiatives:** SPRP is aligned with the **Global Vector Control Response 2017–2030 and Global Arbovirus Initiative.**

7.10.11. REVAMPED PHARMACEUTICAL TECHNOLOGY UPGRADATION ASSISTANCE SCHEME (RPTUAS)

Department of Pharmaceuticals (DoP) modified **Revamped Pharmaceutical Technology Upgradation Assistance Scheme** (RPTUAS).

- It has increased incentive for **pharmaceutical companies to Rs 2 crore** (from Rs 1 crore).
- **Added "production equipment,"** a new category to the list of eligible expenses for subsidy calculation.

About RPTUAS

- **Objective:** To support the pharmaceutical industry's **upgradation to Revised Schedule-M & WHO's** good manufacturing practices standards.
- **Introduced more flexible financing options**, emphasizing subsidies on a reimbursement basis.

7.10.12. INTERNATIONAL MEDICAL DEVICE REGULATORS FORUM

Recently, **Central Drugs Standard Control Organization** under Union Ministry of Health & Family Welfare has become an **affiliate member of the International Medical Device Regulators Forum (IMDRF).**

About IMDRF

- Established in **2011**, it is a collaborative group of **global medical device regulators** dedicated to accelerating the **harmonization and convergence of international medical device regulations.**
- **Members** include national regulatory authorities from different countries and the **World Health Organization (WHO).**

7.10.13. INDIA ELIMINATES TRACHOMA AS A PUBLIC HEALTH PROBLEM: WHO

India is the **third country in the South-East Asia Region** after Nepal and Myanmar that eliminated this Neglected Tropical Diseases (NTD).

- Previously WHO declared India free from two other NTDs (**Guinea Worm disease (2000) and Yaws (2016)).**

About Trachoma

- It is **eye infecting disease** caused by infection with bacterium **Chlamydia trachomatis.**
  - It is contagious (spreading through contact with **eyes, nose etc.**) disease and If left untreated can cause **irreversible blindness**.
- **Status in India:** In 1971, blindness due to Trachoma was **5%** and now it has come down to less than **1%.**
- **Interventions for Trachoma:** National Programme for Control of Blindness & Visual Impairment (NPCBVI), Adoption of WHO SAFE strategy etc.

7.10.14. ANRF LAUNCHES PMECRG AND MAHA-EV INITIATIVE

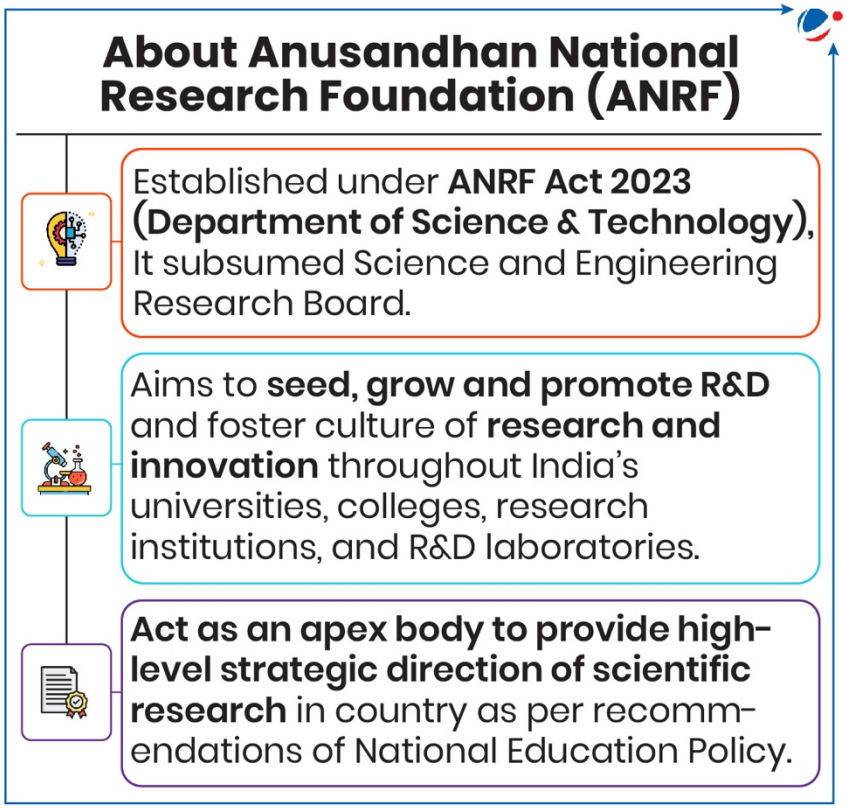
These are first two initiatives of ANRF (Anusandhan National Research Foundation), which plays a transformative role in **bridging the gap between academic research and industrial application.**

About Prime Minister Early Career Research Grant (PMECRG)

- It aims to **position India as a leader in science and technology** by providing a flexible budget to facilitate ease of research and invest in early career researchers.
- **Significance**: **Foster high quality innovative research;** Enable researchers to **expand knowledge boundaries** and drive technological progress.

About Mission for Advancement in High-Impact Areas -Electric Vehicle (MAHA-EV)

- It focuses on **development of key EV technologies to reduce dependency on imports** and promote domestic innovation. It is aligned with government's Atmanirbhar Bharat (self-reliant India) vision.
- Concentrating on **three critical technology verticals** i.e. Tropical EV Batteries and Battery Cells, Power Electronics, Machines, and Drives and EV Charging Infrastructure, mission will **enhance domestic capabilities in design and development of essential EV components**.
- **Significance**:
  - **Position India as a hub for EV component development**, driving global competitiveness and innovation.
  - By accelerating the shift towards electric mobility, it will **contribute to a greener and sustainable future**.



7.10.15. UNION CABINET APPROVES NATIONAL CENTRE OF EXCELLENCE (NCOE) FOR AVGC-XR

Formation of NCoE for **Animation, Visual Effects, Gaming, Comics, and Extended Reality (AVGC-XR)** follows the 2022-23 budget announcements, which proposed the creation of an AVGC task force.

- It will boost the **creative economy in India.**

Features of NCoE

- It will be set up as a **Section 8 Company under the Companies Act, 2013.**
- Provisionally named the **Indian Institute for Immersive Creators (IIIC).**
- It will function as an **incubation center for nurturing startups** in the AVGC-XR field.

Benefits

- **Exponential growth potential**: e.g. animation industry in India has a growth rate of 25% and has an estimated value of ₹46 billion (2023) (as per FICCI-EY Report 2023).
- **Playground of various immersive technologies**. e.g. Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR) and 3D modeling.
- **Creation of indigenous intellectual property (IP):** for both domestic consumption and global outreach and nurturing of the future of **India's digital creative economy.**
- **Employment Opportunities:** It is expected to generate 5,00,000 jobs with an integrated focus on education, skilling industry, development, innovation.
- **Enhance India's soft power globally** and attract foreign investment.

About Creative Economy

- It is an evolving concept based on **creative assets potentially generating economic growth and development.**
- Essentially it is **knowledge-based economic** activities upon which 'creative industries' are based.
- It is a **$30 billion industry in India** and responsible for employment of nearly **8% of India's working population.**
- Creative industries are cycles of **creation, production and distribution of goods and services that use creativity and intellectual capital** as primary inputs.

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8. CULTURE

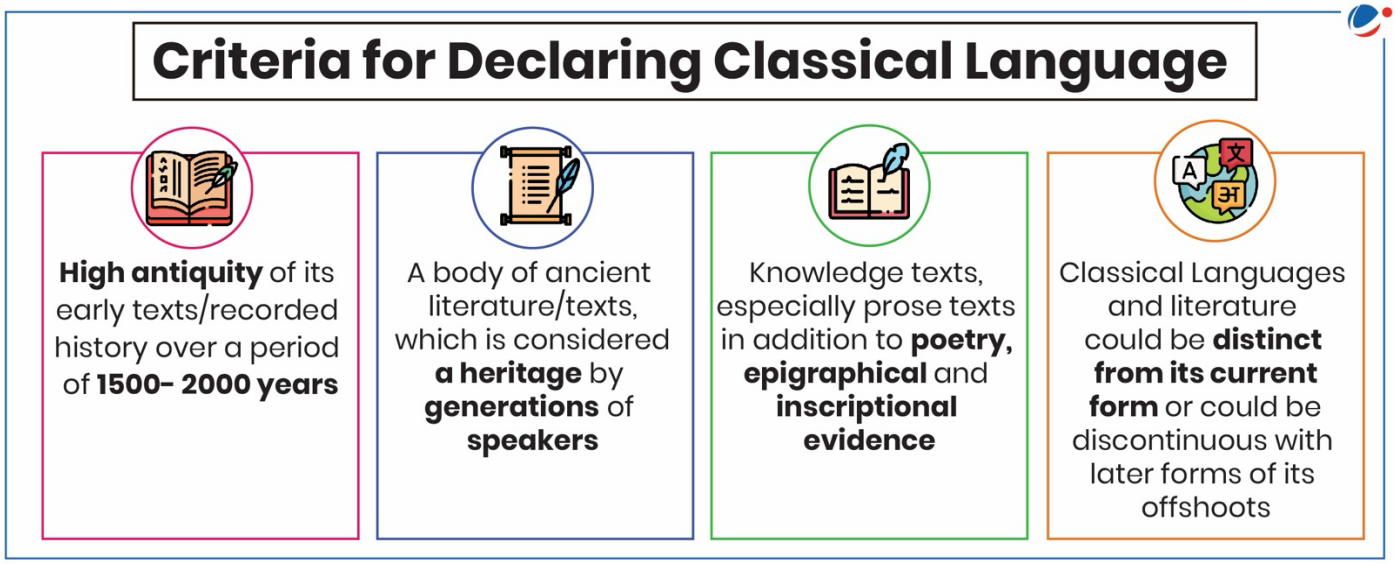
8.1. CLASSICAL LANGUAGE

Why in the news?

Recently, Union Cabinet has approved Classical Language status to **Marathi** (Maharashtra), **Pali and Prakrit** (Bihar, Uttar Pradesh and Madhya Pradesh), **Assamese** (Assam) and **Bengali** (West Bengal) languages**.**

About Classical Language

- Classical Languages **serve as a custodian of India's profound and ancient cultural heritage**, embodying the essence of each community's historical and cultural milestone.
- In **2004**, the Government of India, for the first time, **created a new category of languages** known as **Classical Languages**.
  - **Linguistic Experts Committee** (LEC) was constituted by **Ministry of Culture** under **Sahitya Akademi** in 2004 to examine the proposed languages for the status of Classical Language.
- **Criteria were revised in 2005 as following**
  - High antiquity of its early texts/**recorded history over a period of 1500-2000 years**.
  - **A body of ancient literature/texts**, which is considered a valuable heritage by generations of speakers.
  - The **literary tradition be original and not borrowed** from another speech community.
  - The classical language and **literature being distinct from modern**, there may also be a discontinuity between the classical language and its later forms or its offshoots.
- Earlier, six Indian languages namely **Tamil** (2004), **Sanskrit** (2005), **Telugu & Kannada** (2008), **Malayalam** (2013) and **Odia** (2014) were accorded the status of Classical Language.
  - All these Classical Languages are **listed in the Eighth Schedule** of the Constitution.
- Criteria for declaring a language as classical was again revised by LEC in 2024 (see infographics).
  - **'Original literary tradition' norm was dropped** from revised 2005 criteria as LEC observed that **it was 'very difficult to prove or disprove original literary tradition** as all ancient languages borrowed from each other'.



About New Classical Languages

- **Prakrit**: It refers to a **group of closely related Indo-Aryan languages,** whose defining feature was that they were the **language of masses** as opposed to Sanskrit, which was restricted to elites and high literature.
  - **Prakrit reflects regional subtypes.**
  - It was used in the production **of various literary texts** across the subcontinent from about the second or third century.

    - **Buddhist literature** is in Pali, one of the Prakrits.
  - It has been used in **various inscriptions of ruling dynasties across South Asia** over the first four or five centuries.
    - **Inscriptions of pre-Gupta times** especially the **Ashokan edicts are in Prakrit**.
  - **By the time of the Guptas**, the Prakrits were standardized and had **lost their local character**.
- **Pali**: It has traditionally been **identified with Magadhi Prakrit**. Buddhist philosophical works like Dhammapada and stories like Jātaka Tales are in Pali.
  - Pali is known as **language of Theravada Buddhist canon**. Pali Canon falls into three general categories or pitaka (basket). Together, it is thus known as Tipitaka ("three baskets"). These include:
    - **Vinaya Pitaka (Discipline Basket),** dealing with rules or discipline of Buddhist sangha monastic order.
    - **Sutta Pitaka (Sayings Basket),** largest basket comprising discourses and sermons of Buddha himself, as well as some religious poetry.
    - **Abhidhamma Pitaka**, basket that further elaborates on Buddhist philosophy.
- **Marathi**: Marathi is an Indo-Aryan language. Modern Marathi descends from **Maharashtri Prakrit,** a Prakrit dialect **used in western India** which was the **official language of the Satvahanas**.
  - Earliest evidence of modern Marathi can be traced to a **copper-plate inscription found in Satara**, dated to 739 CE.
- **Bengali & Assamese**: Both these languages can find their **origin in Magadhi Prakrit**, a form of Prakrit popular in East India, and the **official language of Magadha court**.

Other Important Prakrit Language

- **Ardhamāgadhī**, associated with the **ancient kingdom of Magadha,** in modern Bihar, and the subsequent Mauryan Empire.
  - Mahāvīra, the founder of Jainism, was born in Magadha, and the **earliest Jain texts were composed in Ardhamāgadhī.**
- **Saurasena**, spoken originally in the western part of modem Uttar Pradesh.
  - Saurasena was particularly used in drama, by women and respectable people of the lower orders.
- **Maharastri,** spoken in the north-western Deccan.
  - Maharastri was a literary language, especially popular for lyric songs.

Benefits of Conferring Classical Language Status

- **Financial assistance:** Conferring classical language status will lead to increased financial assistance, **promoting research, encourage academic exploration** and will help to **preserve, promote, and protect the language**.
- **Documentation and conservation:** The status will promote systematic efforts for documenting, conserving, and digitizing manuscripts and ancient texts, ensuring their accessibility to future generations.
- **Enhanced cultural identity:** It will **enhance awareness** of the language and **strengthen the linguistic identity** of speakers, fostering pride in their language's contribution to national and global culture.
- **Employment:** The tasks of preservation, documentation, and digitisation of ancient texts of these languages will likely **generate jobs in archiving, translation, publishing, and digital media**.
  - For example, cultural heritage linked to these languages can attract visitors, enhancing local economies, providing jobs in event management, tourism, and hospitality.
- **Study centres:** With classical status, **universities and institutions receive funding to set up dedicated centres** for the study of these languages, enhancing their visibility and facilitating deeper scholarship.
  - For example, Central Institute of Classical Tamil was set up to facilitate the translation of ancient Tamil texts and offer courses in Tamil.

Steps taken to promote classical languages

- **Dedicated Institutions**:
  - **For Sanskrit**: Rashtriya Sanskrit Sansthan, New Delhi; Maharishi Sandipani Rashtriya Ved Vidya Pratishthan, Ujjain; Rashtriya Sanskrit Vidyapeetha, Tirupati; etc.
  - **For Telugu and Kannada**: Centres of Excellence for Studies in respective languages at Central Institute of Indian Languages (CIIL) established in 2011.
- **National Education Policy, 2020**: Focuses on promotion of all Indian Languages including classical languages.
- **University Grants Commission** supports the creation of Professional Chairs in central universities and research institutions, focusing on the classical languages of India.

- **National Mission for Manuscripts:** Its key objectives are documentation, conservation, digitization and online dissemination of manuscript heritage of India.
  - Most of the Indian scripts have been used for writing 70% of manuscripts are in the Sanskrit language. Other 30% of manuscripts are in languages like Assamese, Bengali, Malayalam, Marathi, Odia, Tamil etc.
- **National and international awards:** Several national and international awards have been introduced to recognize and encourage achievements in the field of Classical Languages

Conclusion

By conferring this status, the government seeks to protect the linguistic milestones of India's diverse cultural landscape, ensuring that future generations can access and appreciate the deep historical roots of classical languages. Also, this move reinforces the importance of linguistic diversity and acknowledges the vital role classical languages play in shaping the nation's cultural identity.

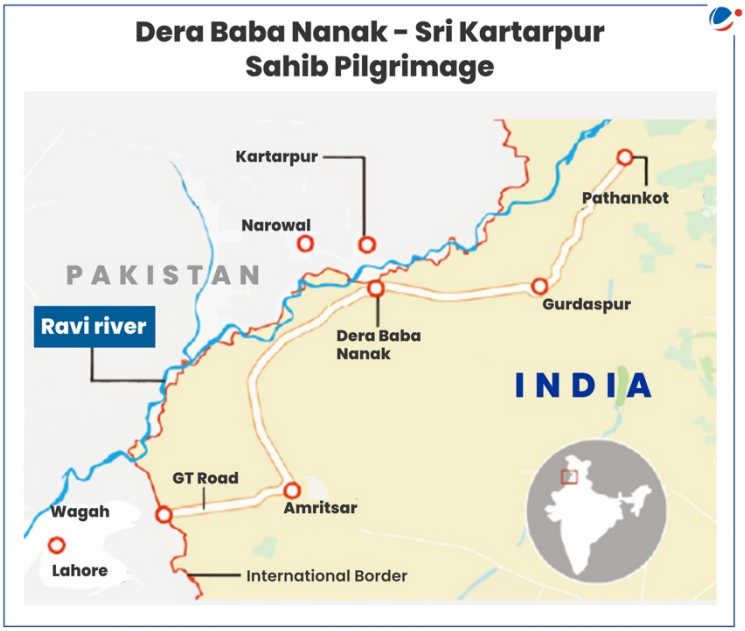
Scan the QR Code to know more about **India's Cultural Heritage**

Weekly Focus #123 India's Cultural Heritage: Preserving The Past, Inspiring the Future

8.2. KARTARPUR SAHIB CORRIDOR

Why in the news?

Recently, India and Pakistan has agreed to **extend the validity of the Agreement on Sri Kartarpur Sahib Corridor** for next **five years** period**.**



About Dera Baba Nanak - Sri Kartarpur Sahib Pilgrimage

- **Gurdwara Sri Kartarpur Sahib falls in district Narowal of Pakistan**, about 4.5 k.m. from the international border near the historic town of Dera Baba Nanak, District Gurdaspur, Punjab.
  - **Village Kartarpur** is located at the **west bank of river Ravi**.
  - **Gurdwara Dera Baba Nanak** is on the **east bank of River Ravi.**

About Agreement on Sri Kartarpur Sahib Corridor

- **Sri Kartarpur Sahib Corridor agreement** was **originally signed in 2019** that was valid for 5 years.
- Agreement provides for **visa-free travel of Indian pilgrims** and **Overseas Citizen of India (OCI)** cardholders, from India to Gurdwara Darbar Sahib Kartarpur in Pakistan **on a daily basis**, throughout the year.
  - However, **Pakistani Sikhs do not have access to this corridor** and cannot visit Dera Baba Nanak in India without first obtaining an Indian visa.
- All pilgrims travelling to Gurdwara Darbar Sahib Kartarpur are **required to return the same day**.
- **Pakistan levy USD 20** on every pilgrim for each visit.

Important Sikh Pilgrimage Places

- **Gurdwara Janam Asthan** (Nankana Sahib, Pakistan)- Birthplace of Guru Nanak
- **Gurudwara Ber Sahib** (Sultanpur Lodhi, Punjab)
- **Akal Takht** (Sri Harimandir Sahib (Golden Temple) Amritsar)
- **Takht Sri Keshgarh Sahib** (Anandpur Sahib, Punjab)
- **Takht Sri Damdama Sahib** (Talwandi Sabo, Punjab)
- **Takht Sri Patna Sahib** (Bihar)
- **Takht Sri Hazur Sahib** (Nanded, Maharashtra)

- Under the agreement, **there is no restriction on the faith of the pilgrims who travel through the corridor.**

Significance of Kartarpur Sahib Corridor

- **Cultural and religious significance**
  - Kartarpur is the **final resting place of Guru Nanak Dev Ji**, where he spent the last 18 years of his life.
    - > Guru Nanak is believed to have **composed many hymns of the Guru Granth Sahib**, the holy book of the Sikhs, in Kartarpur.
    - > **Community meal, called guru ka langar**, was also initiated at Kartarrpur, an important part of Sikh tradition.
  - **Guru Nanak Dev first practised three pillars of Sikhism** here i.e.
    - > **Kirat Karo** (working hard and an honest living); **Vand Chhako** (share wealth, possessions and talents with others) and **Naam Japo** (meditation through reciting, chanting and singing)' as the path to liberation.
- **Peace and diplomacy**: The corridor promotes religious tourism and fosters people-to-people connections. It helps to enhance cultural diplomacy between India and Pakistan despite their political differences.

8.3. NEW FLAG, INSIGNIA AND LADY JUSTICE AT SUPREME COURT

Why in the News?

Recently, Indian President unveiled new flag and insignia of Supreme Court, whereas Chief Justice of India unveiled 'new lady justice' statue at Supreme Court.

About Lady Justice

- **Origin**: **Greek and Roman mythology**
  - 1st Roman Emperor Augustus introduced worship of Justice in the form of goddess **Justitia.**
- **Depiction**: Scales in one hand and a sword in other.
- **Addition of blindfold was done during the Renaissance period (14th century):** as a satire on the corrupt state of legal systems with judicial institutions turning a blind eye**.**
- **Enlightenment period (17th-18th century):** blindfold came to be reinterpreted as representing **impartiality.**
  - British introduced Lady Justice in India, 1st in Calcutta High Court in 1872

Significance of New Lady Justice Statue

- **Decoloniality**: An aim to shed colonial symbols.
- **Saree replaces western attire**: Brings statue closer to Indian tradition.
- **Removal of blindfold and open eyes:** Conveys that **law is not blind and it 'sees' everyone equally**.
  - Open eyes also symbolize knowledge about the complexity and differentiation within society.
- **Sword replaced with Indian Constitution:**
  - Symbolizes supremacy of the Constitution and its value in our jurisprudence
  - Justice is deep-rooted into constitutional values rather than punishment
- **Preserving of the scales**: Shows that courts will continue weighing evidence impartially and hearing both sides before delivering its final judgment.

Flag of Supreme Court	Insignia of Supreme Court

About Flag and Insignia of Supreme Court

- **Conceptualised by: National Institute of Fashion Technology, New Delhi.**
- **Flag features:** Ashok Chakra (Top) Iconic Supreme Court building (Centre) and Book of Constitution (below)
- **Insignia has 'Supreme Court of India'(in roman) and 'Yato Dharmastato Jayah' (in Devanagari script)** inscribed on it.
  - **Yato Dharmastato Jayah** is a Sanskrit term which means **"Where there is Dharma, there is victory"**

8.4. NEWS IN SHORTS

8.4.1. NOBEL PRIZE IN LITERATURE

South Korean author Han Kang gets **Nobel Prize in Literature** for her **intense poetic prose** that confronts **historical traumas** and **exposes fragility of human life**.

About Nobel Prize

- Established by **Alfred Nobel in 1895. First** Nobel Prizes were **awarded in 1901** and they have been **awarded annually** since then.
- An international award **administered by Nobel Foundation in Stockholm, Sweden.**
- **6 Categories:** Peace, Physics, Chemistry, Medicine, Literature and Economic Science.
  - In 1968, **Sweden's central bank established Economic Sciences award** in Memory of Alfred Nobel.
- From 1974, Statutes of Nobel Foundation stipulate that **prize cannot be awarded posthumously, unless** death has occurred after announcement of Nobel Prize.

8.4.2. NOBEL PEACE PRIZE

Nobel Peace Prize 2024 has been awarded to **Japanese organization Nihon Hidankyo** for its efforts to achieve a **world free of nuclear weapons.**

- It is a **grassroots movement of atomic bomb survivors** from Hiroshima and Nagasaki

About Nobel Peace Prize

- **Awarded to** those who worked for **"fraternity between nations,** for **abolition/reduction of standing armies** and holding & **promotion of peace congresses".**
- In 2017 it was awarded to **International Campaign to Abolish Nuclear Weapons (ICAN)** for its denuclearisation efforts including ground-breaking efforts for **Treaty on the Prohibition of Nuclear Weapons** (adopted by UN in 2017)**.**

8.4.3. CABINET APPROVES DEVELOPMENT OF NMHC AT LOTHAL, GUJARAT

National Maritime Heritage Complex (NMHC) is **being developed under the Sagarmala Programme** by the Ministry of Ports, Shipping & Waterway.

About NMHC

- **Aim:** To **showcase** India's rich and diverse **maritime heritage** and create the **largest maritime heritage complex in the world.**
- **Significance of Lothal:** It is located between **Bhogavo and Sabarmati rivers** near Gulf of Khambat.
  - It is a prominent city of **Indus-Valley Civilization (IVC)** and had the **oldest man-made dry-dock** (2400 BC ago).
    - Discovery of a dry-dock at Lothal gives an insight into the **knowledge of tides, winds and other nautical factors** that existed during that period.
- **Key projects:** NMHC involves a **world-class Lighthouse Museum, coastal state pavilions, a maritime-themed eco-resort, etc.**

India's Maritime Heritage

- **Early Days (3000 – 2000 BC): IVC** had maritime trade link with **Mesopotamia.**
- **Vedic Age (2000 – 500 BC): Earliest reference to maritime activities** is contained in the **Rig Veda.**
- **Age of the Nandas and Mauryas (500 – 200 BC):** Navy of the **Magadh kingdom** is considered to be **world's first ever recorded instance of a navy.**
- **Satavahana Dynasty (200 BC-220 AD): First native Indian rulers** to issue their **coins with inscriptions of ships.**
- **Gupta Dynasty (320-500 AD):** Several ports in the east and west were opened which greatly **revived maritime trade with European and African countries.**
- **Marathas:** Under Shivaji the **Maratha navy** developed into a ferocious force with more than 500 ships.
- **Southern Dynasties:** Cholas, Cheras and Pandyas, also Vijaynagar empire, are known to have maritime resources.

8.4.4. GEOGRAPHICAL INDICATIONS TAG TO 8 ASSAM PRODUCTS

The **Geographical Indications** Registry in Chennai has granted the GI tag to **eight products from Assam**.

About Products

- **Traditionally fermented rice-based alcoholic beverage (3):** Bodo Jou Gwran, Bodo Jou Gishi & Maibra Jou Bidwi.
- **Traditional Dishes (4):**
  - **Bodo Napham**: Dish of fermented fish.
  - **Bodo Ondla**: A rice powder curry.
  - **Bodo Gwkha**: Locally also known as 'Gwka Gwkhi', prepared during the Bwisagu festival.
  - **Bodo Narzi**: a semi-fermented food prepared with jute leaves.
- **Bodo Aronai:** a traditional **shawl or scarf.**

8.4.5. COMMONWEALTH GAMES (CWG) 2026

Recently, CWG 2026 (will be held in Glasgow) edition was unveiled which features **only 10 sports**.

About CWG 2026

- **Six of 12 discipline**s in which India won a medal at 2022 CWG (**contributing 30 out of total 61 medals**) have been dropped from 2026 edition.
  - These include **badminton, cricket, hockey, squash, table tennis and wrestling.**

About CWG

- First held in 1930 in **Hamilton, Canada.**
- Held **every four years. India hosted Games in 2010 at Delhi.**

8.4.6. PARYATAN MITRA AND PARYATAN DIDI INITIATIVE

Ministry of Tourism launched **Paryatan Mitra & Paryatan Didi** as a national responsible tourism initiative.

About initiative

- Aims to **elevate overall experience for tourists in destinations**, by having them meet 'tourist-friendly' people who are proud Ambassadors and Storytellers for their destination.
  - This is being done by **providing tourism related training and awareness to all individuals** who interact and engage with tourists in a destination.
- It places special emphasis on **training of women and youth** to develop new tourism-related products and experiences like food tours, craft tours etc.

8.4.7. POUMAI NAGA TRIBE

The Poumai Naga tribe of Purul village of Senapati District, Manipur has **banned hunting, trapping and killing of wild animals and birds** within their territory.

About the Poumai Naga tribe

- It is one of the oldest and largest **Naga tribes in Manipur.**
- They are geographically located in **Manipur and Nagaland.**
- They are known for their **Pouli (Pottery) and Poutai (Pou salt) production.**
- **Language:** Poula

QUIZ

SMART QUIZ

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. MAHATMA GANDHI AND COMPASSION

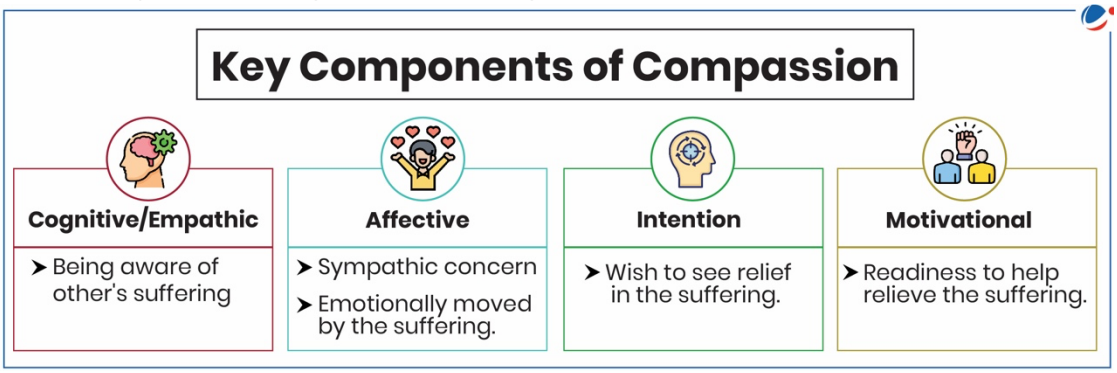
Introduction

Recently, former United Nations Secretary-General, Ban-Ki-Moon, highlighted the significance of **Mahatma Gandhi's compassion.** He held that Mahatma Gandhi embodied and lived the principles of UN Charter much before it was founded and has inspired global leaders like Nelson Mandela, Martin Luther King Jr, etc. Undoubtedly all core values of Mahatma Gandhi like **nonviolence, truth, peace, justice** and **inclusion** are rooted and are the concrete external manifestations of **compassion.**

What is Compassion?

- It is the feeling that arises due to the suffering of others, coupled with **the desire to alleviate that suffering.** It is different from sympathy and empathy as
  - Sympathy is a feeling of **pity or sorrow for someone else's suffering**, empathy is the **ability to feel what another person is feeling**, and compassion is the combination of both sympathy and empathy with a **desire to alleviate suffering.**
- It's a **universal ethic** transcending **cultural, religious, and ideological boundaries.**

What are the key values of Mahatma Gandhi that foster Compassion?



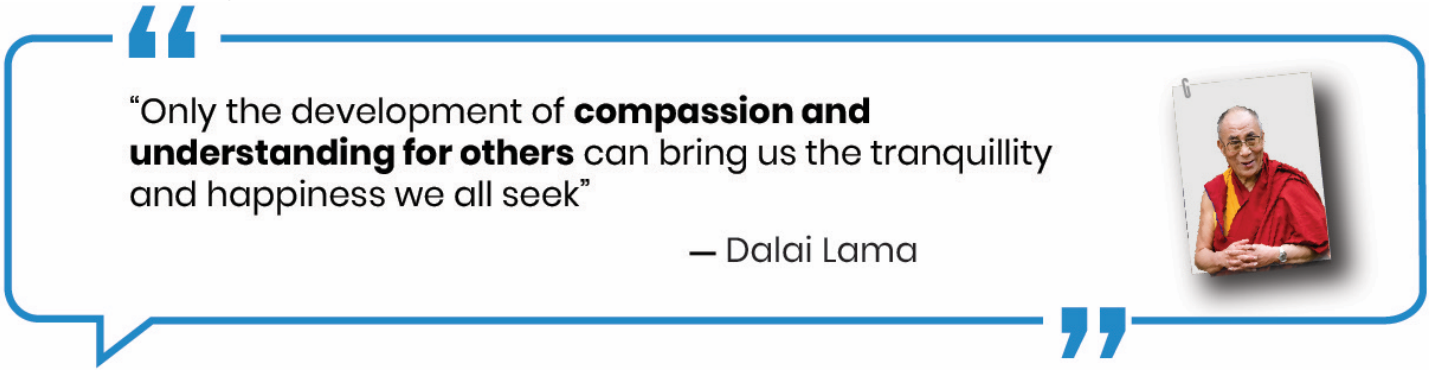
- **Satyagraha:** It is the method to secure one's rights without inflicting injury on others.
  - Gandhi's Satyagraha (1917) was driven out of **Compassion** after witnessing the ruthless **exploitation of indigo farmers** by the British landlords.
- **Equality:** Treating **untouchability** as a curse, his compassion towards the people who were discriminated against made him fight for it.
  - He also championed the cause of **women's empowerment** and called Woman as the embodiment of sacrifice and ahimsa
- **Respect for Humanity:** Gandhi had compassion even towards the oppressor and never hated the British people.
- **Kindness:** He was a **committed vegetarian** and discouraged the slaughter of animals on moral grounds.
  - He held that "If anybody said that I should die if I don't take beef tea or mutton, even on medical advice, I would prefer death."
- **Sarvodaya (Welfare for all):** He saw God in every individual and held that one could reach god through the service of humanity.
- **Non-Violence:** It was a tool to attain the ultimate end i.e., **Truth.** His concept of non-violence was a **positive** one that propagated love for selfless action as opposed to the idea of non-injury or non-killing.
  - He held truth as a **sovereign principle to be attained** not only in words but in thought as well.
- **Concern for Nature:** He spoke against the evils of **large-scale urbanisation** and called for the conservation of nature and biodiversity.
  - According to him, "The Earth has enough resources for our needs but not for our greed."
- **Altruism or Self-Sacrifice: Gandhi's Talisman** is an example of his altruism and compassion for others.
  - "Whenever you are in doubt, or when the self becomes too much, recall the face of the poorest and the weakest man you may have seen, and ask yourself, if the step you contemplate is going to be of any use to him"
- **Concept of trusteeship:** According to Gandhi the landowner, rich men have to act as trustees of what they own, i.e. they have dedicated the rights to their property and material goods to the common people.

Seven Deadly social sins identified by Mahatma Gandhi

- **Wealth Without Work:** Refers to getting something for nothing. Ex. manipulating markets and assets without having to work or produce added value.
- **Pleasure Without Conscience:** Enjoying pleasure without a sense of responsibility.
- **Knowledge Without Character:** Little or too much knowledge is dangerous without strong and principled character.
- **Commerce (Business) Without Morality (Ethics):** Allowing economic systems to operate without any moral foundation creating an immoral society.
- **Science Without Humanity:** Having very little understanding of the higher human purposes that the technology is striving to serve.
- **Religion Without Sacrifice:** Merely going for the social façade of religion without any intention of trying to deal with social problems.
- **Politics Without Principle:** Difference between the good and bad politics lies in the principles and the purpose of the people involved.

Contemporary relevance of Mahatma Gandhi's Compassion

- **Addressing climate crisis: Gandhi's philosophy of living in harmony with nature is especially relevant** in addressing the climate crisis.
- **Resolving contemporary conflict:** His approach of "hate the sin, not the sinner" provides a framework for engaging with those we disagree with while maintaining human dignity
- **Dealing with economic crisis:** Gandhi's idea of true economics deals with social justice promoting good of all equally.
  - His focus on **self-sufficiency, decentralised mode of production; idea of trusteeship,** aim to promote a just and inclusive economic system.
- **Force for Social Change:** Ideas of Mahatma Gandhi are gaining traction in the form of initiatives like the Swachch Bharat Mission, inspiring movements for social change.
- **Dealing with Fragmentation in Society:** His vision of inclusive spirituality that respects all faiths offers guidance for interfaith dialogue.



Way forward on imbibing compassion

- **Imbibing compassion from the stage of Childhood:** Providing assistance and encouragement would help children foster a sense of connection towards others helping them become compassionate future leaders.
- **Fostering Social Responsibility:** This involves understanding the challenges faced by the social sectors and taking up initiatives to reform them.
- **Practising Self-Compassion:** To be able to understand the sufferings and emotions of others, one needs to first reflect over own sufferings and emotions.
- **Accepting mistakes and failures:** Focus on being patient and showing forgiveness (for others and yourself) for mistakes.

Conclusion

Mahatma Gandhi's values remain highly effective as catalysts for change, equipping a generation of informed and empowered citizens to forge a future marked by compassion, equality and progress. His beliefs continue to enlighten India as well as the entire world in dealing with the current challenges.

Check your ethical aptitude

You have been recently selected to the post of Block Development Officer through a merit based competitive exam. For the purpose of your studies, you had moved to a metropolitan city away from your native village. Post the announcement of result, you decide to visit your village after almost 5 years. On reaching there, you met your paternal aunt, widowed a year back. You observed the discriminatory treatment subjected to her as not being involved in the family celebrations, prohibition on entering into kitchen and main areas of the house, etc. Disturbed by this, you decided to confront your parents who informed you that villagers there look at widowed women as bad luck and maintain their distance. Presence of such beliefs in the 21st century in your village and own household has disturbed you. **Based on the above case study, answer the following questions:**

1. Defining Compassion, suggest how imbibing the virtues of Compassion towards others would help in dealing with discriminatory social problems.
2. Identify the key stakeholder involved and discuss their responsibilities towards society.
3. What course of action would you follow to ensure that such beliefs are eliminated from your village?

9.2. PERSONALITY IN FOCUS: RATAN NAVAL TATA (1937-2024)

Introduction

Recently, former chairman of Tata Group, Ratan Naval Tata passed away marking the end of an era. He was one of the most influential business magnates known for his **charismatic and transformative leadership styles.** It was for his exceptional and distinguished services that he was awarded the Padma Vibhushan (2008) and Padma Bhusan (2000).

Early life

- **Birth: December 28, 1937 in Mumbai.**
- **Graduation:** He earned a **degree in architecture and structural engineering from Cornell University,** along with completing an **advanced management program at Harvard Business School.**
- **Career:** After returning to India, he was offered a job at IBM. Instead, he decided to join Tata Industries in 1962 at J.R.D. Tata insistence.

Key values associated with the life of Ratan Tata

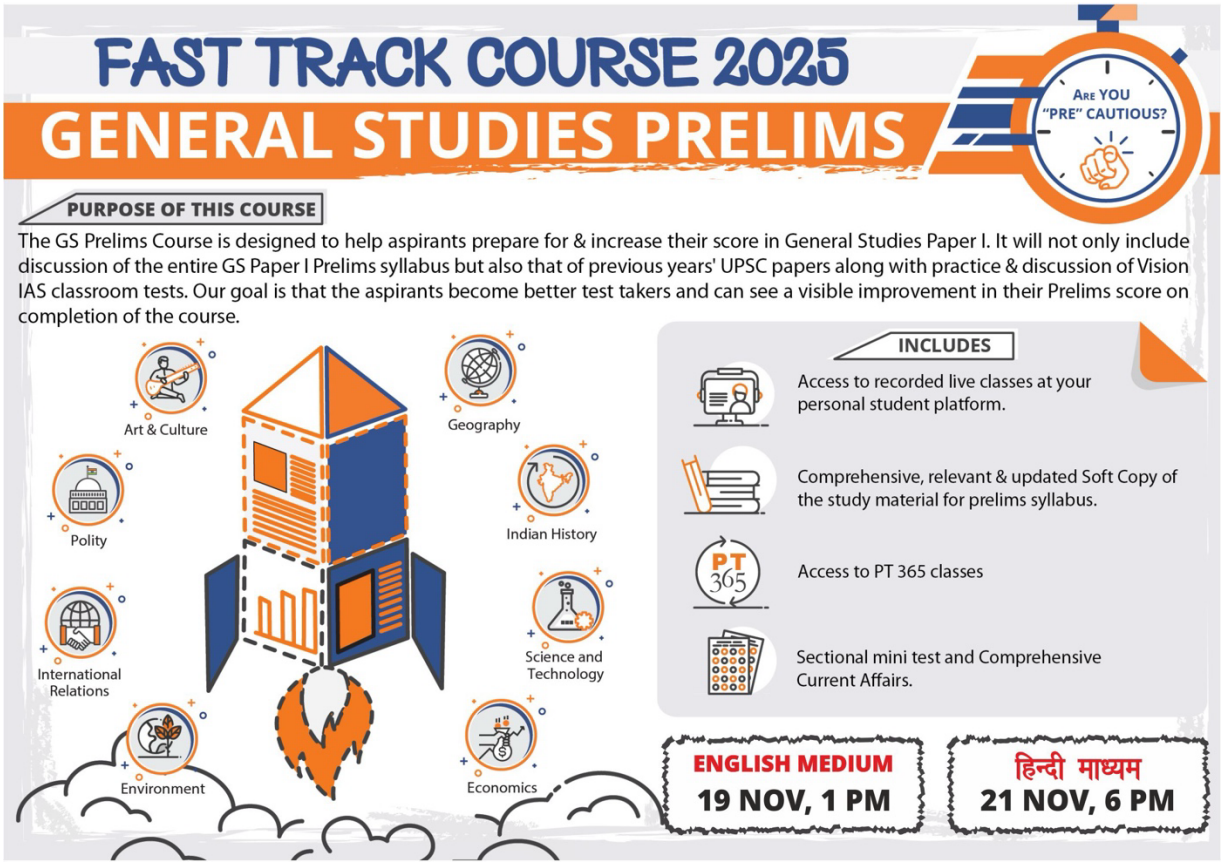
- **Profound Simplicity:** Ratan Tata preferred to maintain a **low profile, avoiding the limelight and focusing on his work**.
  - In today's vanity-driven, consumerist society, he exemplified **simple living and profound thinking.**
- **Resilience and Preservance:** Despite several hurdles, Ratan Tata launched the **Tata Nano project in 2008,** providing affordable cars to middle-class Indians.
- **Visionary:** His strategic thinking saw the **expansion of the Tata Group**, Under his leadership the **Tata Group** rose from $4 billion to $100 billion in revenue.
- **Leadership:** His leadership was defined by **humility and hands-on involvement**.
  - He began his career at Tata in 1962, working on the shop floor of Tata Steel to understand the **intricacies at the grassroots level.**
- **Empathy:** Under his leadership, the Tata Trust expanded its philanthropic work, reflecting a deep sense of responsibility toward society.
  - He and his organization were at the forefront of the relief efforts during the times of **natural disasters and calamities.**
- **Spirit of service:** As Chairman of the Tata Group, he spearheaded the **restoration of the Taj Hotel and provided personal support** to affected employees.

Key lessons from the life of Ratan Tata

- **Compassionate Capitalism:** He embodied the spirit of **"compassionate capitalism"** contributing immensely to **society and industry** transcending across borders and boardrooms.
  - He ensured that the Group's wealth served the nation, **with 60-65% of Tata Sons's dividends directed to charitable causes** like health and education.
- **Corporate Social Responsibility:** Based on pillars like **participative and bottom-up approach**, focusing on disadvantaged sections.
- **Contribution to Social Well-Being:** Ratan Tata was **deeply committed to philanthropy** beyond his business endeavours**.**
  - He pioneered **India's first cancer hospital.**
- **Business Ethics:** He was a firm believer in **ethical leadership and prioritised strong ethical principles, integrity, and social well-being over short-term profits.**
  - He emphasized that business is **not only about making money but also doing right** for customers and stakeholders ethically.
- **Promoting Entrepreneurship:** He invested in **many of the startups**, such as Cashkaro, Snapdeal, Ola cabs, Dogspot, Teabox, etc encouraging a **culture of innovation.**
- **Promoted Sustainability:** The Tata group's carbon neutrality target is to achieve net zero emissions by 2045.
  - **PETA India** awarded Tata Motors **the Cow-Friendly Future award** for using vegan interiors in AVINYA concept car.
- **Global Footprint:** Under him, the Tata group expanded internationally with acquisitions like Jaguar Land rover and Corus, positioning itself on the global stage.

Conclusion

Life of Ratan Tata was a **beacon of ethical leadership**, offering valuable lessons in **compassion, resilience, humility, and perseverance.** He created **many reforms** in the Tata companies, from giving **equal opportunities to LGBTQ**. Life of Ratan Tata therefore offers valuable lessons and insights to all sections including youngsters, businesses and civil servants, etc.



10. SCHEMES IN NEWS

10.1. PM RASHTRIYA KRISHI VIKAS YOJANA (PM-RKVY)

Why in the News?

Recently, Cabinet approved consolidating **Centrally Sponsored Schemes (CSS) operating under Ministry of Agriculture and Farmer's** into two umbrella programs i.e **PM-RKVY (cafeteria scheme)** to promote sustainable agriculture and **Krishonnati Yojana (KY)** to address food security & agricultural self-sufficiency.

Objectives	Salient features

• To incentivize the states so as to increase public investment in Agriculture and allied sectors.
• To provide **autonomy, flexibility to States** to plan and execute schemes as per local/ farmers' needs.
• To strengthen the efforts of farmers through creation of **pre & post-harvest agricultural infrastructure that increases access to quality inputs, storage, market facilities** etc and enables farmers to make informed choice.
• **To promote value chain addition** linked production models for increase in the farmer's income as well as encourage production/productivity
• To empower youth through skill development, innovation and a**gri-entrepreneurship-based agribusiness models that attract them to agriculture.**
	• **Nodal Ministry:** Ministry of Agriculture & Farmers Welfare
	• **Funding:** 90:10 per cent for Northeastern and hilly states;60: 40 per cent for other states; 100 per cent for UTs
	• **Background:** RKVY was initiated in 2007-08 as a flagship program to motivate states to create comprehensive agricultural plans that considered local climate, resources, and technology for holistic agricultural development.
	  ○ In 2017-18, it was transformed into **RKVY-RAFTAAR (Remunerative Approaches for Agriculture and Allied Sector Rejuvenation),** shifting focus to pre- and post-harvest infrastructure development while promoting agricultural entrepreneurship, innovation, and value addition.
	  ○ As per recommendation **of Expenditure Finance Committee, RKVY has been re-structured as RKVY Cafeteria Scheme from 2022-23** by rationalizing various schemes of Department of Agriculture & Farmers Welfare.
	• **State Level Sanctioning Committee Meeting (SLSC):** Headed by the Chief Secretary of the concerned State, funds are released to the State Governments/ UTs based on projects approved in the SLSC.
	• **Focus of the scheme:** Adequate coverage of small and marginal farmers, Scheduled Castes, Scheduled Tribes and women and other weaker segments of society is to be ensured by the State Governments
	• **The PM-RKVY comprises of the following schemes:**
	  ○ **Soil Health Management**
	  ○ **Rainfed Area Development**
	  ○ **Agro Forestry**
	  ○ **Paramparagat Krishi Vikas Yojana**
	  ○ **Agricultural Mechanization including Crop Residue Management**
	  ○ **Per Drop More Crop(PDMC)**
	  ○ **Crop Diversification Programme**
	  ○ **Accelerator Fund for Agri Startups**

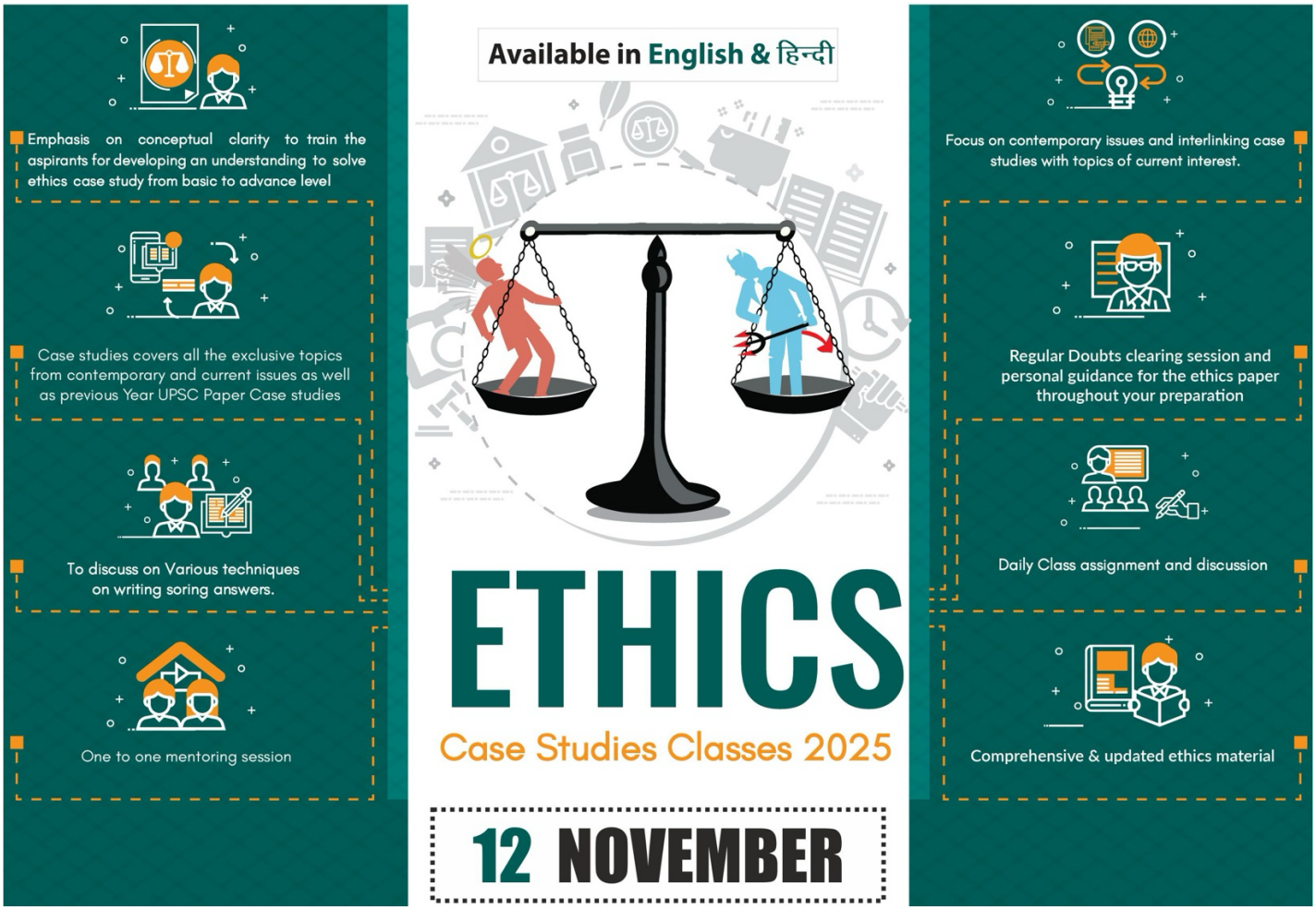
10.1.1. KRISHONNATI YOJANA (KY)

Objectives	Salient features
• Develop the agriculture and allied sector in a holistic and scientific manner to increase the income of farmers by enhancing production,	• **Nodal Ministry:** Ministry of Agriculture & Farmers Welfare • **Background:** It is an Umbrella Scheme for the agriculture sector that has been implemented since **2016-17 by clubbing several schemes/missions under one umbrella scheme.** • **Major Sub Schemes:** ○ Mission for Integrated Development of Horticulture (MIDH);

productivity and better returns on produce.	○ National Mission on Oil Seeds and Oil Palm (NMOOP); ○ National Food Security Mission (NFSM) ○ National Mission for Sustainable Agriculture (NMSA); ○ Sub-Mission on Agriculture Extension (SMAE); ○ Sub-Mission on Seeds & Planting Material (SMSP); ○ Sub-Mission on Agricultural Mechanisation (SMAM); ○ Sub-Mission on Plant Protection and Plant Quarantine (SMPPQ); ○ Integrated Scheme on Agricultural Census, Economics and Statistics; ○ Integrated Scheme on Agricultural Cooperation; ○ Integrated Scheme on Agricultural Marketing (ISAM); ○ National e-Governance Plan in Agriculture (NeGP-A). ○ Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)

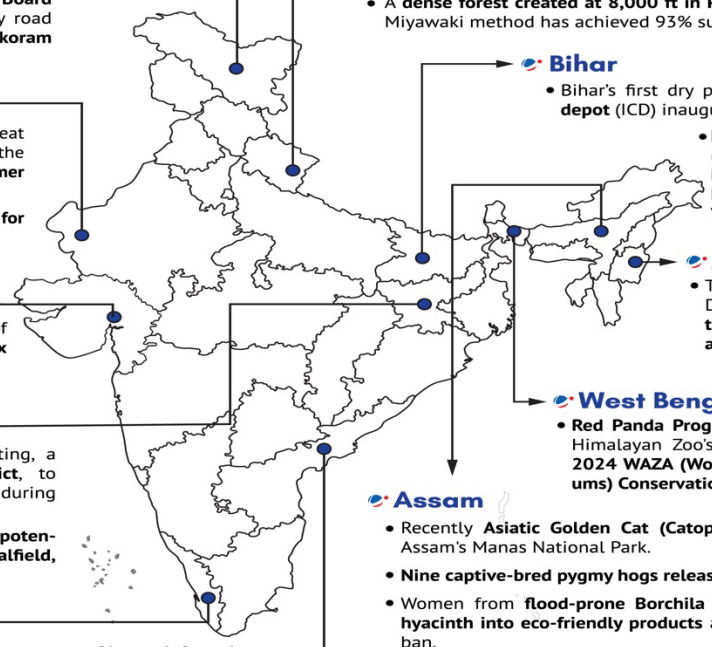
Scan the QR Code to know more about **Sustainable Agriculture**

Weekly Focus #68 Sustainable Agriculture Part II_Transforming Indias Food Systems



11. PLACES IN NEWS

India



Ladakh
- **Standing Committee of the National Board for Wildlife (NBWL)** has cleared key road stretches passing through the **Karakoram Wildlife Sanctuary (KWS).**

Rajasthan
- Artificial insemination of the Great Indian Bustard (GIB) was achieved at the **National Breeding Centre in Jaisalmer** under the **Bustard Recovery Program.**
- Meta and 'IndiaAI' unveiled the **Centre for Generative AI**, Shrijan at IIT Jodhpur.

Gujarat
- Cabinet Approves Development of **National Maritime Heritage Complex (NMHC)** At Lothal, Gujarat.

Jharkhand
- Prime Minister gifted Sohrai Painting, a mural art form in **Hazaribagh district**, to Russia's President Vladimir Putin during
- BRICS summit in Kazan, Russia.

  Study, indicated **shale gas generation potential in eastern South Karanpura coalfield, Jharkhand.**

Kerala
- **Farmers in Idukki** are experiencing the **menace of locust infestation.**

Andhra Pradesh
- A **Brahmi inscription found in Dharanikota village** at Amaravathi mandal in Palnadu district, Andhra Pradesh.

Uttarakhand
- A **dense forest created at 8,000 ft in Pithoragarh**, Uttarakhand, using the Miyawaki method has achieved 93% success rate.

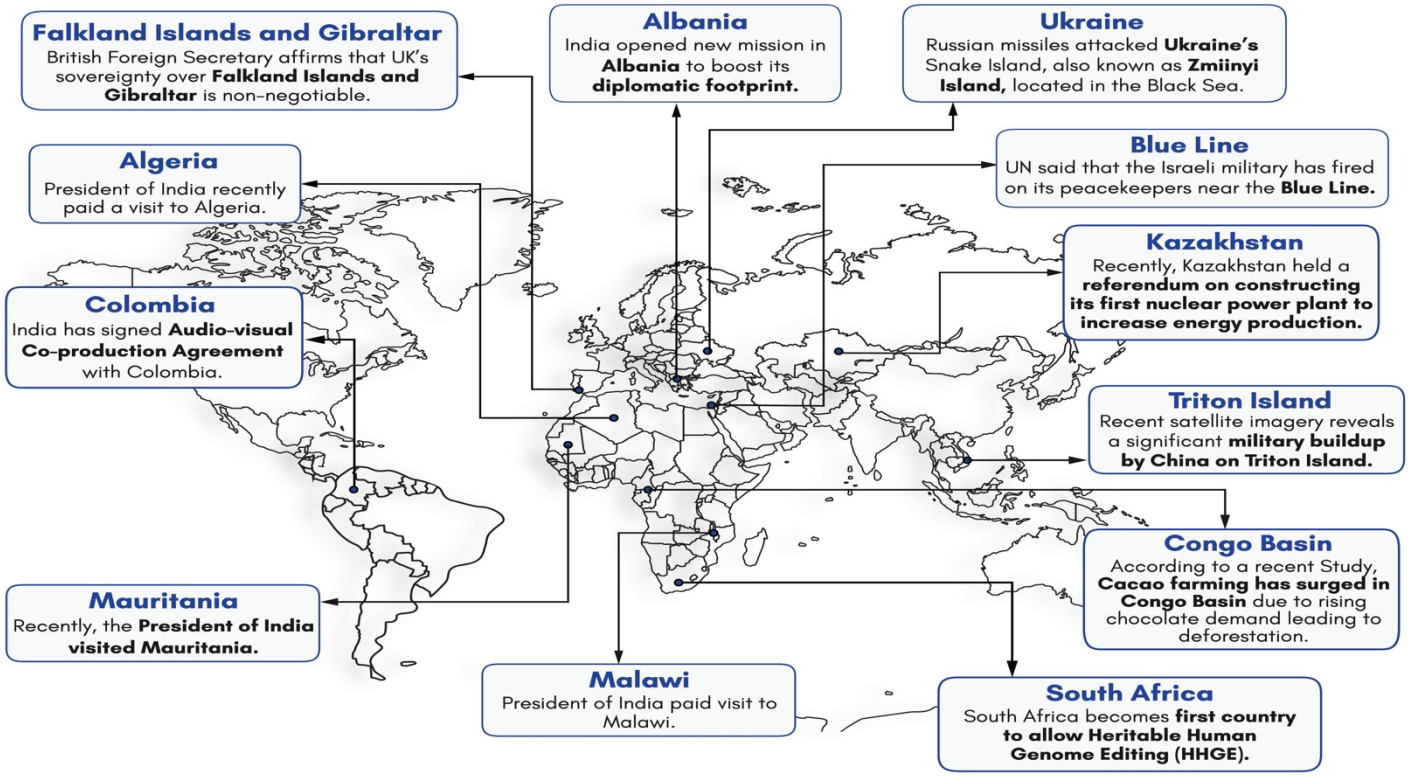
Bihar
- Bihar's first dry port also known as **inland container depot** (ICD) inaugurated in **Bihta near Patna.**
- **National Tiger Conservation Authority's (NTCA)** has given approval to develop **Kaimur Wildlife Sanctuary (KWS)** as **Bihar's second tiger reserve after Valmiki Tiger Reserve.**

Manipur
- The Poumai Naga tribe of Senapati District, Manipur has **banned hunting, trapping and killing of wild animals and birds** within their territory.

West Bengal
- **Red Panda Program** of Darjeeling's Padmaja Naidu Himalayan Zoo's has been selected as finalist for **2024 WAZA (World Association of Zoos and Aquariums) Conservation Award.**

Assam
- Recently **Asiatic Golden Cat (Catopuma temminckii)** was spotted at Assam's Manas National Park.
- **Nine captive-bred pygmy hogs released** in Assam's Manas national park.
- Women from **flood-prone Borchila in Assam** are transforming **water hyacinth into eco-friendly products** and creating jobs under SBM-Urban.
- The **National Board for Wildlife** deferred its nod for oil exploration in **Assam's Hollongapar Gibbon Sanctuary** which is the habitat of the **Hoolock Gibbon.**

Places in News: World



Falkland Islands and Gibraltar
British Foreign Secretary affirms that UK's sovereignty over **Falkland Islands and Gibraltar** is non-negotiable.

Albania
India opened new mission in **Albania** to boost its **diplomatic footprint.**

Ukraine
Russian missiles attacked **Ukraine's** Snake Island, also known as **Zmiinyi Island,** located in the Black Sea.

Algeria
President of India recently paid a visit to Algeria.

Blue Line
UN said that the Israeli military has fired on its peacekeepers near the **Blue Line.**

Kazakhstan
Recently, Kazakhstan held a **referendum on constructing its first nuclear power plant to increase energy production.**

Colombia
India has signed **Audio-visual Co-production Agreement** with Colombia.

Triton Island
Recent satellite imagery reveals a significant **military buildup by China on Triton Island.**

Congo Basin
According to a recent Study, **Cacao farming has surged in Congo Basin** due to rising chocolate demand leading to deforestation.

Mauritania
Recently, the **President of India visited Mauritania.**

Malawi
President of India paid visit to Malawi.

South Africa
South Africa becomes **first country to allow Heritable Human Genome Editing (HHGE).**

12. PERSONALITIES IN NEWS

Personality	About	Ethical values Exhibited by the personality
 Rani Durgavati (1524 - 1564)	• Queen of the Gond kingdom of Garha-Katanga Rani Durgavati was remembered on her 500th Birth Anniversary (October 05). • **About Rani Durgavati** ▸ She was born in **Kalinjar** in Banda district (UP). ▸ She was a **descendant of Chandela dynasty of Mahoba** and a **contemporary** to Mughal emperor **Akbar.** • **Key Contributions** ▸ Took the **reins of the Gond kingdom** in her hands after her husband's death. ▸ Repulsed attack by **Baz Bahadur, ruler of Malwa** [mentioned in **Tarikh-i-Firishta** (Persian source)]. ▸ Was a patron of learning, and allowed **Acharya Bitthalnath** to establish a seat of **Pushtimarg Cult at Garha.** ▸ Constructed reservoirs such as the **Ranital, Cherital,** and **Adhartal.** ▸ Defended her kingdom to death against **contemporary Mughul Subedar Abdul Mazid Khan.** ✓ Her encounter with Mughal was documented by **Abul Fazl,** Akbar's chronicler and other Persian writers.	**Visionary Leadership and Fortitude** • She demonstrated foresight in governance, enhancing her kingdom's infrastructure and promoting cultural diversity. • She led kingdom and army with valour against formidable adversaries.
 Rani Chennamma (1778 -1829)	• On the 200th anniversary, a commemorative **postage stamp was released** to celebrate **Rani Channamma's glorious victory on 23rd October, 1824 against the British rule.** ▸ She was born in in present-**day Belagavi district in Karnataka.** • **About Rani Chennamma** ▸ She was the **Queen of Kittur.** ▸ After death of her husband & only son **she adopted Shivalingappa** with aim of making him heir to throne of Kittur. ✓ However, British **refused to recognize Shivalingappa under the 'doctrine of lapse'** and subsequently led to the Revolt. • **About Kittur Revolt (1824)** ▸ It is regarded as the **first Indian armed rebellion** against British EIC. Also, one of the earliest **woman-led anti-colonial** struggles. ▸ Though British lost **1st battle in 1824,** Rani Chennamma **was later captured & imprisoned, till her death in 1829.**	**Courage and Resilience** • She was the earliest ruler in India who dared to fight mighty Britishers. She is revered as an icon of bravery in Karnataka.

Raja Ravi Varma (1848 - 1906)

- Eminent Modern Indian Artist Raja Ravi Varma was remembered on his death anniversary (October 02).
- **About Raja Ravi Varma**
  - Belonged to the family of **Maharajas of Travancore in Kerala** and was addressed as Raja.
  - He is called the **father of modern Indian art.**
- **Key Contributions**
  - **Mastered the Western art of oil painting** and realistic life study.
  - Painted **themes from Indian mythology,** depicting scenes from popular epics like the **Ramayana** and **Mahabharata.**
  - **Most famous works: Damayanti Talking to a Swan, Shakuntala Looking for Dushyanta, Nair Lady Adorning Her Hair, and Shantanu and Matsyagandha.**
- **Rewards and Recognitions**
  - In **1904**, the then **Viceroy Lord Curzon,** on behalf of the British Emperor, bestowed upon him, the **Kaisar-i-Hind Gold Medal.**
    - Citation for this award **mentioned the title 'Raja' for the first time against his name.**

Artistic integrity and Cultural Respect

- He maintained high standards of honesty and authenticity in his artistic expressions.
- He respected and celebrated Indian culture and mythology through his artworks, bridging traditional and modern styles.

Shyamji Krishna Varma (4th October, 1857 - 30th March 1930)

- PM paid tribute to freedom fighter Shyamji Krishna Varma on his birth anniversary.
- **About Shyamji Krishna Varma**
  - Born in 1857 in modern-day Gujarat.
- **Contributions:**
  - **Founded Indian Home Rule Society, India House in London** to carry out anti-British activities.
    - Inspired **Veer Savarkar** (Member of India House in London.)
  - **Publication journal (English Monthly):** called **"Indian Sociologist".**
  - Became first President of **Bombay Arya Samaj,** was **an admirer of Dayanand Saraswati.**
  - **In 1905, barred from practicing law by Inner Temple** (a professional association for barristers in London) following **charges of sedition.**
  - In face of criticism, shifted his base from England to Paris and continued his movement.

Patriotism and Selflessness

- Inspired by the ideas of National liberation, he decided to dedicate his whole life for working to hold the cause of independent nation.

Ashfaqulla Khan (1900-1927)

- Recently, tribute was paid to freedom fighter Ashfaqulla Khan on his birth anniversary.
  - He was born in 1900 at **Shahjahanpur, Uttar Pradesh.**
- **Key Contributions**
  - He along with Ram Prasad Bismil, Sachindra Nath Bakshi and Jogesh Chandra Chatterjee, founded the **Hindustan Republican Association in 1924.**
    - ✓ **Manifesto of HRA titled "The Revolutionary"** listed its objective as establishing a **federal Republic of United State of India** by an organized and armed revolution.
  - He participated in **Kakori Train Action 1925** and was awarded death sentence along with **Ram Prasad Bismil, Rajendra Lahiri and Roshan Singh.**

Artistic Expression and Moral Courage

- He used poetry as a means to express his revolutionary ideas.
- Standing up for his beliefs to achieve freedom despite the risk of severe consequences

Lal Bahadur Shastri (1904-1966)

- The birth anniversary of Lal Bahadur Shastri was observed on October 2.
- **About Lal Bahadur Shastri**
  - Lal Bahadur Shastri served as **India's Prime Minister** from 1964 to 1966.
- **Contributions**
  - **Pre-Independence:** Participated in Non-movement, Civil Disobedience Movement and Quit India Movement.
    - ✓ He led many campaigns and **spent seven years in British jails.**
  - **Post independence:**
    - ✓ He led the **1965 India-Pakistan war** and inspired Indian soldiers and farmers facing a food crisis with the slogan **"Jai Jawan Jai Kisan."**
    - ✓ During his tenure, the National Dairy Development Board and Food Corporation of India were established.

Resilience and Dedication to National Progress

- He showed remarkable resilience, participating in freedom movements and enduring imprisonment multiple times for India's independence.
- He spearheaded initiatives like the White Revolution emphasizing the importance of agricultural for the nation's development.

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