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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. CENTRAL INFORMATION COMMISSION

Why in news?

Recently, Central Information Commission (CIC) achieved a **consistent decline in the pendency of RTI (Right to Information) cases** with the constant rise in the disposal of the RTI appeals.

About Central Information Commission

- CIC, a **statutory body**, has been constituted with **effect from 2005 under the RTI Act, 2005**. The jurisdiction of the Commission extends over all Central Public Authorities.
  - It consists of **Chief Information Commissioner (CIC)** and **not more than ten Information Commissioners (ICs)**.
  - They are **appointed by President** on the recommendation of a committee consisting of
    - ✓ Prime Minister as Chairperson,
    - ✓ Leader of Opposition in Lok Sabha and
    - ✓ A Union Cabinet Minister nominated by Prime Minister.
  - CIC is **not eligible for reappointment**.
- By RTI (Amendment) Act, 2019 and the Rules brought in thereafter, **tenure of the commissioners** has been **cut to three years**.
  - Earlier, 2005 Act gave them a fixed tenure of five years or a retirement age of 65 years, whichever is earlier.
  - This was done to ensure that **Information Commissioners can use their powers even with the senior-most officers of the administration** without any fear of their jobs.
- **Functions of CIC**
  - CIC have the **same powers as are vested in a civil court** while trying a suit under Code of Civil Procedure, 1908, in respect of the following matters:
    - ✓ **Summoning and enforcing the attendance of persons** and compel them to give oral or written evidence on oath and to produce the documents or things;
    - ✓ **Requiring the discovery and inspection of documents**;
    - ✓ **Receiving evidence** on affidavit;
    - ✓ **Requisitioning any public record or copies** thereof from any court or office;
    - ✓ **Issuing summons for examination of witnesses** or documents.
  - CIC, as the case may be, receive and inquire into a complaint from any person,
    - ✓ who has been **refused access to any information** requested;
    - ✓ who has not been given a response to access to information within the time limit specified etc.

> **RTI Act, 2005**
> - **Genesis of RTI law started in 1986** through **Mr. Kulwal v/s Jaipur Municipal Corporation case**, in which SC directed that **freedom of speech and expression provided under Article 19 implies RTI**, as without information the freedom of speech and expression cannot be fully used by the citizens.
> - It replaced the Freedom of Information Act, 2002.
> - RTI Act **empower the citizens, promote transparency and accountability in the working of the Public Authorities,** contain corruption, and make our democracy work for the people in real sense.
> - As per RTI Act 2005, **salary of CIC and ICs (at central level) will be equivalent to salary paid to Chief Election Commissioner** and Election Commissioners, respectively.
>   - However, **RTI bill 2019 removes these provisions and empowers Central Government**.

> **Initiatives taken to improve functioning of CIC**
> - **Online portal: 24 hours' portal service was introduced** for e-**filing of RTI applications** during any part of day or night and from any part of the country or abroad.
> - **e-governance:** Technology has been harnessed for developing mobile based applications, e-hearing, e-notification etc., facilitating the task of information seekers in availing remedies under the law.
> - **National Federation of Information Commissions of India (NFICI):** Federation was born in 2009 **to facilitate coordination and mutual consultations among CIC and SIC** as well as exchange of information on laws and their interpretation through education, research and dissemination of knowledge, leading to strengthening administration of RTI Act.
> - **RTI (Amendment) Bill, 2019**: To further streamline and institutionalize the RTI Act of 2005.

Issues with Central Information Commission

- **Poor record management:** Ineffective record management systems and procedures to collect information from field offices lead to **delays in processing RTI applications**.

- o 38% of the Public Information Officers (PIOs) cited the record management system as a reason for delays in processing RTI requests.
  - o 79% of the PIOs cited **collecting information from field offices as a cause of delay.**
- **Pendency:** The pendency is five times higher than the cases disposed since mid-April 2022. A total of 35,849 appeals and complaints are currently pending disposal.
- **Right to Information Rules, 2019:** New rules have given discretion to **government to decide on allowances or service conditions** (tenure, salary) which would be "binding" thus increasing government control on CIC.
- **Vacancy:** The CIC has been **vacant for significant periods** in four of the last seven years.
- **Lack of training**: PIOs **lacks the required knowledge of act to deal with the RTI application,** thus creating delay in the process of information delivery as the act doesn't have provision regarding training for appointment of PIO.

Way forward

- **Record management**: By uploading all the disclosable documents on departmental websites thus **reducing burden on department to provide information** and **reduce physical document storage and movement.**
  - o Make a separate department for management.
- **Training:** In-house training of PIOs, training programmes by experts for handling RTI applications and in-house manuals containing information with regard to provisions of RTI Act, 2005, important court decision, etc. to **increase efficiency of PIOs**.
- **Awareness:** Campaigning **through Radio, Television and Print Media, Publication of RTI Act 2005 in regional language**, adding a chapter on RTI Act, 2005 in school/college curriculum, can be used to create awareness among citizens.
- **Quick Disposal**: There is a need to enhance the number of information commissioner in CIC in order to quickly dispose pending cases.

1.2. JUDICIAL ACCOUNTABILITY

Why in news?

Recently, the **Orissa High Court** became the **first in the country to publish an annual report** that gives insights into the performance of the state's judiciary.

About Judicial Accountability

- Judicial accountability is defined as the set of mechanisms aimed at **making judges and courts personally or institutionally responsible for behaviours and decisions** contrary to constitutional or legal standards.
- Constitution follows **the principle of separation of power** where checks and balances exit on every organ's (**Legislature, Executive** and **Judiciary**) conduct.
  - o **However,** being the protector of Fundamental Rights, interpreter of constitution, judiciary is required to be independent and outside influence of political and economic entities.
  - o **Under Article 235**, Constitution provides for **'control' of High Court over the subordinate judiciary** clearly indicating the provision of an **effective mechanism to enforce accountability**.

NEED OF JUDICIAL ACCOUNTABILITY

To ensure faith and trust of citizens in democratic institutions

Improve efficiency and transparency in delivering quality judgements

To reduce pendency of cases

Lack of effective mechanism to enforce accountability of Supreme court

Issues with Judicial Accountability

- **Collegium System**: Judges appointing judges has led to **concentration of immense power in hands of judges, promoting nepotism** and violate the principle of check and balances.

- **Conduct of judges**: Judges have been alleged to have indulged in corruption, post retirement jobs etc.
- **In house functioning**: Opacity in the functioning of judiciary such as **allocation of cases, judicial appointments, disciplinary actions** etc. are informal and inefficient and there is urgent need to bring in transparency which further strengthens accountability.
- **Information asymmetry**: Judiciary has virtually kept itself **out of the ambit of RTI Act** thus restricting access to information, which further hinders process of holding judges accountable for their actions.
- **Judicial overreach**: Judicial activism **enforces rights of people and society at large**, however, there have been instances of judicial overreach violating the key principle of separation of power.
  - Example, **Scrapping of National Judicial Appointments Commission (NJAC) act**.
- **Pendency:** Due to lack of accountability measures, **pendency across all courts grew by 2.8% annually between 2010 and 2020**. As of September 2021, over 4.5 crore cases were pending across all courts in India.
  - Pendency has led to **erosion of public trust** in judges and judicial system.

> **Judicial Independence vs Judicial Accountability**
> - Judicial independence means **absence of judiciary dependence on other organs of State** i.e. Executive and Legislature, along with power of judiciary to administer justice impartially and honestly.
>   - **Provisions highlighting judicial independence** includes Security of tenure, no discussion on conduct of judges in Parliament, **Prohibition on practice after retirement.**
> - Both the terms are interrelated in the sense that **excessive independence can decrease accountability and vice versa**. So, it is necessary to maintain balance between both.
>   - This balance is achieved by making judiciary accountable for its actions through **removal of judges by parliament, provisions for appeals**, revision and review of the orders of courts, ethical code of conduct for judges etc.

Steps taken to promote Judicial Accountability

- **In-house procedure:** Formulation of an in-house procedure to **inquire into any allegation of misbehavior or misconduct against them,** which is considered fit for inquiry by the Chief Justice of India and some of his senior colleagues.
- **Memorandum of procedure, 2016**: It has been under discussion to bring in transparency in judicial appointments and **setting up a permanent secretariat in Supreme Court** for maintaining records of high court judges.
- **Judicial standard and accountability Bill, 2020**: It is under consideration which requires judges to declare their assets, lays down judicial standards, and establishes processes for removal of judges of the Supreme Court and High Courts.
  - In 2009, the Supreme Court and the high courts resolved to publish voluntary declaration of assets by their judges.
  - Also, **Bangalore Principles of Judicial Conduct** were adopted in 2002.
- **Use of technology**: To digitize the legal process and monitor the entire life cycle of a case.
  - **LIMBS (Legal Information Management & Briefing System), a web-based application for monitoring cases** involving the central government of India, in a more effective and transparent manner.

Conclusion

A more **formal and comprehensive Code of Conduct for Judges** should be put in place which is enforceable by law. Also, **Annual reports on functioning and efficiency** should be published to foster accountability as recently done by Orissa High court.

1.3. PUBLIC INTEREST LITIGATION

Why in news?

Recently, Supreme Court objected to frivolous **Public Interest Litigation (PIL) petitions**, and imposed **penalties on petitioners for filing luxury litigation**.

About Public Interest Litigation and its significance

- PIL is the **use of the law to advance human rights and equality** or raise issues of broad public concern.
  - Expression PIL has been **borrowed from American jurisprudence.**

Background of PIL

1976
- PIL concept introduced by **Justice Krishna Iyer in Mumbai Kamagar Sabha v. Abdul Thai** case, where unregistered workers association was granted to **institute writ petition under Article 32**.

1979
- First-ever reported PIL was **Hussainara Khatoon v. the State of Bihar** that focused on inhumane conditions of prisons and undertrials.

1981
- New period of PIL Movement was started **by Justice P.N. Bhagwati in SP Gupta v. Union of India** case.
- **Justice Bhagwati** has been called as the **father of PIL** in India.

- o PIL is **based upon Article 39 A** which makes sure that **state secures and provides justice without any discrimination** based on caste, religion, creed etc.
  - o PIL is the power given to the public by courts.
- Public interest cases may arise from **both public and private law matters.**
  - o Some of the **matters which are considered under PIL are** Bonded Labour, Atrocities on women, Environmental pollution, Food adulteration, Maintenance of heritage and culture etc.
  - o PIL can be filed in **any High Court or directly in the Supreme Court.**
- **PIL can be filed by:**
  - o **Any citizen of India**, the **petitioner need not be aggrieved person**.
  - o **An organization** with condition that it should not be filed with a personal agenda but in the interest of the public.
  - o **Court can take awareness of a matter** if it is for the maximum public importance and can also appoint an advocate to handle the case.

SC landmark judgments on PIL
- **SP Gupta v. Union of India, 1981:** Any member of public or NGO acting bonafide, can **invoke writ jurisdiction of HC or SC** under Article 226 or 32 respectively**,** seeking **redressal against violation of legal or constitutional rights of persons** who due to social or economic or any other disability cannot approach the Court.
- **M.C Mehta v. Union of India, 1987**: PIL brought against Ganga water pollution, SC held that **petitioner although not a riparian owner entitled to move the Court for the enforcement of statutory provisions,** as he is the personal interest in protecting the lives of the people using Ganga water.
- **Vishaka v. the State of Rajasthan, 1997**: SC recognized **sexual harassment as a violation of fundamental rights** of Article 14, 15 and 21.
- **Indian Banks' Association, Bombay & Ors. v. M/s Devkala Consultancy Service and Ors, 2004:** In an appropriate case, where petitioner might have moved a court in her **private interest and for redressal of the personal grievance.**
  - o Court in furtherance of Public Interest may treat it a necessity to enquire into state of affairs of the subject of litigation in the interest of justice.
  - o Thus, a **private interest case can also be treated as public interest** case.

Issues with Public Interest Litigation
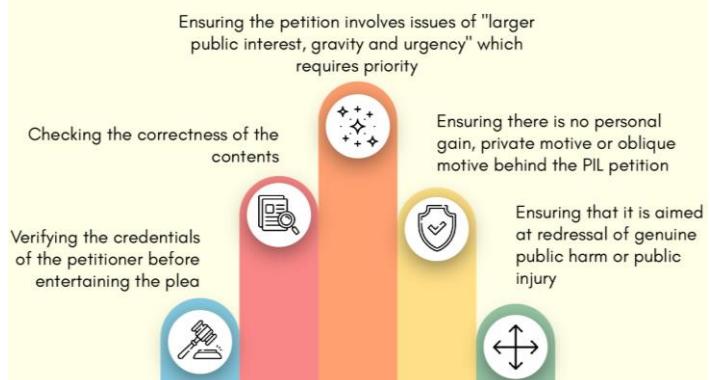
- **Abuse of the process of law**: Over the years, PIL have been used for publicity and private interest.
  - o For instance, PIL against increase in the price of onions or in railway fares etc.
- **Encroachment on judicial time**: due to rise in number of frivolous PILs filed**.**
- **Stalling of developmental activities**: PIL has been used as a tool to delay developmental activities. For instance, PIL filed against developmental activities at premises of Puri Jagannath Temple.
- **Violate Separation of Power**: Credibility of PIL process is now **adversely affected by the criticism that the judiciary is overstepping** the boundaries of its jurisdiction. For instance, Ban on Liquor sale on highways.

Significance of PIL: Obtain social justice for society (minority/ disadvantaged groups/ individuals); Creating sense of responsibility in public authorities; Promote rule of law, transparency and reduce corruption in administration; Better enjoyment of Fundamental Rights; Helps to implement the concept of judicial review; Making judicial process more democratic

Way forward

- **Supreme Court guidelines**: To preserve the purity and sanctity of the PIL, in **State of Uttaranchal v. Balwant Singh Chaufal judgement,** SC issued several directions to help constitutional courts separate genuine PIL petitions from the frivolous ones. (Refer Infographics).
- **Adhere to Doctrine**: Doctrine of Separation of Power should be adhered to, and courts should not step into the jurisdiction of other organs.

SC GUIDELINES FOR PIL
- Ensuring the petition involves issues of "larger public interest, gravity and urgency" which requires priority
- Checking the correctness of the contents
- Ensuring there is no personal gain, private motive or oblique motive behind the PIL petition
- Verifying the credentials of the petitioner before entertaining the plea
- Ensuring that it is aimed at redressal of genuine public harm or public injury

- **Timely Disposal:** PIL related to exploited and disadvantaged groups should be taken up in a timely manner to further social development.
- **Penalty:** PILs filed by lawyers, citizens filed without research and on frivolous grounds should be penalized in order to address misuse.

1.4. HATE SPEECH

Why in news?

Recently, National Crime Records Bureau (NCRB) reported about 500% rise in cases under hate speech law in seven years.

About Hate Speech

- Hate speech has **not been defined in any law in India**.
  - o The concept of hate speech is not defined in international law also. Instead, the International Covenant on Civil and Political Rights calls for the prohibition by law of the advocacy of hatred that constitutes incitement to discrimination, hostility, or violence
- Hate speech can be conveyed through **any form of expression, including images, cartoons, memes, objects, gestures and symbols and it can be disseminated offline or online**.
  - o The term hate speech has been **used invariably to mean expression which is abusive, insulting, intimidating, harassing or which incites violence, hatred or discrimination against groups** identified by characteristics such as one's race, religion, place of birth, residence, region, language, caste or community, sexual orientation or personal convictions among many others.

Legislations around Hate speech

- **Constitutional Provision: Article 19(2)** of the Constitution gives all citizens the right to freedom of speech and expression but subject to 'reasonable restrictions' for preserving inter alia 'public order, decency or morality'.
- **Indian Penal Code (IPC), 1860:** Various Sections like 153A, 153B, 298 etc. of the Indian Penal Code 1860 deal with speech or words that could create mischief, outrage religious beliefs or cause imputations to national integration.
- **Representation of The People Act, 1951:** Section 8 disqualifies a person from contesting election if he is convicted for indulging in acts amounting to illegitimate use of freedom of speech and expression.
  - o **Section 123(3A) and section 125** prohibits promotion of enmity on grounds of religion, race, caste, community, or language in connection with election as a corrupt electoral practice and prohibits it.
- **Protection of Civil Rights Act, 1955: Section 7** penalises incitement to, and encouragement of untouchability through words, either spoken or written, or by signs or by visible representations or otherwise.

Issues with hate speech

- **Spreads Violence:** Hate speech incites violence and undermines social cohesion and tolerance. However, its scale and impact are nowadays amplified by new technologies of communication.
- **Increase religious polarization**: Minority groups. National, ethnic, religious, or linguistic minorities are a recurring target of hate speech.
  - o Political speeches often assume a divisive tone in order to exploit social prejudices for electoral gains.
- **Impact social harmony and democracy**: As victims of hate speech citizens fear and are indeed nervous to enter public spaces or participate in the discourse.
- **Disturbing law and order**

Challenges in countering hate speech

- **Clash with the freedom of speech and expression:** The anti-hate speech law is contested because of its clash with the freedom of speech and expression of an individual.
- **Curb Dissent**: Any attempt to **regulate hate speech need not shrink the space for criticism and dissent**, which are covered by the human right of a person to free speech and expression.
- **No proper definition:** There is no general legal definition of hate speech. It is difficult to identify or classify content as hate.

Way Forward

- **Law Commission Recommendation**: It has proposed to add separate offences to the IPC to criminalise hate speech instead of being subsumed in the existing sections.
- **Regulatory measures:** Laws should be adopted to punish incitement to hatred that may result in violence, hostility and discrimination. They should be implemented in a non-selective, non-arbitrary and transparent manner, which should not be used to stifle dissent or the legitimate exercise of freedom of expression.
  - Consistency, uniformity, and objectivity are very important while adjudicating any case.
- **Alternative Dispute Resolution of Hate Speech Cases:** It shifts the focus from court-centred formal legal proceedings to the settlement of the dispute between parties by way of negotiation, mediation, arbitration and/or conciliation.
- **Non-Legal Measures to Address Hate Speech**
  - **Involvement of religious heads to build empathy** across religious lines to reduce communal tension,
  - Strategic interventions (especially in the context of social media) to **monitor the dissemination of hate speech and mob mobilisation.**
  - **Human rights education** is the most powerful strategy to both prevent and counter hate speech.

> **SC on hate speech**
> - **Pravasi Bhalai Sangathan v. Union of India** case: The petitioners found the existing laws related to hate speech inadequate and prayed that the State should enact stricter regulation and take peremptory action against people promoting hate speech.
>   - But the **Court observed that the implementation of existing laws would solve the problem of hate speech to a great extent.**
> - **Shreya Singhal v. Union of India:** Issues were raised about Section 66A of the Information Technology Act, 2000 relating to the fundamental right of free speech and expression guaranteed by Article 19(1) (a) of the Constitution, where the **Court differentiated between discussion, advocacy, and incitement and held that the first two were the essence of Article 19(1).**

1.5. NEWS IN SHORTS

1.5.1. INTERNET SHUTDOWNS

- United Nations has called on countries to stop **imposing Internet shutdowns**, warning of **dire consequences.**
- **Impact of Internet shutdown as per UN report:**
  - Major economic **costs for all sectors**, disrupting for example financial transactions, commerce, and industry.
  - Undermines pedagogical outcomes, **interfere with education planning and** participation in political debates or decisions.
  - Communication delays and impediments also compromise the **effectiveness of health-care**.
  - Undermines access for **women and girls to critical support and protection**, exacerbating the gender divide.
  - **Causes mental trauma** by depriving people of their only means of **reaching loved ones**.
- **Key Recommendations by Report**
  - **To states:** States should **refrain from the full range** of Internet shutdowns. Any Internet shutdowns must be:
    - ✓ Clearly grounded in unambiguous, publicly available law;
    - ✓ Necessary to achieve a legitimate aim;
    - ✓ Proportional to the legitimate aim.
  - **To companies**: Reinforce **engagement and collaboration with all stakeholders** working to prevent and reverse communications disruption.
  - **To development agencies, regional organizations, and international organizations**: Ensure that the **risks of Internet shutdowns are considered** when designing and implementing cooperation programmes relating to Internet connectivity
  - **To civil society**: Reinforce collaborative efforts to **prevent, detect, study, and respond** to Internet shutdowns.

> **Internet shutdowns related provisions in India:**
> - Currently, suspension of telecom services (including internet shutdowns) is governed by the Temporary Suspension of **Telecom Services (Public Emergency & Public Safety) Rules, 2017**, notified **under the Indian Telegraph Act, 1885**.
> - The 2017 Rules provide for temporary shutdown of telecom services in a region on **grounds of public emergency** (up to 15 days at once).

1.5.2. INTER-STATE COUNCIL (ISC) MEETINGS

- Tamil Nadu Chief Minister recently wrote to Prime Minister that Inter-State Council (ISC) meetings should be held thrice a year.

- o He also suggested that **bills of national importance should be placed before the Council before being tabled in Parliament.**
- o It will help to **"strengthen the spirit of cooperative federalism".**
- **About ISC**
  - o **Established under Article 263** of the Constitution, which **states that the President may constitute such a body if a need is felt for it.**
    - ✓ **In 1988, the Sarkaria Commission suggested the Council should exist as a permanent body,** and in **1990 it came into existence** through a Presidential Order.
  - o The **Council consists of:**
    - ✓ Prime Minister – Chairman
    - ✓ Chief Ministers of all States and Union Territories having a Legislative Assembly – Members
    - ✓ Administrators of UTs not having a Legislative Assembly – Members
    - ✓ Six Ministers of Cabinet rank in the Union Council of Ministers to be nominated by the Prime Minister – Members
    - ✓ 10 Union Ministers as permanent invitees
  - o **Function:**
    - ✓ Inquiring into and advising on **disputes between states**
    - ✓ Investigating and discussing subjects in **which two states or states and the Union have a common interest**
    - ✓ Making recommendations for the **better coordination of policy and action.**
- The Interstate Council has met **only once** in the last six years and 11 time since its constitution in 1990.

1.5.3. RAJYA SABHA (RS) ELECTIONS HELD FOR SEVERAL STATES

- RS is a **permanent House and cannot be dissolved.**
  - o Maximum strength of RS **is fixed at 250 (presently 245),** out of which, 238 (Presently 233)are representatives of states and UTs (elected indirectly) and 12 are nominated by president.
  - o Term of a member is **6 years.**
- **Rajya Sabha Elections**
  - o To ensure continuity, **one-third of its members retire after every second year.**
  - o Representatives of states in RS are **elected** (under Article 80) **by elected members of state legislative assemblies.**
  - o **Seats are allotted** to states **on the basis of population.**

- o Election is held in accordance with **system of proportional representation by means of single transferable vote.**
  - ✓ A **single transferable vote means electors can vote for any number of candidates** in order of their preference. A candidate requires a specified number of first preference votes to win.
- **RS polls have a system of open ballot,** but it is a limited form of openness.
  - o **To check cross-voting,** each party MLA shows his or her **marked ballots to party's authorised agent,** before they are put into the ballot box.
  - o **Showing a marked ballot to anyone other** than one's own party's authorised agent **will render vote invalid.**
  - o '**None of the above (NOTA)' option is not applicable** in RS polls. Also, **not voting for the party candidate will not attract disqualification** under the anti-defection law.

> **Other facts about Rajya Sabha**
> - **Under Article 80(3),** the 12 nominated members should have special knowledge or practical experience in matters like literature, science, art etc.
> - **4th Schedule to the Constitution** provides for allocation of Rajya Sabha seats to the states and Union Territories, on the basis of the population of each state.

1.5.4. REGISTERED UNRECOGNISED POLITICAL PARTIES (RUPPS)

- Election Commission (EC) deleted 111 'non-existent' parties from the list of registered political outfits.
  - o These 111 **Registered Unrecognised Political Parties (RUPPs)** were found to be **non-existent** and **violating the Representation of the People Act, 1951.**
- **As per** ADR, **annual audit reports** of only **about 8.23 per cent** RUPPs and the **annual contribution reports** of only about 5.72 per cent are **available in the public domain** for 2019-20.
- It is to be noted that EC **does not have the power to deregister** a political party, a **reform still pending** approval from the government.
  - o However, it can take up the **issue of financial irregularities** and **seek mandatory compliance** from the parties like **sources and manner of donations, disclosures by companies, details of bank account etc**.
  - o **EC has initiated action** against several registered unrecognized political parties **under Sections 29A and 29C of the Representation of People Act, 1951,** for claiming tax exemptions without fulfilling mandatory requirements**.**

- **Issues with RUPPs:**
  - Many were found to be **existing only on paper** or letters sent to their addresses returned undelivered.
  - **Misuse of Income Tax exemption on donations** given to registered parties misused by some.
  - Few RUPPs involved in **"serious financial impropriety".**
  - Some of the registered parties may be collecting donations and using them for other purposes, functioning as shell entities and money laundering.

1.5.5. NATIONAL E-VIDHAN APPLICATION (NEVA)

- NeVA system has been developed **to make all the work and data related to legislative bodies available online** for the use of both citizens and the members of Assemblies.
  - **e-Vidhan is re-designated as NeVA.**
  - **Ministry of Parliamentary Affairs is Nodal Ministry** for rolling out NeVA.
- NeVA aims to bring all the legislatures of the country together, in **one platform thereby creating a massive data depository.**
  - It will also **help in streamlining information** related to various state assemblies, and to **eliminate use of paper** in day-to-day functioning.

1.5.6. CONTESTING ELECTIONS FROM MULTIPLE SEATS

- Recently, Chief Election Commissioner has made a fresh push for **amending the Representation of People's Act, 1951 (RPA) to bar people from contesting from more than one seat.**
  - As an alternative, **hefty fine should be imposed** on those vacating one of the constituencies and **forcing a bypoll.**
- **Dinesh Goswami Committee** report (1990) and the **170th report of the Law Commission** on Electoral Reforms (1999) had also included recommendations for **restricting one contestant to one seat**.
- As per **Section 33(7) of the RPA, one candidate can contest from a maximum of two constituencies** (more constituencies were allowed until 1996 when the RPA was amended to set the cap at two constituencies).
- **Issues with present provisions**:
  - **Inconsistencies in RPA: Section 70 of RPA bars candidates from representing two constituencies** in the Lok Sabha/state Assembly, meaning that **if a candidate won both seats, he or she is legally mandated to vacate one of the seats in favour of the other**.

- **Strain on public exchequer**: In the **other constituency in which the seat has been vacated, a by-election would be automatically triggered immediately** after the general election.
  - **Negative impact on voter**: It further causes **voter fatigue** (travelling, travel costs etc.) and **lose interest in electoral process.**
- **The Legislative Department**, ministry of Law and Justice**, is the nodal agency in the government to deal with issues related to the EC.**

1.5.7. ANTI-DEFECTION LAW

- Political crisis in Maharashtra has raised **discussions over legalities of elected MLAs switching parties.**
- **Anti-defection law** provides for **disqualification of MLAs who, after being elected on ticket of a political party, "voluntarily give up their party membership"**.
  - It was included under **10th schedule** via **52nd amendment act, 1985**.
  - Any question regarding disqualification arising out of defection is to be **decided by the presiding officer of the House.**
- **Grounds of Disqualification**
  - If **member votes or abstains from voting** in such House **contrary to any direction issued by his political party** without obtaining prior permission of such party and **such act has not been condoned by the party within 15 days.**
  - **Nominated member**, if he joins any political party after expiry of 6 months.
  - An **independent member,** if he joins any political party.
- **Exception**
  - Law allows a **party to merge with or into another party** provided that **at least two-thirds of its legislators are in favour** of merger.
  - If a **person is elected as speaker of Lok Sabha or Chairman of Rajya Sabha,** then he could resign from his party, and re-join the party once he demits that post.

Related information
- In **State of Gujarat vs Justice RA Mehta (retired), (2013)**, two-judge bench of apex court held that **it is up to a governor not to accept the advice of CM and council of ministers (CoM) to dissolve the assembly.**
- **Article 163** states that **governor shall exercise their functions upon aid and advice of CoM** but **not in matters where Constitution requires that they act at their discretion**

1.5.8. NATIONAL E-GOVERNANCE SERVICE DELIVERY ASSESSMENT (NESDA) 2021 REPORT

- Department of Administrative Reforms & Public Grievances (under Ministry of Personnel, Public Grievances & Pensions) had constituted **NeSDA in 2019 to assess** State, UT and Central Ministries on **depth and effectiveness of e-Governance service delivery.**
  - **Biennial study** helps the respective governments **improve their delivery of citizen centric services and shares best practices** across the country to emulate.
- e-Governance is **use of Information and Communication Technology (ICT)** at all level of Government **to transform relations with citizens, businesses, and other arms** of government.
- **Key highlights of NeSDA 2021**
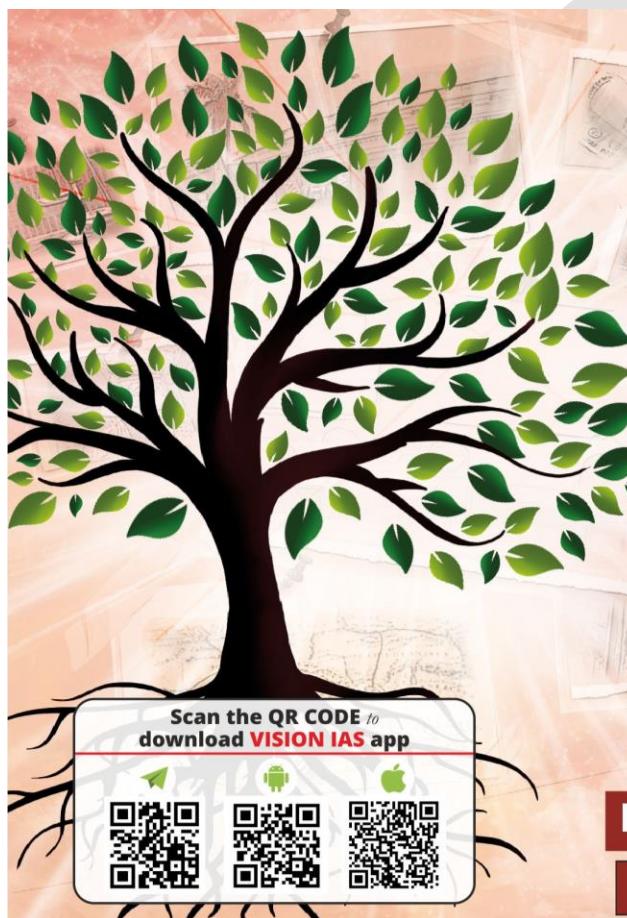
  - **Improvement in country's e-Governance landscape** (from 2019) highlighted by:
    - ✓ Increase in e-Service Delivery,
    - ✓ Rise in use of integrated/centralized portals for delivery of e-Services,
    - ✓ Improvement across assessment parameter scores.
  - e-Services of Finance and Local Governance & Utility Services sectors were most widely used.
  - Amongst all States and UTs, **Kerala had the highest overall compliance score.**
  - Among North-East and Hill States, **Meghalaya and Nagaland are leading States** and among UTs, **Jammu & Kashmir ranked the highest.**
- **Recommendations:** Mandatory Sector-specific Service Focus to attain SDG Goals, Adoption of Standards for Uniformity in Governance, Focus on security and privacy, Embracing New Age Technologies etc.

2. INTERNATIONAL RELATIONS

2.1. WORLD TRADE ORGANIZATION (WTO)

Why in news?

12th Ministerial Conference of the WTO was held recently.

Key takeaways of the conference
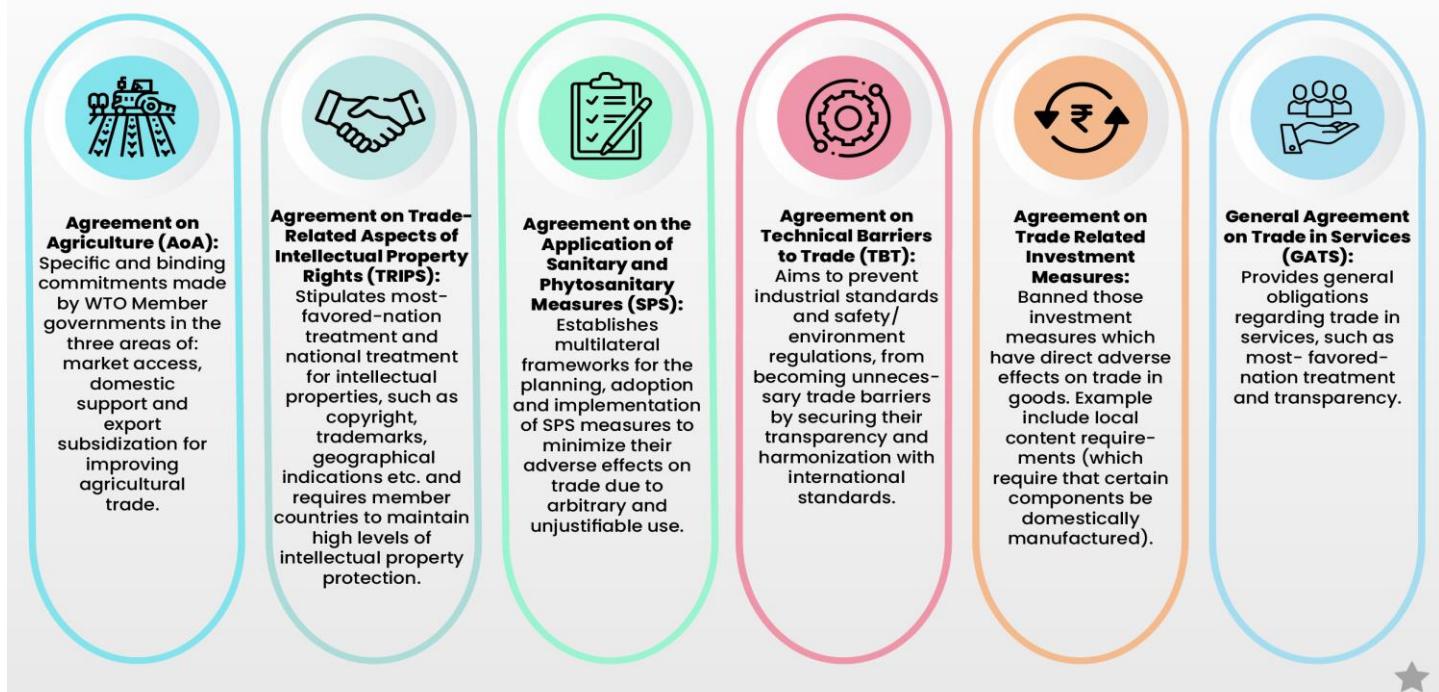
A series of deals on contemporary issues was agreed to under the "**Geneva Package**":

About WTO
- The World Trade Organization is the **only international organization that deals with the rules of trade between countries.**
- Founded in 1995, the WTO is run by its 164 members, and all **decisions are taken through consensus and any member can exercise a veto.**
  - o It is the **successor to the General Agreement on Tariffs and Trade (GATT),** a group founded in 1948 whose rules created the modern multilateral trading system.

Particulars	Features
Curtailing harmful fishing subsidies on illegal, unreported and unregulated (IUU) fishing for the next four years	• There would be **no limitation on subsidies granted or maintained by developing or least-developed countries** for fishing within their exclusive economic zones (EEZ). • Also, technical assistance and capacity building shall be provided to such countries through the **WTO Fisheries Funding Mechanism.**
Global Food Security	• Binding decision to **exempt food purchased by the UN's World Food Programme (WFP)** for humanitarian purposes, from any export restrictions **to address food shortages.**
E-commerce transmissions like music, e-books, films etc.	• Members agreed **to continue the long standing moratorium on custom duties on e-commerce transmissions** until the subsequent Ministerial Conference or until March, 2024, whichever is earlier.
Covid-19 vaccine	• **Temporary waiver of certain requirements under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)** concerning the use of compulsory licences to produce covid-19 vaccines for 5 years.
Sanitary and Phytosanitary (SPS) Declaration	• The Declaration commits WTO members to launching a work programme to identify new challenges in the implementation of the WTO's SPS Agreement.

Major Agreements at WTO

Agreement on Agriculture (AoA): Specific and binding commitments made by WTO Member governments in the three areas of: market access, domestic support and export subsidization for improving agricultural trade.

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS): Stipulates most-favored-nation treatment and national treatment for intellectual properties, such as copyright, trademarks, geographical indications etc. and requires member countries to maintain high levels of intellectual property protection.

Agreement on the Application of Sanitary and Phytosanitary Measures (SPS): Establishes multilateral frameworks for the planning, adoption and implementation of SPS measures to minimize their adverse effects on trade due to arbitrary and unjustifiable use.

Agreement on Technical Barriers to Trade (TBT): Aims to prevent industrial standards and safety/environment regulations, from becoming unnecessary trade barriers by securing their transparency and harmonization with international standards.

Agreement on Trade Related Investment Measures: Banned those investment measures which have direct adverse effects on trade in goods. Example include local content requirements (which require that certain components be domestically manufactured).

General Agreement on Trade in Services (GATS): Provides general obligations regarding trade in services, such as most-favored-nation treatment and transparency.

Implications for India

- **Curtailing of Fisheries subsidy:** Experts are of the view that although exemptions are provided but, four years are not sufficient and would push small Indian fishers towards an uncertain future.
  - Also, there is **no mention of Special and Differential Treatment (given to developing countries under WTO agreements) guidelines**.
- **Exemptions for World Food Programme:** A **blanket exemption for food exports could constrain its work in ensuring domestic food security.**
  - Also, **India's demand to seek a permanent solution on public stockholdings (PDS system)** of food grains has been pushed to MC13 in 2023.
- **Waiver of IPR on Covid-19 vaccine production:** The TRIPS decision will boost vaccine equity, accessibility & affordability and will enable ease of authorisation for production of patented vaccines in India for domestic requirements as well as exports.
  - But, the **current agreement is a watered down version** of the original proposal made by India and South Africa in 2020 which **demanded a broader intellectual property waivers on vaccines as well as treatments and tests.**

Other Unresolved Issues for India at WTO

- **Agricultural subsidies:** The WTO views India's Minimum Support Price (MSP) as a trade distorting measure and placed it under **amber box provisions at WTO** meaning it has to be capped at 10 per cent of the total value of concerned product.
  - **India has challenged this on the arguments that** the primary agenda for MSP and other price support mechanism is not export promotion but **food security.**
- **Non-tariff barriers to trade:** These include Technical barriers to trade (TBT) and Sanitary and Phytosanitary Measures (SPS).
  - India has been urging towards rationalization and standardization of these non-tariff barriers.
- **Negotiations on Non-trade issues like** environment and labour standards. India has stated that for the time being, 'non-trade' must be completely kept out of the negotiating table.
- **Recognition of Geographic Indications (GI):** The **current trading arrangement does not recognize the GI Tags domestically provided to goods** which decreases the marketability of the product in the global markets.
  - India suggests extension of **higher levels of protection to the GI** for products like Basmati rice, Darjeeling tea.
- **Investment Facilitation**: India argues that developing countries should be given flexibility for application of TRIMS (Agreement on Trade-Related Investment Measures) in domestic policy while permitting foreign investment.

- **E-Commerce Transactions:** India has asked the WTO to review the extension of the moratorium on custom duties as developing countries including **India faced the brunt of the financial consequences of such a moratorium**.
  - Extending duty-free market access due to the moratorium resulted in **a loss of $10 billion per annum globally — 95% of which was borne by developing countries** (UN Conference on Trade and Development report).
  - India and South Africa had sought to **preserve policy space for the digital advancement of developing countries** by letting them generate more revenues from customs and thereby facilitate more investment.

Challenges faced by WTO and its solutions

The World Trade Organization (WTO) faces an existential crisis and its **main functions are progressively becoming ineffective**. There are calls for substantial reform of the organisation due to following reasons:

Issue	Challenge	Potential solutions
Ineffective against China's policies	The WTO has not been able to counter China's tariff manipulation and unfair trade practices.	WTO needs to strengthen its enforcement capacity to deal with such practices to become a credible trading system.
Changed Global Economic distributions	Developing countries like India play a large role in the trading regime in the current era.	The operational framework of WTO needs to be revised to consider this changed economic balance.
Dysfunctional WTO appellate body	The U.S. has systematically blocked the appointment of new Appellate Body members (judges) which it believes has resulted in unfavorable rulings for the US in its trade disputes.	Concerted efforts need to be made to make the appellate body functional and dispute settlement system operational.
Long decision-making process	As the decision making is through consensus, it takes a long time and most of the time political and ideological differences come in a way of reaching a consensus.	Member countries need to iron out the differences to arrive at a common ground.

Lack of inclusiveness	With an increasingly global trading system, exclusion of some countries makes it a less effective organization. **Countries such as Iran, Iraq, Lebanon and Uzbekistan have not joined WTO yet.**	Efforts need to be made at making the organisation fully representative.
Move towards bilateral/regional/plurilateral trading regimes	Since the pace of negotiations in the WTO has been slowing, countries are increasingly moving towards other forms of trading regimes such as RCEP.	Rules and procedures of WTO need to evolve to remain relevant in the emerging scenario.
Effect of COVID-19 Pandemic	COVID-19 pandemic has forced countries to impose comprehensive export bans and restrictions resulting in disruptions in the global supply chains. There is potential for more trade disputes to arise in the future.	Strengthening WTO's dispute settlement system is the need of the hour to tackle the emergent situation.

To know more about WTO, please refer to our following Weekly Focus Document.

India and World Trade Organization

In the wake of rising trend of protectionism and fear of deglobalization sweeping across the world, multilateral institutions like WTO are in a mode of crisis. India being one of the significant global trade players, is not aloof of the impacts of this crisis. In this document, apart from learning the role played by WTO in facilitating global trade, we will also look into various facets of India's journey with the organization, present issues and the way ahead.

2.2. ALTERNATIVES TO BELT AND ROAD INITIATIVE (BRI)

Why in news?

The United States aims to **raise $200 billion over five years** to fund needed infrastructure in developing countries under a G7 initiative aimed at countering **China's Belt and Road project.**

More about news

- The **overall investment**, including G7 partners and private capital, aims to hit **$600 billion** over the **next five years**.
- The announcement is an **official launch and a rebranding** of what had been rolled out last year at the G7 in the UK as **"Build Back Better World" (B3W)**.
- The effort is now called the **Partnership for Global Infrastructure and Investment, or PGII.**

About Partnership for Global Infrastructure and Investment (PGII)

- It seeks to provide an alternative to **China's estimated $1 trillion in hard infrastructure** investment around the world in the last decade.
- This G7 initiative is funding projects in **four major categories:**
  - **clean energy,**
  - **health systems,**
  - **gender equality**
  - **information and communications technology.**
- At the centre of PGII is a different approach to financing infrastructure projects: using **limited government funding** to catalyse **greater volumes of private capital (**pension funds, private equity funds and insurance funds, among others).

o This stands in contrast to BRI, which provides financing largely via **state-to-state channels creating unsustainable debt levels.**

About BRI (Belt and Road Initiative)

- It is a **transcontinental long-term policy and investment program** which aims at infrastructure development and acceleration of the **economic integration of countries** along the route of the **historic Silk Road.**
- It was **unveiled in 2013** by China and until 2016, was known as **OBOR (One Belt One Road).**
- According to the **Belt and Road Portal**, currently **71 countries are taking part** in the Initiative, together representing **more than a third of the world`s GDP** and **two thirds of the world`s population.**
- BRI combines **two initiatives (refer map):**
  o **The (land based) Silk Road Economic Belt.**
  o **21st Century Maritime Silk Road.**

Why Alternatives to BRI are emerging?

- **Fragmented nature**: Belt and Road is not a **unified, coherent strategy**, but rather as a **fragmented collection of bilateral arrangements** made on **different terms**.
- **Opaque nature causing mistrust**: The **opaque nature** of the BRI and **the loans** on which it is built is another major concern.
  o The Chinese government has never published **detailed information about the size and terms** of Belt and Road loans. This vacuum of information **feeds confusion and mistrust**.
- **Debt trap diplomacy:** It refers to the accusation that China uses Belt and Road as part of a **manipulative global strategy**, funding major infrastructure projects in developing nations with **unsustainable loans**, then using the debt to **gain leverage** over those governments.
  o The accusation was sparked by projects such as the **Hambantota Port Development** in Sri Lanka. The Sri Lankan government was **unable to service the Chinese loans** which funded the project, and the port was handed to the **Chinese on a 99-year lease in 2017**.

About G7
- The G7 is an **informal forum of leading industrialised nations**, which dominate global trade and the international financial system.
- It meets annually **to discuss issues such as global economic governance, international security and energy policy,** besides a host of other issues topical to the prevailing situation.
- **Members and Partners:** It includes **Canada, France, Germany, Italy, Japan, the United Kingdom and the United States** as core members.
  o In addition to the core nations, **there are other invitee nations (acting as partners) that are democracies and classified emerging economies**.
    ✓ In the recent summit for example, **India was invited along with Argentina, Indonesia, Senegal and South Africa as guests**.
  o There are also various organisations such as IMF, World Bank, WHO that are part of the international governance.
- **Russia joined G7 in 1998, creating the G8**, but was excluded in 2014 for its takeover of Crimea.
  o The EU is not a member of the G7 but attends the annual summit.

About LiFE Campaign
- At the recent G7 summit, India also highlighted **Global Initiative for LiFE (Lifestyle for Environment) campaign** with a goal to encourage an eco-friendly lifestyle.
- The idea of LiFE was **introduced by the PM during** the 26th UN Climate Change Conference of the Parties **(COP26), 2021 at Glasgow.**
  o The Mission seeks to create an ecosystem that will **reinforce and enable environmentally friendly behaviours to be self-sustainable.**
- Its vision is to live a **lifestyle that is in tune with our planet and does not harm it. People living** such a lifestyle are called **"Pro-Planet People (P3)".**
  o Recently at the **World Economic Forum's (WEF) Davos Agenda 2022**, PM Modi introduced the "P3 movement" that underlines India's climate change commitments.

BELT AND ROAD INITIATIVE

- **Political backlash**: BRI projects are built using **low-interest loans** as opposed to aid grants. Some BRI investments have involved **opaque bidding processes** and required the use of **Chinese firms**. As a result, contractors have **inflated costs**, leading to **cancelled projects and political backlash**.
  - In 2018, in Malaysia, there was a campaign against **overpriced BRI initiatives**.
  - Use of **sovereign land for building China's military installations** is another concern.
- **Slow progress due to implementation issues**: As per a report, **35% of the BRI infrastructure project** portfolio has encountered major implementation problems, such as **corruption scandals, labour violations, environmental hazards, and public protests**.
- **Environmental costs:** The BRI has been criticized for causing **severe and irreversible impacts** on the environment and jeopardizing progress towards **long-term sustainable development**.

India's concerns over BRI

- **Geopolitical concerns:** India is particularly concerned about the BRI infrastructure and connectivity projects in the **smaller South Asian countries** and **Indian Ocean littoral states**.
  - India has traditionally viewed this region **as its back yard** over which it has historically **maintained a position of influence**.
  - It is apprehensive that the BRI projects will enhance China's stature and **undermine India's influence** over those states.
- **Sovereignty and security concerns:** India is **opposed to one of the flagship projects** of the BRI i.e. **China-Pakistan Economic Corridor (CPEC) which** connect China's Xinjiang autonomous region with Pakistan's Balochistan Province.
  - The project runs through **(Pakistan-controlled) Kashmir** and hence it '**violates Indian sovereignty**'.
  - Deployment of security personnel by China and Pakistan for the CPEC is another cause of **security concern** for India
  - Further, since Gwadar is a deep-water port, it arguably gives Pakistan and China a **strategic advantage** in the IOR over India's role as the **regional power**.

What are the other Alternatives to BRI?

- **EU's Global Gateway Project:** The project aims to **mobilise up to €300 billion** in investments between 2021 and 2027 to underpin a **lasting global recovery**.
  - It will support **smart investments** in quality infrastructure, respecting **highest social and environmental standards**, in line with **international norms** and standards.
  - It is a European Strategy to boost **smart, clean, and secure links in digital, energy and transport** as well as strengthen **health, education, and, research systems** across the world.
  - EU's **Global Gateway** provides a positive offer for its partners by financing them under **fair and favourable terms** in order to **limit the risk of debt distress** in contrast with China's BRI

> **India's response**
> - **MAUSAM project** to strengthen bilateral ties with countries in the Indian Ocean region.
> - **SAGAR (security and growth for all in the region) concept** with multiple objectives such as:
>   - protecting **maritime interests**,
>   - enhancing economic and security cooperation in the littoral,
>   - **promoting collective action** to deal with maritime threats,
>   - building **greater trust and promoting respect** for maritime rules, norms and peaceful resolution of disputes.
> - Increased **aid, investment and other economic engagements** to counter Chinese influence in neighbours like Nepal, Sri Lanka and Maldives.

- **Asia-Africa Growth Corridor (AAGC):** Another attempt put forth by India and Japan in 2017 is AAGC. This bilateral partnership intends to foster **quality and sustainable (social and transport) infrastructure, development projects, and connectivity** in Africa.
  - It aims to promote a "free and open" world order, while also **providing an alternative to China's increasing investments and influence in Africa.**

2.3. NORTH ATLANTIC TREATY ORGANIZATION (NATO)

Why in news?

NATO Summit was held recently in Madrid (Spain) amid Russia-Ukraine War.

Some Key outcomes

2022 Strategic Concept	It is NATO's guiding document which reflects the emerging security reality. • It **identifies Russia as the most significant and direct threat** to Allied security, • **Addresses China for the first time** and • Includes other challenges like terrorism, cyber and hybrid threats, maritime security etc.
Support to Ukraine and other partners at risk	• A strengthened **Comprehensive Assistance Package for Ukraine**, including support in areas like secure communications, anti-drone systems and fuel.
Adapting the Alliance to emerging challenges	• Agreement **to cut greenhouse gas emissions** by NATO as an organisation by at least 45 per cent by 2030, down to net zero by 2050. • Launch of the **NATO Innovation Fund**, which will invest EUR 1 billion over the next 15 years in start-ups developing dual-use emerging technologies, such as artificial intelligence.

About NATO

- NATO was **formed in 1949** with the aim of acting as a deterrent to the threat of Soviet expansion in Europe after World War II.
- **Purpose:** The organization **acts as a collective security alliance** with the aim of providing mutual defense through military and political means if a member state is threatened by an external country. (**Article 5** of the NATO charter).
  - Article 5 has been invoked once, by the United States, in the wake of the 9/11 attacks in 2001.
- **Founders:** Its 12 founding members are the United States, the United Kingdom, Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway and Portugal.
  - Finland and Sweden are on the cusp of joining NATO.
- **Story of NATO Expansion:**
  - The Soviet Union responded to NATO by creating its own military alliance with seven other Eastern European communist states in 1955, dubbed the **Warsaw Pact.**
  - But after the **collapse of the Soviet Union in 1991**, a number of former Warsaw Pact countries became NATO members. This includes Hungary, Poland, Bulgaria, Estonia, Latvia among others.
  - The most recent additions were Montenegro in 2017 and North Macedonia in 2020, **bringing the total number of NATO member states to 30**.
    - ✓ NATO's **Open door policy** (Article 10 of the charter), allows any European country that can enhance and contribute "to the security of the North Atlantic area" to join.
- **Major Non-NATO Ally Status:** It is a designation given by the US government to close allies that have strategic working relationships with the US Armed Forces but are not members of the NATO.
  - The **US has designated 30 other countries** including Japan, S.Korea, Japan, Israel etc. as major non-NATO allies.
  - The status **confers a variety of military and financial advantages** such as participation in defence research projects and counter-terrorism initiatives, buy depleted uranium ammunition etc. that otherwise are not obtainable by non-NATO countries.

Relevance of NATO in contemporary times

- **To deal with a rapidly changing security environment:** Russia's invasion of Ukraine, terrorism, growing global uncertainty, more sophisticated and disruptive cyber and hybrid threats, and exponential technological change continues to represent a global security challenge and a threat to stability.
  - **It played an important role in the international security ambit.**

> **Issues with NATO**
> - **Conflicts and Difference of opinion among members:** NATO leaders have fundamentally different views about terrorism, Russia, and European security.
>   - Conflicts among NATO members — for example, Greece and Turkey — have sharpened.
> - **Lack of a clearly-defined mission**
> - **The alliance is losing its edge in strategic competition** with an increasingly technologically advanced, militarily capable and politically aggressive Russia.

- ✓ NATO **condemns Russia's aggression** against Ukraine as it gravely undermines international security and stability, and is a blatant violation of international law and offers unwavering **support for Ukraine's independence, sovereignty and territorial integrity.**
- ✓ For nearly 20 years, NATO Allies and partner countries had **military forces deployed to Afghanistan** to ensure that the country would not again become a safe haven for international terrorists.
- ✓ NATO **remains a key pillar in the fight against the Islamic State of Iraq and Syria** (ISIS) with its support of the Global Coalition to Defeat ISIS.
  - o **It is the longest surviving inter-governmental security organisation** of the world and its membership has increased over the period of time.

- **Response to COVID:** NATO responded to the COVID-19 crisis by protecting military personnel, facilitating the airlift of critical medical supplies, and harnessing resources to deliver innovative responses.
  - o **NATO's Eastward Expansion:** Key decisions taken at the recent summit point towards NATO's eastward expansion from Europe to Asia-Pacific. This **highlights its ensuing role in establishing peace and stability in the Asian region.**
  - o China has been named in the NATO's document for the first time.
  - o For the first time, four Indo-Pacific countries- **Australia, Japan, New Zealand and the Republic of Korea joined a NATO summit**, to deepen cooperation and address global challenges.

> **Why NATO is focusing on China?**
> NATO has justified its new focus on China as a "**collective defence**" against what it views as Chinese encroachment on European interests:
> - **Key ports, such as the Port of Piraeus in Greece, one of the largest in Europe**, are now majority-owned by Chinese companies.
> - **Increased Chinese naval patrols in the Atlantic ocean region.**
> - **China's rising interest in the Arctic Sea.**
> - **Extensive cyberattacks** on Western commercial and military targets by Chinese state.
> - **Claims of Chinese ownership** over the resource-rich waters of South China Sea, an strategically vital waterway.

2.4. BRICS
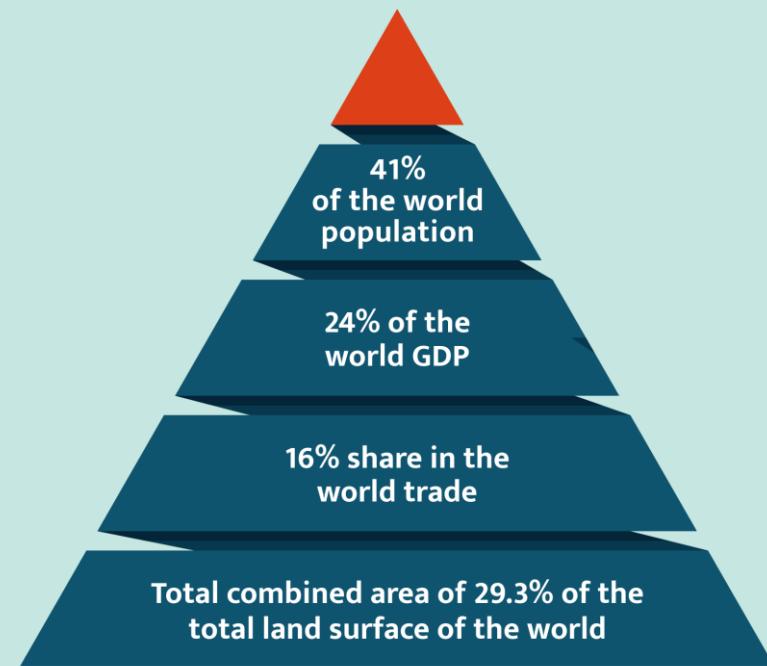
Why in news?

BRICS Leaders adopted the **'Beijing Declaration' in 14th BRICS Summit**, convened under the Chairmanship of China, in virtual format.

Highlights of the Summit

- **India proposed initiatives:** India called for strengthening of the BRICS Identity and **proposed establishment of Online Database for BRICS documents**, BRICS Railways Research Network, and **strengthening cooperation between MSMEs**.
  - o India will be organizing **BRICS Startup event** this year to strengthen connection between Startups in BRICS countries.
- **Denial of Safe Haven to Corruption:** BRICS welcomed the BRICS Initiative on **Denial of Safe Haven to Corruption** which further strengthen anti-corruption capacity building

FIVE EMERGING ECONOMIES OF BRICS REPRESENT

- 41% of the world population
- 24% of the world GDP
- 16% share in the world trade
- Total combined area of 29.3% of the total land surface of the world

through **education and training programs and enhance anti-corruption exchanges and cooperation** within multilateral frameworks.

About BRICS (Brazil, Russia, India, China and South Africa)

- The BRICS grouping **aims to promote peace, security, development and cooperation in the world**.
- It also aims at making a **positive impact on the development of humanity and establishing a more equitable and fairer world.**
- The notion behind the coinage of BRICS was that **the nations' economies would come to collectively dominate global growth by 2050.**
- Recently, **Iran and Argentina** have applied to join the BRICS mechanism. This could be the **first expansion of the group** since South Africa was included in 2010.

Opportunities for India in BRICS

- **Economic and trade interests**: Intra-BRICS trade, while modest, presents **opportunities for India in key markets**, including China, which remains an **important commercial partner** despite security tensions. India also supports the BRICS goal of **shielding members from the economic fallout** of Russia's war in Ukraine.
  - **Managing relations with China**: Groupings like the BRICS and the SCO afford both India and China the opportunity **to "decouple" their strategic contest** from the other dimensions of the relationship.
- **Multi-aligned foreign policy**: Participation in a non-Western grouping **balances India's growing partnerships with the West**.
  - India often equates BRICS with its participation in other "Western-led" groupings such as the Quad, which helps in highlighting its commitment to **strategic autonomy and multi-aligned foreign policy**.
- **Quest for International status:** BRICS membership elevates **India's global profile and presents** an opportunity to project India as a **truly international player**.

Concrete progress made by BRICS

- **Establishment of the New Development Bank (NDB) and Contingent Reserve Arrangements (CRA)**: The agreement for the establishment of the **BRICS NDB as well as CRA** worth **US$ 100 billion** each during the sixth Summit in **Fortaleza, Brazil in July 2014**.
  - NDB, **headquartered in Shanghai**, has been established with the purpose of **mobilising resources for infrastructure and sustainable development** projects in BRICS and other emerging and developing countries.
  - The CRA intends to **provide liquidity through currency swaps** in response to **actual or potential short-term balance of payments crisis.**
- **IMF reforms:** BRICS has succeeded in **bringing incremental changes** in the International Monetary Fund (IMF) over the years. The joint efforts of BRICS culminated in the **2010 Reform Proposal on Quota and Governance**.
  - Subsequently, the quota of the IMF was doubled, with a total 6% share transferred to the emerging and developing countries. The votes of China, Russia, Brazil, and India was increased and reached **a total of 14.18%.**
- **Increased trade and exports:** According to statistics of WTO, the participation of BRICS in global exports **more than doubled between 2001 and 2011**, from 8% to 16%. Between 2002 and 2012, **intra-BRICS trade increased 922%,** from US$ 27 billion to US$ 276 billion.
- **Establishment of wide ranged and multilevel communication mechanisms**: The BRICS' focus has expanded from economic development to include other issues and cooperation. It has formed a comprehensive communication mechanism through the **leaders' summit, and meetings of high-level delegates, foreign ministers, financial ministers, and Central Bank Governors**.

Issues persisting in BRICS

- **Dominant role of China:** Presence of China and the **greater role it seeks to assert within the group** poses major challenge to India.
  - It could use the group as a platform for **anti-U.S propaganda** framed around U.S. sanctions on Russia and **broader U.S. hegemony**. This would go against **India as it** seeks to avoid being seen as **part of an anti-U.S. bloc.**
  - **Lack in upholding commitments to sovereign equality and territorial integrity:** With **China challenging the territorial status quo** all around its

India in BRICS

- India's notable contribution to BRICS is proposal of the **New Development Bank** which was put on the BRICS agenda by India in 2012.
- India also added the **Urbanization Forum to BRICS cooperation mechanisms** to bring greater focus on intra-BRICS cooperation to learn from each other's experience in tackling challenges of rapid urbanization faced by all BRICS members.
- India institutionalized the **practice of holding BRICS Academic Forum** meetings as preparatory meetings feeding into the Summit agenda by hosting the first such meeting in 2009.

periphery, including along its **border with India**, and **Russia's aggression against Ukraine**, it is increasingly becoming difficult for the BRICS members to **rally around the principles** that laid the foundations of this grouping.

- **Bilateral differences:** BRICS continues to face the challenges of the **lack of a binding ideology** and **diversity** in terms of socio-cultural and political systems. There are **wide disparities** among the five nations and also bilateral differences, posing challenges for **intra-BRICS consensus**.
- **Trade related challenges:** India's total trade with the BRICS countries in 2018-19 stood at **$ 114.1 billion** and a majority of this was because of its **bilateral trade with China** which stood at $ 87.1 billion.
  - The reasons for the low trade can be attributed to **geographical distance** which **increases the time and cost** to export.
  - **Restrictive trade environments** is another major reason for low trade with BRICS countries. While the BRICS economies have significantly reduced tariff rates over the years, import restrictions in terms of **non-tariff barriers** exist.
  - **China's dominance in terms of trade within the BRICS** is another issue for India and forms a hurdle for any opportunities that India could avail.
- **Slow progress on multilateral reforms:** BRICS may have raised the issue of UNSC reform but this is **more declaratory in nature** than a **serious attempt** to overhaul the UNSC. Reforms of the global multilateral order has been **put on the backburner**.
- **Others:**
  - BRICS economies share some domestic and socio-economic challenges that must be addressed independently of their group activism, viz. **inequality (economic, social and political), corruption, improvements in health care and education, and human rights.**
  - With **parallel groupings** like IBSA (India, Brazil and South Africa) already at work, a major challenge for BRICS is to **neatly manage the overlap in mandates** that can arise in such situations.

Road Ahead

- **Overcome diversities and seek common interest:** The BRICS, through the **BRICS-plus framework**, can provide a gateway to **alternative liberalisation and economic integration** impulses vis-a-vis the developed world.
- **Enhance the efficiency of BRICS institutions via contested multilateralism**: The rise of NDB like mechanisms will **further elevate the standing of developing countries** on the international stage. Such burgeoning multilateral financial mechanisms, together with the WB and IMF will **compete and cooperate in innovation**.
- **Reprioritising Counterterrorism in BRICS agenda**: Despite the divergent foreign and security policy priorities of the BRICS states, the group unanimously acknowledges terrorism as a **serious threat to their national, regional and international security**.
- **Strengthening cooperation:** There is a greater need to **formalise BRICS cooperation on global financial sector reforms** and be **assertive in norm-setting** that leads to financial flows earmarked for separate needs, such as **climate change mitigation, resilient and sustainable infrastructure, and green technologies**.
  - The BRICS must support **post-pandemic growth and development** in emerging countries and push for much enhanced multilateral efforts by furthering its **deep connect with the Global South.**

2.5. INDIA- EUROPEAN UNION

Why in news?

India and the European Union (EU) concluded the **first round of negotiations for India-EU Trade and Investment Agreements.**

More about news

- Both partners are now resuming the **Free Trade Agreement (FTA) talks after a gap of about nine years** since the earlier negotiations were left off in 2013 due to difference in the scope and expectations from the deal.
  - FTA involves **agreements on trade, investments and Geographical Indications (GI).**
- Both sides are aiming for the trade negotiations to be **broad-based, balanced, and comprehensive**, based on the principles of fairness and reciprocity.

- The second round of negotiations is scheduled to take place **in September 2022 at Brussels.**

Significance of EU for India

- **To counter China**: When it comes to **countering China's economic and political influence**, Europe has the **economic and technological heft** to be an important partner for India.

- **Economic significance:** India's bilateral trade with EU amounted to **USD 116.36 billion in 2021-22**. Despite the global disruptions, bilateral trade achieved an impressive **annual growth of 43.5% in 2021-22.**
  - Currently **EU is India's second largest trading partner** after US, and **second largest destination for Indian exports.**
  - Both sides have agreed to institute **the EU-India Trade and Technology Council** for strengthening economic and technological ties.

- **Post-Brexit scenario:** India considered the UK **as a gateway to continental Europe** and with it exiting the EU, Indian firms will lose this advantage. Post-Brexit, India recognizes that its **own economic prospects** depend on the continued growth and internal stability of EU**.**

EUROPEAN UNION

ICELAND
NORWAY
FINLAND
SWEDEN
ESTONIA
LATVIA
DENMARK
RUSSIA
IRELAND
UNITED KINGDOM
GERMANY
POLAND
BELARUS
UKRAINE
FRANCE
ITALY
SERIA
BULGARIA
PORTUGAL
SPAIN
GREECE
TURKEY

About European Union (EU)
- It is a **political and economic union** of 27 sovereign Member States.
- The decisions are taken through a mixed of:
  - **Supranational institutions** (i.e. institutions to whom Member States have delegated their powers) and
  - **Intergovernmental negotiations** (which concern areas in which Member States have not delegated their power, but **make decisions together**).
- The **main European Institutions** are:
  - **European Council**: It brings together the heads of state or government of every EU country and decides on the political direction of the EU.
  - **European Commission**: It is the EU's **politically independent executive arm**. It is alone responsible for drawing up proposals for new European legislation, and it **implements the decisions of the European Parliament and the Council of the EU.**
  - **Council of the European Union**: It consists of one government minister from every member state. The Council is **part of the law making process** in the European Union.
  - **European Parliament**: It is the **only directly elected institution** of the European Union. Together with the Council of the European Union, the European Parliament has **legislative power (preparing and adopting the EU laws) but no power to initiate legislation**.
  - ✓ European Commission, as the executive body of the EU, is **accountable to the European Parliament**.

- **Social transformation:** Establishment of a **green strategic partnership between India and Denmark shows significance of Europe's smaller countries in** India's technological, and social transformation.

- **Cooperation on global issues:** EU is on the front foot in **designing global rules in new fields**. It has initiated a global debate on rules to **protect personal data**; is aiming to set a global precedent for **ethical, human-centric standards for the use of artificial intelligence** and so on.

Concerns in India-EU relations as evident from stalled negotiations over FTA

- **Diverging positions** on **Russia's role** during the Crimean crisis.
- **Italian marine issue**: The 2012 **arrest of Italian marines** not only affected ties between Italy and India but also led to **increased tensions** with the EU.
- **Other issues in FTA:** Like access to trade in services, non-tariff barriers on trade in goods, agreement on India's IPR Regime, data secure designation for India and acceptance for an Investor-State Dispute Settlement mechanism.
- **Human rights:** EU members expressed concerns about the **human rights situation in India**, such as difficulties faced by Indian women and minority groups as well as the **closure of Amnesty International's** offices in India.
- **Untapped Trade potential**: India accounts for **2.1% of EU total trade** in goods in 2021, well **behind China (16.2%) and the USA (14.7%).**
  - Technical barriers to trade (TBT), **sanitary and phyto-sanitary (SPS) measures**, deviation from internationally-agreed standards, as well **as discrimination based on legislative or administrative measures** affects a wide range of sectors.
  - The **absence of a FTA** is the biggest **impediment** to a dynamic, economic and trade relationship.

Other Common areas of interests
- **Blue Economy/Western Indian Ocean**: The EU's **Blue Growth Initiative**, which seeks to harness maritime wealth, corresponds with India's call to embrace a "**Blue Revolution.**"
- **Indo-pacific:** EU's Indo-Pacific strategy has much to **complement New Delhi's goals in the region** as it focuses on infrastructure investments, resilient supply chains, and emerging technology**.**
- **Climate Change**: The EU and India, as the **world's third and fourth largest emitters** of greenhouse gases, share a common interest in fighting **climate change** and facilitating the transition to a **sustainable economy**.
- **Connectivity:** India and EU have announced **comprehensive Connectivity Partnership** on supporting resilient and sustainable connectivity both in India and in third countries and regions, including Africa, Central Asia and the Indo-Pacific that will provide an **alternative to China's mega Belt and Road Initiative (BRI).**

Road Ahead

- **Emerging prospects of collaboration in the post-pandemic world**: There are on-going debates in the EU over the need to **diversify supply chains** to reduce reliance on other countries for **crucial products like pharmaceuticals**. This could be one area for **developmental cooperation** between India and the EU.
  - India's **pharmaceutical manufacturing capabilities coupled with access to European healthcare technologies** can provide new avenues for enhancing partnerships and **promoting innovation** between the partners.
- **Early conclusion of FTA**: The BTIA is crucial because both India and the EU are large markets and India's demographic dividend can help the EU with the **movement of skilled labour and professionals**. Also, the increased

Changing scenario in India-EU relations i.e., strengthening of the relations
Though these issues were not completely resolved, but **overtime following changes in the geopolitical scenarios eclipsed above issues-**
- Both players were instrumental in **ratification of Paris agreement**. EU and its members actively support **India led International Solar Alliance (ISA) .**
- The impact of the **2009 recession and Brexit** nudged both sides into **a franker engagement** with each other. This led the EU to recognize the importance of India as an **economic partner.** Post-Brexit, India too **no longer takes the EU for granted**
- **Turbulence in the Middle East (West Asia)** is incentivizing greater EU-India security dialogue on their shared extended neighbourhood, which stretches from Istanbul to Islamabad and from Moscow to Mauritius.
  - This **Eurasian arc of growing instability** is of critical importance to EU and India's aspirations to become **net security providers** and stabilize their peripheries.
- **Formidable rise of China** is swiftly altering the balance of power in the Eurasian heartland.
- Finally, the EU and India also have **similar stakes in the liberal, multilateral order and to protect global commons** cooperatively, from trade and the internet to nuclear non-proliferation and the freedom of navigation.

market access will further **integrate the services sector**, increasing the scope for cooperation and joint ventures.

- **Strengthening political dialogue**: There is a need to **upgrade the yearly dialogue** between the high representative/vice president of the EU and the Indian minister for external affairs to a **regular strategic dialogue.**
- **Launching concrete trilateral/cooperation projects in pilot partner countries**: Establish regular bilateral, as well as trilateral dialogues **on/with Africa**, to discuss security, economic issues, as well as connectivity. Further, **dialogue on Afghanistan** and Central Asia in the appropriate settings should be intensified.

2.6. INDUS WATER TREATY

Why in news?

The 118th meeting of the Permanent Indus Commission (PIC), was held in New Delhi.

Highlights of the meeting

- Pakistan had assured India of all necessary actions to ensure the free flow of Fazilka drain into the Sutlej river.
- The Indian side underscored that all its on-going hydro-electric power (HEP) projects including Pakal Dul, Kiru and Lower Kalnai are fully compliant with the provisions of the Treaty.

About the Indus Water Treaty (IWT)

- IWT was **signed in 1960**, **between India and Pakistan** and **brokered by the World Bank.**
- **Objective:** The treaty fixed and **delimited the rights and obligations of both countries** concerning the use of the waters of the Indus River system.
- **Provisions for sharing of river water:** All the water of the **eastern rivers – Sutlej, Beas, and Ravi** which amounts to around 33 million acre-feet (MAF) annually — is **allocated to India** and is for unrestricted use. And the water of **western rivers – Indus, Jhelum, and Chenab** which is around 135 MAF annually has been **assigned mostly to Pakistan.**
  - India has the right under the Treaty to generate hydroelectricity through run-of-the-river projects on the western rivers. These are subject to specific criteria for design and operation. And, under the Treaty, Pakistan has the right to raise objections on design of Indian hydroelectric projects on western rivers.
    - ✓ **Run-of-the-river hydroelectricity project** is a type of hydroelectric generation plant whereby little, or no water storage is provided.
- **Other Provisions:**
  - It provided for the **funding and building of dams, link canals, barrages, and tube wells**—notably the Tarbela Dam on the Indus River and the Mangla Dam on the Jhelum River.
  - The **treaty required the creation of a Permanent Indus Commission**, with a commissioner from each country, to maintain a channel for communication and to try to resolve questions about implementation of the treaty. In addition, a **mechanism for resolving disputes** was provided.

Prevalent issues within the treaty

- **Pakistan's frequent opposition to the Indian projects:** The opposition is majorly on the issue that whether projects on Jhelum and Chenab conform to the technological specifications specified in the agreement. The issue has seen its manifestation in **several projects such as Kishanganga Hydroelectric Project (KHEP), Jhelum, Ratle Hydroelectric Project, Chenab etc.**

Why abrogation of the treaty is not a viable option?

- **Going against international law:** The **IWT does not have a unilateral exit clause**. Even the severance of diplomatic and consular relationships between India and Pakistan cannot terminate the IWT.
- **Effect on India's other lower riparian state:** The abrogation of the IWT will send alarm bells ringing in India's other lower riparian country like Bangladesh which receives about 91% of its waters from the rivers flowing from India.
- **China's cooperation on hydrological data:** Growing China-Pakistan nexus can result in China withholding Hydrological data in response to the abrogation of the treaty.
  - Such data plays an important role in gauging the amount of water coming from Tibet into Arunachal Pradesh and taking measures to avert any major disaster or floods in the state.

- **Strain of diplomatic relations:** The Indus Water Treaty gets affected by the overall developments in the India-Pakistan relationship.
  - As the diplomatic relations between India and Pakistan saw a downward spiral in recent times, **some observers in India called for abrogation of the treaty**.
- **Compounding effect of climate change:** Melting of glaciers may increase water flow in the short term, but it will also deplete groundwater recharge in the long run. Similarly erratic rainfall bringing further challenges to address potential flood risks. This is likely to aggravate tensions around issues of water distribution and flow management.
- **Conflict-resolution method through a third-party guarantor:** The World Bank is the guarantor of IWT and relies on the riparian to report any issue related of illegal intervention in the river flows. However, there is no definite way of knowing if illegal intervention really happened or it is only a case of low seasonal flows due to climate variability.
- **No regular data sharing as planned in the treaty:** The flow data sharing is significantly important to understand the dynamics of river basin in totality.

Way Forward

While the treaty may have served some purpose at the time it was signed , following efforts could be made to overcome the current bilateral challenges and optimize the use of Indus Water System resources:

- **Globally advocating India's position:** Over the years, India has been a generous upper riparian state as it has utilized only about 93% of its stipulated water storage capacity. Further, only about 25% of the total estimated capacity of electricity that can be harnessed from the three western rivers in Kashmir has been tapped so far.
  - This position could be advocated to counter Pakistan's attempts to internationalize the issue by involving World Bank.
- **Seeking cooperation:** Efforts could be made to seek cooperation with Pakistan in areas wherever it is possible. For example, Article VII of the IWT talks about "future cooperation" and calls for taking up joint studies and engineering works on the rivers.
- **Changing approach:** Both countries could also benefit from **focusing more on a sub-basin level** instead of managing the area with a singular holistic approach. Interventions at the sub-basin level **that can account for contextual factors**, such as the socio-economic composition of the area and the existing hydrology, would make the action more effective.
- **From rationality to relationality:** To achieve a stronger Indus Water Treaty, both states must shift from acting based on the rationality of water (water sharing) and focus instead on its relationality (benefit sharing). Relationality expands the definition of water from surface water (water quantity), to water quality, preservation of wetlands and biodiversity, soil erosion, conjunctive use of ground and surface water, and nature-based solutions.
- **Renegotiating the treaty**: A parliamentary panel has recommended renegotiating the treaty with Pakistan to address the impact of climate change on water availability in the Indus basin and other challenges which are not covered under the treaty.
- **Incorporate contemporary principles of international watercourse laws such as Helsinki Rules:** This is crucial to balance the rights and duties of the riparian states and for the holistic and integrated water resources management of the Indus river system.
  - The **Helsinki Rules** on the Uses of the Waters of International Rivers is an international guideline that **assert the rights of all bordering nations to an equitable share in the water resources** and is applicable to all drainage basins that cross national boundaries, except where other agreement between bordering nations exists.

Conclusion

Indus Water Treaty is often cited as an example of the possibilities of nonviolent coexistence that exist despite the troubled rapport between both neighbouring countries.

India's current mechanism of cooperation in river water sharing with other countries

Countries	Mechanism for cooperation
India-Nepal	• **The Kosi Treaty of 1954**, under which the embankments in Nepal were established and maintained. • **The Mahakali Treaty** pertains to sharing water of Mahakali river.
India-China	• **Memorandum of Understanding** upon provision of Hydrological Information of the **River Brahmaputra.** • **Memorandum of Understanding** on Hydrological Data Sharing on **River Sutlej**. • **Expert-Level Mechanism** to discuss interaction and cooperation on provision of flood season hydrological data and emergency management.
India-Bangladesh	• The **Ganges Treaty** is an agreement to share surface waters at the Farakka Barrage near their mutual border. • System of **Transmission of flood forecasting data** on major rivers like **Ganga, Teesta, Brahmaputra, and Barak during** the monsoon season.
India-Bhutan	• **Comprehensive Scheme for Establishment of Hydro-meteorological and Flood Forecasting Network** on rivers Common to India and Bhutan. • A **Joint Group of Expert (JGE) on Flood Management**.

2.7. INDIA'S ENGAGEMENT WITH TALIBAN

Why in news?
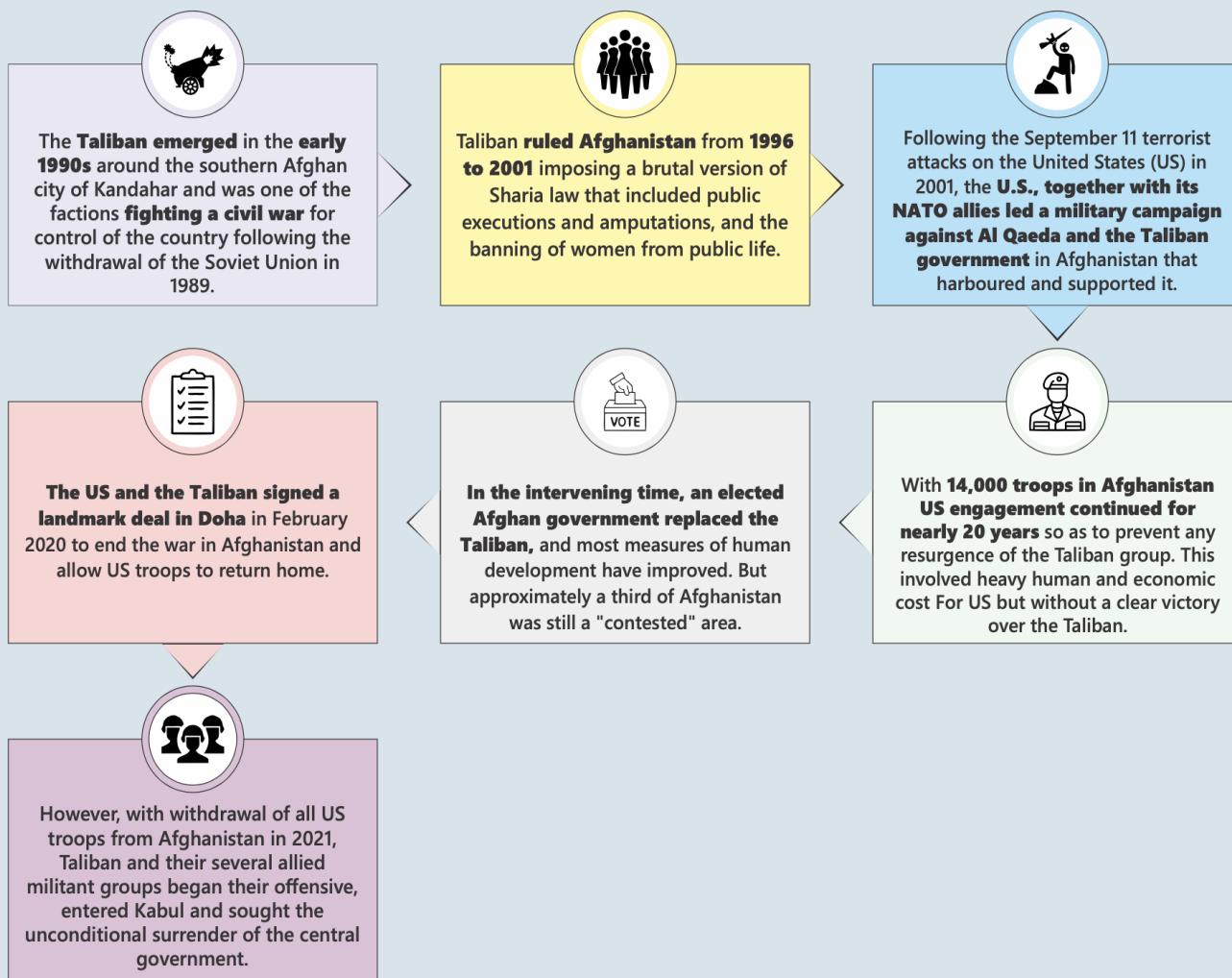
India has reopened its Embassy in Kabul after nearly ten months of Taliban takeover of Afghanistan.

More on news

• **India also sent an official Indian delegation** to offer humanitarian assistance and development cooperation, the first such engagement since the Indian Embassy was evacuated, after a devastating earthquake struck Afghanistan.
• The **developments acquire significance** as India had refused to recognise the Taliban administration in Afghanistan and had urged the international community to go slow in recognising the Taliban.

- The present engagement is therefore **seen as change in India's approach with respect to Taliban.**
- The **government has however clarified** that the ongoing visit did not amount to granting diplomatic recognition to the Taliban regime in Kabul.

BACKGROUND OF AFGHAN-TALIBAN ISSUE: THE STORY SO FAR

The **Taliban emerged** in the **early 1990s** around the southern Afghan city of Kandahar and was one of the factions **fighting a civil war** for control of the country following the withdrawal of the Soviet Union in 1989.

Taliban **ruled Afghanistan** from **1996 to 2001** imposing a brutal version of Sharia law that included public executions and amputations, and the banning of women from public life.

Following the September 11 terrorist attacks on the United States (US) in 2001, the **U.S., together with its NATO allies led a military campaign against Al Qaeda and the Taliban government** in Afghanistan that harboured and supported it.

With **14,000 troops in Afghanistan US engagement continued for nearly 20 years** so as to prevent any resurgence of the Taliban group. This involved heavy human and economic cost For US but without a clear victory over the Taliban.

In the intervening time, an elected **Afghan government replaced the Taliban,** and most measures of human development have improved. But approximately a third of Afghanistan was still a "contested" area.

The US and the Taliban signed a **landmark deal in Doha** in February 2020 to end the war in Afghanistan and allow US troops to return home.

However, with withdrawal of all US troops from Afghanistan in 2021, Taliban and their several allied militant groups began their offensive, entered Kabul and sought the unconditional surrender of the central government.

Why should India engage with Taliban?

- **Rising International Engagements:** India has so far focused on the isolating Taliban. However, beyond a point, this option will yield diminishing returns, as many other countries are now starting to engage the Taliban and India is an important stakeholder in Afghanistan.
- **Declining Influence of Pakistan:** Back in the 1990s, apart from security assistance, Pakistan was also able to help the Taliban financially and economically. While Pakistan remains a pivotal player even today, its influence and control over the Taliban are circumscribed by its own economic, diplomatic, and security challenges.
  - The Pakistani Taliban (TTP)'s terrorist activities in Pakistan and disagreements between the Kabul and Pakistan, over Durand Line (disputed border) are among the factors responsible.
  - A view that has gained ground in the Indian establishment is that it is time to **de-hyphenate Pakistan from the Taliban** especially in this scenario.
- **National Security:** Afghanistan in the past, provided space to terror groups like al Qaeda and ISIS. Taliban also has ties with the Lashkar-e-Taiba and Jaish-e-Mohammed. An engagement with the Taliban would give an **opportunity to convey Indian concerns directly** and encourage those elements within the group who wish to open up its diplomatic choices.

- **Mutually beneficial:** As Taliban is keen to gain international recognition, the outfit's attitude also indicates that it is not averse to developing ties with India, despite whatever concerns Pakistan may have regarding an Indian presence in Afghanistan.
  o Taliban called on India to reopen its mission in Kabul, resumed direct flights to the country and also accept Afghan military trainees.

Downsides of India's engagement

- **Shows inconsistency in India's policy:** India has always supported "an Afghan-led, Afghan-owned and Afghan-controlled" process for enduring peace and reconciliation in Afghanistan. It involved active engagement with the elected Afghan Government and isolation of the Taliban regime.
- **Security concerns:** India continues to face threat from terrorist factions such as the Haqqani group, which is a key member of the Taliban. Also, recently a UN Taliban monitoring committee report shows that

Indian investments in Afghanistan

Assistance in constructing, upgrading, rebuilding or restoring buildings and various type of infrastructure. Examples-
- Afghanistan's Parliament in Kabul.
- Reconstruction of the Salma dam (Afghan-India Friendship Dam).
- Construction of Zaranj-Delaram road.
- High Impact Community Development Project (HICDP) program

Transfer of various objects like ambulances, buses, biscuits, medicine military vehicles and helicopters, etc.

People-to-people exchanges. Examples-
- Offering scholarships for Afghan students.
- Organizing training for Afghan soldiers, policemen and public servants.

terror groups are continuing to find safe haven on Afghan soil with the Taliban's support. Groups like the LeT and JeM, which only target India continue to work out of Nangarhar province and other areas.
- **No change in the ideology of Taliban:** Taliban has not changed from its previous mediaevalism. Attacks on minorities are continued and restrictions on women have increased, from not being allowed to attend school to curbs on free movement in public spaces and at work.
  o This is **in conflict with India's ethos** and may create negative perception of India for Afghan people.
- **Dealing with Pro-China Neighbours of Taliban:** As India increases its engagement with Taliban, it would need to redefine its relationship with Tajikistan as the latter has a deeply adversarial relationship with Kabul and has moved very close to Beijing in the past decade.
  o China today is Tajikistan's biggest debt holder and its biggest investor. Also, Dushanbe is a supporter of Chinese repressive policies against Sunni Muslim Uighur community.

Way ahead

The template behind India's engagement with the Taliban is based on India's historic ties with Afghanistan. Taliban is here to stay and for India, there is no alternative but to deal with it. It is necessary for both sides to take into account each other's concerns and improve diplomatic and economic relations.

2.8. NEWS IN SHORTS

2.8.1. INDIA AND UNITED ARAB EMIRATES (UAE)

- During India's PM visit to UAE, **both countries reviewed the progress in the 'Joint Vision Statement (JVS)'** unveiled during a virtual summit (February 2022).
  o JVS **strengthened the Comprehensive Strategic Partnership** and laid **the road map for enhancing cooperation** with a **special focus on defence and security, and trade and investments.**

- **India-UAE relations**:
  o **Trade**: Historic **India-UAE Comprehensive Economic Partnership Agreement (CEPA) signed** during the virtual summit **has officially entered into force** (1 May 2022).
    ✓ CEPA is expected to **increase the total value of bilateral trade in goods to over US$100 billion** and over **US$ 15 billion in services** within five years.
    ✓ It will **help Indian exporters gain access to West Asian countries, Africa** etc. through UAE.

- o **Defence and Security: Maritime cooperation to maintain peace and security** in the region through regular military exercises like Desert Eagle.
  - ✓ Both countries **jointly committed to fight extremism and all forms of terrorism**, including cross-border terrorism.
- o **People-to-people: UAE has the highest number of Indian diaspora** (3.5 million) contributing high remittances to India ($17.06 billion in 2019).
- o **Space collaboration:** ISRO launched UAE's 1st nanosatellite **Nayif-1.**

2.8.2. WEST SETI POWER PROJECT

- **India will be taking over West Seti hydropower project** in Nepal nearly four years after China withdrew from it.
  - o It is **planned on Seti river** in Nepal's far west region.
- Nepal is rich in power sources with **an estimated potential for 83,000 MW.**
- **India is viewed as a feasible market** for Nepal, but there has been some **uncertainty over India's inability to deliver projects on time.**

2.8.3. INTERNATIONAL NORTH-SOUTH TRANSIT CORRIDOR (INSTC)

- Iran started transfer of Russia goods to India by using International North-South Transit Corridor (INSTC).
- INSTC is a **multi-modal transportation network**, first envisaged in 2000 by Russia, India and Iran, to promote transportation cooperation among the Member States.
  - o INSTC **connects Indian Ocean and Persian Gulf to Caspian Sea** via Iran and is then connected to **Saint Petersburg** and **North European via Russia.**

- o **Currently, it has 13 members**: India, Iran, Russia, Azerbaijan, Armenia, Kazakhstan, Belarus, Turkey, Tajikistan, Kyrgyzstan, Oman, Ukraine and Syria.
- **INSTC Significance for India**
  - o **Will cut down the transportation costs of goods** (by almost 30%) as well **transportation time (**almost half compared to suez canal) between India and Russia.
  - o Will help India to **gain smooth access into Central Asia and beyond** and will help to expand trade and investment links.
  - o **Reduce dependence on current trading partners**, especially energy connectivity, through **realignment of supply chains.**
  - o It is also being seen as **India's answer to China's Belt and Road Initiative (BRI).**
- **Other Planned Corridors Connecting India with Russia and Europe**
  - o **Chennai-Vladivostok Maritime Corridor** connecting India-Russia.
  - o **India's Arabian-Mediterranean (Arab-Med) Corridor** connecting India with mainland Europe via Piraeus port of Greece and Middle East.

2.8.4. ISRAEL AND UAE TRADE DEAL

- Israel signed a free trade deal with the United Arab Emirates (UAE), its **first with an Arab country, building on their U.S.-brokered Abraham Accords.**
  - o Signed in 2020 between **Israel and UAE, Bahrain and later Morocco,** the Accord called for **normalise diplomatic relations between these nations** and broke with decades of Arab policy that had called for a Palestinian state before ties with Israel.
- Deal is expected to provide **customs exemption** immediately or gradually **on 96% of trade between the countries.**

2.8.5. NORTHERN IRELAND PROTOCOL

- Recently, the **British government has announced its intention to table legislation that would alter certain elements of this protocol**, which is the most contentious element of the Brexit agreement.

- The protocol is a **special arrangement** that **ensures the land border between Northern Ireland** (part of the UK) and **Republic of Ireland** (an EU member state) **continues to be invisible and respects the peace deal** that put an end to decades of sectarian violence.

3. ECONOMY

3.1. GDP-GVA GAP

Why in News?

Gross Domestic Product (GDP) and Gross Value Added (GVA), two measures of India's economy, yet again grew at widely different paces leading to a gap between them.

Difference between GDP-GVA and their Utility

Parameter	Gross Domestic Product (GDP)	Gross Value Added (GVA)
Definition	GDP is the market value of all final goods and services produced within the territorial boundaries of a country for a given period.	GVA is the total value of goods and services produced within a country after deducting the cost of inputs and raw materials.
Measurement	It is measured by the **output, income,** and **expenditure approaches**.	It is measured by **output reach** and used as a **proxy** for GDP.
Technical Relationship (difference) between GDP and GVA: GDP = ΣGVA + Net taxes on Products – Net Subsidies on Products.		
Purpose	GDP is an internationally accepted measure of overall economic growth in a country.	GVA is used to measure sector-wise details of economic activity from the production side.

GVA in India

- In **2015**, as part of comprehensive review of GDP measurement approach, **GVA at basic prices** (base year 2011-12) became the primary measure of output across the economy's various sectors in India to conform with the **UN System of National Accounts (SNA), 2008**.
  - Earlier, India used **GVA at factor cost** to measure overall economic output.
- The **quarterly** and **annual** estimates of GVA are given by **National Statistical Office (NSO)** under **eight broad sectors**- covering goods and services in India (see **image**).

> **The System of National Accounts (SNA), 2008**
> - It is the latest version of the **international statistical standard for the national accounts adopted by United Nation Statistical Commission (UNSC).**
> - It gives recommendations on how to compile measures of economic in a coherent, consistent, and integrated set of macroeconomic accounts based on internationally agreed concepts, definitions, classifications, and accounting rules.

Gap between GDP-GVA and its reasons

Though GVA is used as a proxy for GDP, but they are not same because of the **basic difference** of GDP being calculated at **market prices** while GVA is calculated at **basic prices**. It leads to gap between GDP and GVA.

In addition to it, the GDP-GVA gap has been diverging since **FY18** because of various reasons-

- In **FY21**, the GDP growth **lagged** GVA growth by **180 basis points** on account of **increased subsidies** and **reduced taxes** due to lockdown.
- Similarly, in **FY22**, on account of **record tax collections** and **reduced subsidies** from FY21, the GDP growth was **60 basis points higher** than GVA.
- Also, in **FY23**, the GDP-GVA divergence is likely to continue with GDP growth lagging GVA once again on account of-
  - **Increasing subsidies** on account global commodity price rise increasing fertilizer subsidy,
  - **Fuel tax cuts** to curb inflation.

Utility of GDP and GVA under different circumstances

GDP data presents the state of economy from **Consumers side (demand side)** with other factors, expressed as an equation which as, **GDP = Consumption (C) + Investment (I) + Government Spending on Goods and Services (G) + (Exports – Imports, X-M)**, i.e., **GDP = C + I + G + (X–M)**. Therefore, it becomes helpful for policymakers, investors, and others to:

- Identify **Health of an Economy**, i.e., whether it is **growing** or experiencing **recession**.
- Get a fair idea on **standard of living** of people through data on **income** and **private consumption**.
- Make **cross-country analysis** on various parameters like investments, government spending and net exports.

But GDP is not a **leading economic indicator** as it tracks only what has happened. In comparison, GVA is a leading indicator over GDP as it presents the state of economy from **Producers side (supply side)**. Therefore, it becomes useful for policymakers, investors, and others to:

> **Drawbacks of GVA**
> - **Accuracy of Methodology:** GVA is susceptible to inappropriate or flawed methodologies which potentially present a distorted picture.
> - **Accuracy of Data:** Accuracy of GVA is a function of **source of data and its accuracy**. Due to large informal sector, sourcing data is a major challenge in India leading to over-estimations and mis-estimations due to use of alternate proxy sources or older statistical surveys.

- Get real picture on **State of Economic Activity**, i.e., amount of goods and services produced as GDP growth can also happen because of other reasons like **better tax compliance**.
- It provides **sector-wise** and **region-wise** breakdown of value added, helping policymakers to identify sectors requiring **incentives** or **stimulus**.
- Identify **productivity** of a sector based on global data standards, helping investors to make specific investment decisions based on economic performance.

Conclusion

GDP presents a more accurate and holistic picture when analyzed on a long timeline, GVA on the other hand is a more accurate estimate of the immediate picture. With **policy discourse** moving towards **sector specific production** and **employment** measures, GVA becomes a useful measure of **economic performance** of various sectors.

3.2. FOREIGN DIRECT INVESTMENTS (FDI)

Why in News?

With continued foreign interest in the Indian economy, Foreign Direct Investments (FDI) into India reached an all-time high of **$83.57 billion** in **2021-22**.

About Foreign Direct Investment (FDI) and FDI inflows in India

- FDI is the investment through **equity instruments** by a resident outside India:
  - In an **unlisted Indian company**; or
  - In **10% or more** of the **post issue paid-up equity capital** on a fully diluted basis of a **listed Indian company**.

> **Foreign Portfolio Investment (FPI)**
> - FPI is another form of foreign investment defined as 'any investment made by a person resident outside India in equity instruments where such investment is:
>   - **Less than 10% of the post issue** paid-up equity capital on a fully diluted basis of a listed Indian company, or
>   - **Less than 10% of the paid-up value** of each series of equity instruments of a listed Indian company.
> - It is a form of portfolio diversification, achieved by purchasing the stocks or bonds of a foreign company.

FDI ROUTES AND PROHIBITIONS

AUTOMATIC ROUTE
FDI is allowed under the **automatic route** without **prior approval** of the **Government** or the **Reserve Bank of India,** in all activities/ sectors as specified in the **Regulation 16 of FEMA 20**

GOVERNMENT ROUTE
FDI in activities **not covered** under the **automatic route** requires **prior approval** of the Government

PROHIBITED SECTORS
Investment by a person resident outside India is prohibited in **9 sectors** such as:
- Lottery Business including Government/private lottery, online lotteries,
- Gambling and betting including casinos,
- Chit Funds,
- Nidhi Companies etc.

- Owning **19-21%** of **Indian market capitalization**, FPIs have pulled out **$33 billion** from India since **October 2021** due to various factors such as:
  - **Tightening monetary policy** by central banks such as US Federal Reserve,
  - **Relatively high valuations** of Indian market,
  - **Appreciating US dollar** with rising bond yields in the US, and
  - **Risk of recession** in the US.

Significance of FDI in India

- **Long-term Capital for Economic Growth:** FDI is a stable source of **non-debt financial resource**, promoting economic development and infrastructure development in India.
- **Human Resource Development:** With FDI, management techniques also flow, bringing knowledge and skills necessary for human resource development.
  - E.g. Japanese companies bringing Japanese lean production principles, Just-in-time, Kaizen etc. to India for more efficient management.
- **Technology Transfer:** For emerging countries like India, FDI is an important source of advanced production technology and equipment for efficient production.
  - It becomes significant for development of strategic sectors such as defence and use of natural resources like hydrocarbons.
- **Increased Exports:** It helps in global integration of the economy with an external network. This network then manifests itself in increase of exports in the long-term.
- **Other benefits:**
  - **Employment Generation** with increased economic activities, more jobs with better quality are generated.
  - It helps in **promoting innovation and competition** in economies like India.
  - Increased capital inflow and exports can also help in **maintaining exchange rate stability.**

FDI carries some disadvantages as well on account of its negative impact on the **local businesses, politics, environment, and society** (see image).

Issues in FDI inflow in India

- **Decline in Growth Rate:** Though record FDI, the gross incoming FDI growth rate fell sharply to **2%** in **2021-22**, from **10%** in **2020-21** and **20%** in **2019-20**.
- **Increasing FDI outflows:** The net FDI inflows (what's coming in minus what's going out) fell by **10.6%,** i.e., **$39.3 billion** net FDI in **FY22** in comparison to **$44 billion** in **FY21**.
  - It also highlights Indian entities investing money in manufacturing abroad instead of working for 'Make in India'.

Disadvantages of FDI
- Negative Influence on exchange rate
- Modern-day rate economic colonialism
- Shift of Polluting Industries
- Promote Political Corruption or Lobbying
- Threat to Small Businesses
- Hindrance to Domestic Investment
- Erosion of Local Culture

Record Investments in $ billion
62 | 73.39 | 81.97 | 83.57
FY 19 | FY 20 | FY 21 | FY 22

GOVERNMENT INITIATIVES TO ATTRACT FDI

LAWS
Foreign Exchange Management Act, 1999 to facilitate external trade and payments with orderly development and maintenance of foreign exchange.

POLICIES
Investor-friendly policy regime allowing FDI up to **100%** in increasing sectors. E.g. 100% FDI via automatic route in telecom sector in 2021.

INTERNATIONAL PARTNERSHIPS
Trade Partnerships with other nations to strengthen bilateral ties for an Enhanced Trade Partnership. E.g. India-UK in 2021

EASE OF DOING BUSINESS
Initiatives such as **single window clearance, GIS-mapped land bank Ease in property registration** etc. to push for FDI inflows.

SCHEMES
Schemes such as **PM Gati Shakti, Production Linked Incentive (PLI)** etc. to attract investment opportunities.

Policy pronouncements on FDI are made by Department for Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry while it is notified by the by the Department of Economic Affairs under the Ministry of Finance

- **Concentrated to Few Sectors:** 62% of the total FDI inflow went into just five sectors, i.e., Computer Hardware & Software, Services, Automobile, Trading and Construction.
- **Few Pockets of FDI:** 78% of the total inbound FDI was limited to three states/UT [Karnataka (38%), Maharashtra (26%) and Delhi (14%)].
- **Use of Offshore financial hubs and tax havens:** Though led by **Singapore** and **US**, tax havens like **Mauritius** and **Cayman Islands** continue to feature in top FDI sources.
- **Low actual realization of commitments:** The gap between MoUs signed and actual FDIs in India remains high.
- **Lesser reinvestments:** Foreign investors prefer to take surpluses out of India rather than reinvest.

Way Forward

To support India's flourishing economy with a large youth population, continued FDI inflow is critical**.** But the **changing global environment** for international business and **cross-border investment** on top of the lingering pandemic effect is a major challenge to continued flow. Therefore, India will have to:

- **Continue policy reforms** and ensure **stable public finances** to overcome uncertainty in the minds of investors.
- **Improve transparency and efficiency** of governance to build confidence in foreign and domestic businesses.
- Take initiatives to **diversify FDI** with protection of environment, culture, and small businesses for holistic development of India.

3.3. SKILLING LANDSCAPE OF INDIA

Why in News?

The **Ministry of Housing and Urban Affairs (MoHUA)** has launched the **'National Initiative for Promotion of Upskilling of Nirman workers' (NIPUN) project** to train 100,000 construction workers.

More on News

- Project NIPUN is an initiative under MoHUA's flagship scheme, **Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)**.
- Its implementation is divided into **three parts**:
  - Training through **Recognition of Prior Learning (RPL)** at construction sites;
    - ✓ Under RPL, the prior learning experience or skills are assessed and certified.
  - Training through **Fresh Skilling** by Plumbing and Infrastructure Sector Skill Council (SSC); and
  - **International Placements** through industries, builders and contractors.
- The courses are aligned with **National Skills Qualification Framework (NSQF)** and will be imparted at accredited and affiliated training centres.
  - NSQF is a **nationally integrated education and competency-based framework** that enables persons to acquire desired competency level.
- **National Skill Development Corporation (NSDC)** is its implementation partner, and it will be responsible for overall execution of training, monitoring and candidate tracking.
  - NSDC is a **Public Private Partnership** mandated to involve the private sector in **skilling 150 million Indians by 2022**.
- Trainees will be provided with '**Kaushal Bima**', a three-year accidental insurance with coverage of ₹2 lakhs along with necessary digital skills such as cashless transactions and the BHIM app, orientation about entrepreneurship etc.

India's skilling landscape

With over **half-a-billion labour force** with nearly **54% population** below **25 years of age**, skilling becomes essential to reap demographic dividend and create self-reliant India. According to a World Economic Forum report, India has the second-highest additional employment potential through upskilling (**2.3 million jobs**).

Government spends nearly **₹5,000 crore** on various **policy-backed skill development initiatives** every year (including the Flagship **National Skill Development Mission**) under the skilling landscape of India (see image).

Performance of Indian Skilling Initiatives

Despite its large workforce and various initiatives, at **sectoral** and **spatial levels** high **demand-supply mismatch** exists in India. In India, only around **5%** of the workforce is **formally skilled** against **52%** in the **US**, **80%** in **Japan** and **96%** in **South Korea**.

- The **performance** of ongoing skilling initiatives has been sub-optimal. E.g., PMKVY initiative with 14.2 million enrollments since 2015. But the number of people certified and placed by it has decreased significantly in its third phase.
- The **employability** of educated people **still remains low**; **45.9%** only as per **India Skills Report, 2021**.
- The quality of jobs is on decline, highlighted by **Periodic Labour Force Survey (PLFS)** via. rising workforce in the unpaid segment of the self-employed and in the agricultural sector.

INSTITUTIONS
Under the **Ministry of Skill Development and Entrepreneurship** we have various institutions to create Skilled India such as:
▸ Directorate General of Training, National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC), Sector Skill Councils (SSCs) etc.

POLICY
National Policy for SkillDevelopment & Entrepreneurship, 2015 to create an ecosystem of empowerment by Skilling on a large Scale at Speed with high S tandards and to promote a culture of innovation-based entrepreneurship

SCHEMES
▸ Pradhan Mantri Kaushal Vikas Yojana (PMKVY),
▸ Skills Strengthening for Industrial Value Enhancement (STRIVE) scheme,
▸ Pradhan Mantri Yuva Yojana (PM-YUVA) etc.

SKILLING LANDSCAPE OF INDIA

OTHERS
▸ Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) to strengthen institutional mechanisms at national and state level,
▸ Skill India Portal for information of trainees, training providers and trainers,
▸ Outreach initiatives like Kaushal/Rozgar Melas.

PLACEMENT UNDER PMKVY ARE FALLING
(% SHARE OF CANDIDATES)

■ Certified ■ Placed

	PMKVY 1	PMKVY 2	PMKVY 3
Certified	73.1	79.6	40.3
Placed	18.4	23.3	8.8

Total
Certified 76.5
Placed 22.2
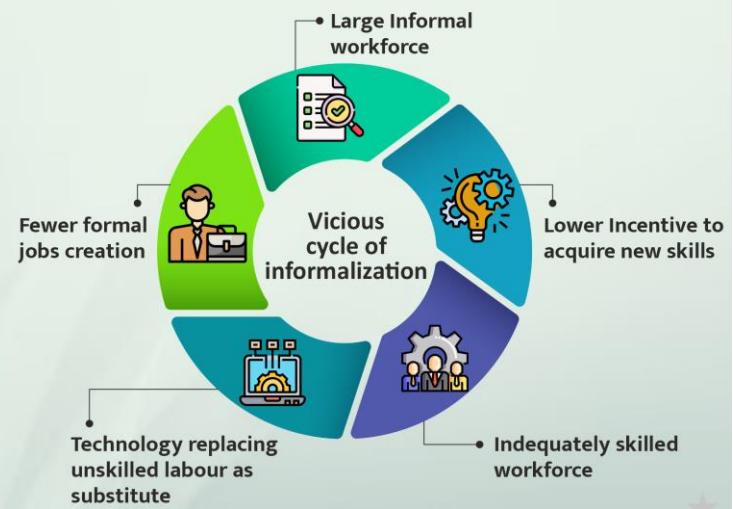
Certification is calculated as a share of total enrolment, whereas placement is calculated as a share of certification

Reasons for limited success

- **Administrative issues**
  o **No robust coordination and monitoring mechanism** due to lack of convergence between skill development programmes spread among more than 20 Ministries/Departments.
  o **Multiplicity in assessment and certification systems** leading to inconsistent outcomes and confusion among the employers.
  o **Underdeveloped or poor-quality infrastructure** of skill training centres with **paucity of trainers**.
  o **Lack of industry participation** in both the process and pedagogy of skilling.
- **Structural issues:**
  o **Low Public perception of skilling**, pushing it lower on priority than the formal academic system. Also, the compensation in non-technical fields (e.g., sales) is higher than manufacturing jobs.
  o **Large Informal workforce** leading to vicious cycle promoting informal jobs (see **image**).
  o **Mismatch between skills available and required by employers** due to a narrow and obsolete skill curriculum.
  o **Low Women Participation** in skill development schemes.
  o **Low employment creation**, especially quality employment in modern sectors such as the service and manufacturing sectors, which are dominated by multinational companies.

- **Limited integration with other areas:**
  - **Limited mobility** between skill and higher education programmes and vocational education.
  - **Inadequate impetus on entrepreneurship** for innovation driven entrepreneurship as it still remains outside the formal education system.
  - **Issues** of lack of career guidance, assured wage premium for skilled-people, mentorship and finance issues etc.
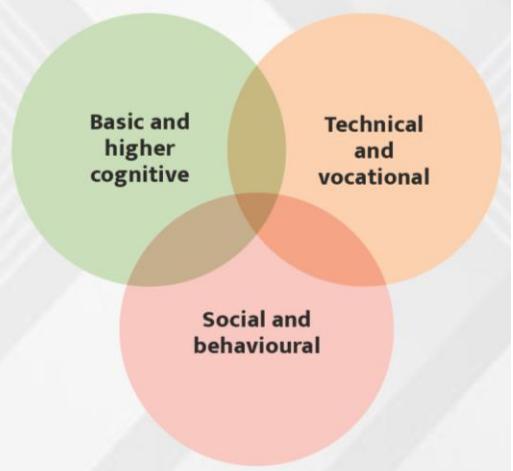
Way Forward: **Skilling for job creation**

It can be done through **holistic skills development** (see image) and transforming India's skilling landscape to achieve the **objectives** of **matching supply to current demand** for skills, **helping workers and enterprises** adjust to change, and **building and sustaining competencies** for future labour market needs. This can be done by:

- **Connecting** basic education to technical training, technical training to labour market entry, and labour market entry to workplace and lifelong learning,
  - E.g., universalisation of secondary education for basic numeracy and literacy skills.
- **Integrating** skill development policies with other policy areas – not only labour market and social protection policies, but also industrial, investment, trade and technology policies, and regional or local development policies.
- **Ensuring coordination** between Ministries and Agencies responsible for policy design and implementation for improved access to quality training and employment opportunities.
- **Encouraging** private sector participation to overcome resource constraints in sharp quantitative expansion in capacity of those to be educated or vocationally trained.
- **Mapping** skill requirements through continuous communication between employers and training providers for a demand-driven skill development ecosystem.
- **Funding** skill development through alternate financial resources such as bilateral/ multilateral donations, CSR funds, welfare funds etc.
- **Speeding** up implementation of National Skill Qualification Framework and putting in place a robust **Labour Market information System** for quality and reliable outcome-based training.
- **Promoting** skill development of the self-employed to make the transition from own account workers to employers or entrepreneurs.

Role of Private Sector in Skilling
- With necessary resources and expertise in various domains, private sector can play an important role in skilling.
- They can help **government** and **academia** in identifying **job-relevant skills, defining job requirements**, **devising training**, **certifying,** and **assessing performance**.
  - E.g., By collaborating with the **Sector Skill Council (SSC)** to set industry benchmarks.
  - Using **engagement platforms** to fine tune the curriculum and skill development effort.
  - Demand-forecasting, extending industry expertise, co-investing in training infrastructure etc.

3.4. GIG WORKERS

Why in News?

In a report titled '**India's Booming Gig and Platform Economy**', NITI Aayog has projected that the **Gig workforce in India** may hit **23.5 mn** by **FY30**.
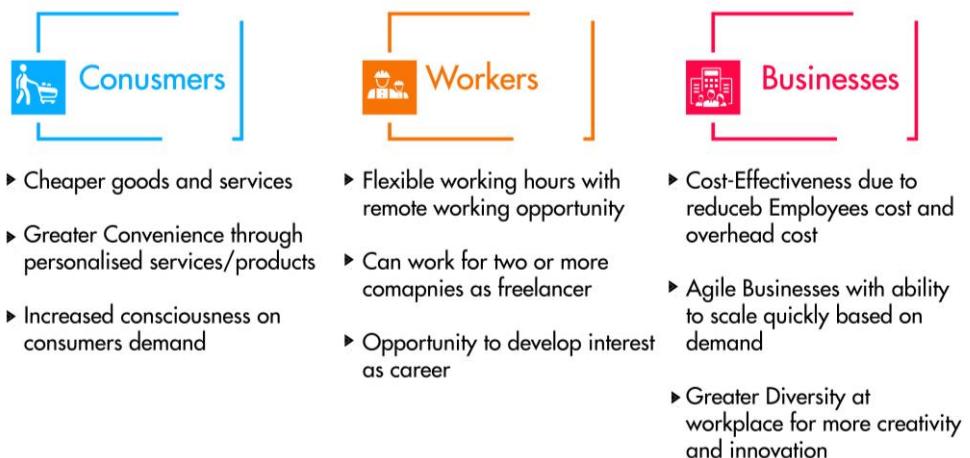
About Gig workers and significance in present times

- **Gig worker** is a person who performs work or participates in a work arrangement and earns from such activities outside of traditional employer-employee relationship, (**Code on Social Security, 2020**).
- They can be broadly classified into two categories as:
  - **Platform Gig Workers:** Workers whose work is based on **online software apps** or **digital platforms** such as food aggregator platforms Zomato, Ola, Swiggy etc.
  - **Non-platform Gig Workers:** Casual wage workers and own-account workers in the conventional sectors, working part-time or full time. E.g. Construction.

> **Gig Economy**
> - It is defined by a market which **is based on a fixed-term contract or that is paid per project by a company**, third party, or online marketplace."
> - E.g., As per ILO's 2021 **World Employment and Social Outlook Report** the number of digital labour platforms have grown fivefold over the last decade.

BENEFITS OF GIG ECONOMY

Consumers
- Cheaper goods and services
- Greater Convenience through personalised services/products
- Increased consciousness on consumers demand

Workers
- Flexible working hours with remote working opportunity
- Can work for two or more companies as freelancer
- Opportunity to develop interest as career

Businesses
- Cost-Effectiveness due to reduceb Employees cost and overhead cost
- Agile Businesses with ability to scale quickly based on demand
- Greater Diversity at workplace for more creativity and innovation

- With half-a-billion labour force, India has already emerged as one of the world's largest countries of Gig workforce due to pandemic and **rising factors** like **urbanization, access to internet, digital technologies and smartphones in India, start-up culture, freelancing platforms,** etc.

Key Findings of NITI Aayog Report

- **Workforce numbers:** In 2020–21, 77 lakh workers (1.5% of total workforce) engaged in the gig economy. It is expected to reach 2.35 crore workers (4.1% of the total workforce) in India by 2029–30.
- **Platformisation of Work:** Higher employment elasticity of gig workers shows their growing demand, indicating platformisation of non-gig work to gig work.
  - Currently, more than 75% of the companies have less than 10% gig headcount, but it will rise as more MNCs turn to flexible hiring options.
  - It is already expanding in all sectors with nearly 26.6 lakh gig workers in retail trade and sales, 13 lakh in transportation, 6.2 lakh in manufacturing and so on.
- **High potential industries for Gig Workers**: Construction, Manufacturing, Retail, and Transportation and Logistics**.**
- **Skill Level of Gig Workforce:** Presently, about 47% of the gig work is in medium skilled jobs, about 22% in high skilled and about 31% in low skilled jobs.
- **Skill Polarisation:** The report draws attention to skill polarisation as the trend shows gradual decline in concentration of workers in medium skills while that of the low skilled and high skilled is increasing.

Issues faced by Gig workers

The gig economy can benefit **workers, businesses, and consumers** by making work **more adaptable** to the needs of present **flexible lifestyle**. But it requires **platform firms and governments policies** taking account of the specific characteristics of workers in these sectors as they fall outside the purview of the traditional dichotomy of formal and informal labour leading to various issues such as:

- **Lack of job security**, irregular wages, and uncertain employment status. E.g. declining income of drivers on Ola, Uber or temporary hiring by food delivery apps during IPL.
  - The **uncertainty of work and income** may lead to **increased stress** and **pressure**.
- **Limited access to internet and digital technology** can be a restrictive factor for workers willing to take up jobs in the gig and platform sector.
- **Denial of workplace protections and entitlements** due to **contractual relationship** between the platform owner and gig worker.
- **Stress due to pressure from algorithmic management practices** and **performance evaluation** on the basis of ratings. E.g., monitoring of Ola and Uber employees.

Recommendations from NITI Aayog

India requires a framework that balances the flexibility offered by platforms while also ensuring social security of workers. This can be done through:

- **Proper Estimation of Gig Workers:** Have separate enumeration exercises to estimate the size of the gig economy and characteristic features of gig workers.
  - This can be done by collecting information during official enumerations (PLFS, NSS or otherwise).
- **Catalyse Platformization:** Introduce **Platform India initiative** (similar to Startup India), built on the pillars of **Accelerating Platformization** by Simplification and Handholding, Funding Support and Incentives, Skill Development, and Social Financial Inclusion.
  - This platform can help **self-employed individuals** to sell their produce to wider markets in towns and cities; Ferrying of passengers for hire etc.
- **Accelerate Financial Inclusion:** Enhance access to institutional credit through financial products specifically designed for platform workers and those interested to set-up their own platforms. For this,
  - Leverage **FinTech and platform businesses**,
  - Classify unsecured loans to first-time borrowers on platform economy as **Priority Sector Lending**,
  - **Special emphasis** on access to formal credit for women, Persons with Disabilities (PwDs), or platform businesses started in small cities, towns, and villages in India
- **Skill Development for Platform Jobs**: Pursue ends- or outcome-based, platform-led models of skilling and job creation development of youth and the workforce to make them employable.
  - Platforms can enable upskilling and diversification of platform workforce by collaborating with the Ministry of Skill Development and Entrepreneurship, and the National Skill Development Corporation (NSDC).

> **Gig Economy regulatory framework and Initiatives**
> - **The Code on Wages, 2019** provides for universal minimum wage and floor wage across organised and unorganised sectors, including gig workers.
> - **The Code on Social Security, 2020** recognises gig workers as a new occupational category and provides them with life and disability cover, accidental insurance, health & maternity benefits old age protection and other.
>   - It also proposed to establish a **Social Security Fund** and a **National Social Security Board** to supervise and formulate schemes for the well-being of gig and platform workers.
> - **E-Shram Portal:** To create database of unorganized workers, including gig workers. It is created to give social security benefits. E.g. entitlement to get accidental insurance benefits under **Pradhan Mantri Suraksha Bima Yojana (PMSBY).**

RAISE FRAMEWORK

- R — Recognise the varied nature of platform work to design equitable schemes
- A — Allow augmentation of social security through innovative financing mechanisms
- I — Incorporate, while designing schemes, the specific interests of platforms, factoring the impact on job creation, platform businesses and workers
- S — Support workers to subscribe to government schemes and welfare programmes through widespread awareness campaigns
- E — Ensure benefits are readily accessible to workers

- o Integrate employment and skill development portals such as E-shram and National Career Services Portals or Udyam portal with ASEEM portal.
- **Enhancing Social Inclusion:** In the New-age Digital Economy, enhance social inclusion through **gender sensitization** and accessibility awareness programmes.
  - o It can help in improving participation of **women and Persons with Disability (PwDs)** who face **structural barriers** such as access to education, lack of skilling etc.
- **Universal Social Security Coverage:** Learn from global examples/suggestions/practices and extend social security measures in partnership mode as envisaged in the **Code on Social Security 2020**. This includes paid sick leave, Occupational Disease and Work Accident Insurance, Retirement/Pension Plans and Other Contingency Benefits for gig workers and their families.
  - o The **Code on Social Security** can be operationalised by using **RAISE Framework** (see **image**).
- **Ascertain the future of Platform Economy:** As a Research Agenda, study key aspects of gig-platform economy through survey of small platforms, women-run platforms, formalization of employment, GDP contribution etc. to identify enablers and barriers.
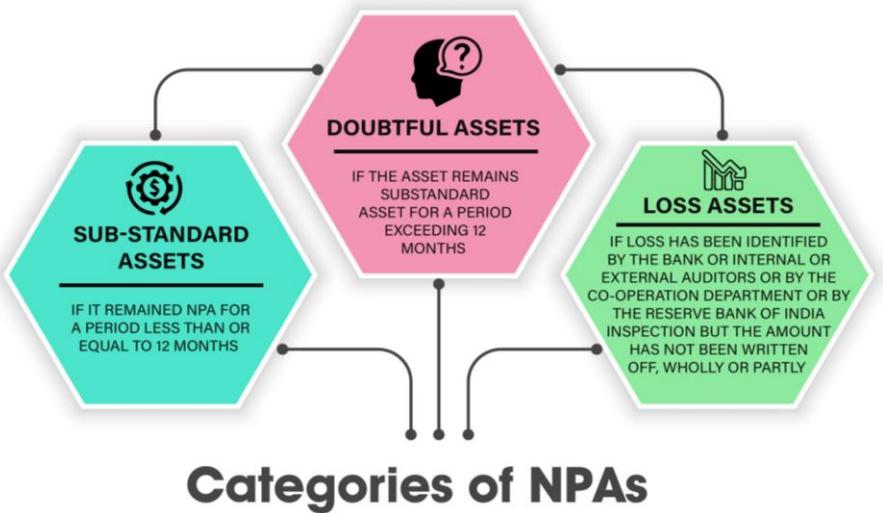
3.5. NON-PERFORMING ASSETS (NPAS)

Why in News?

The **Gross Non-Performing Assets (GNPAs)** of **Scheduled Commercial Banks (SCBs)** fell to a **six-year low** of **5.9%** in **March 2022** and **Net NPAs** reduced to **1.7%** during the same period.

About NPAs

- **Money or loans** provided by banks are considered as **Assets**, as it generates income for the bank. If it has no problem or does not carry more than normal risk it is called **Standard Asset**. If it ceases to generate income it becomes **Non-Performing Asset (NPA)**.
- **Non-performing Asset (NPA):** Based on overdue norms, a loan or advance for which the principal or interest payment is overdue for a period of **90 days** (one quarter) is classified as NPA.

Categories of NPAs

- o Based on the NPA period and its identification, the NPA category changes (see image).
- o For **Agricultural loans**, the overdue for NPA is **two crop seasons** for short duration crops and **one crop season** for long duration crops.

More on improving Asset Quality of SCBs

- **The slippage ratio**, measuring new accretions to NPAs as a share of standard advances at the beginning of the period, declined across bank groups during 2021-22.
- **Credit concentration** of SCBs has reduced (share of large borrowers) with diversification of borrowers.
- **Capital to risk weighted assets ratio** (CRAR) of SCBs has increased to a new high of 16.7% and **Common Equity Tier 1** (CET-1) ratio reached **13.6%**.
- **Provisioning Coverage Ratio** (PCR) has also increased.
- **Macro stress tests** for credit risk reveal that SCBs would be able to comply with the minimum capital requirements even under severe stress scenario.
- The **earnings and profitability** of banks also increased, leading to improved **return on assets** (RoA) and **return on equity** (RoE) ratios.
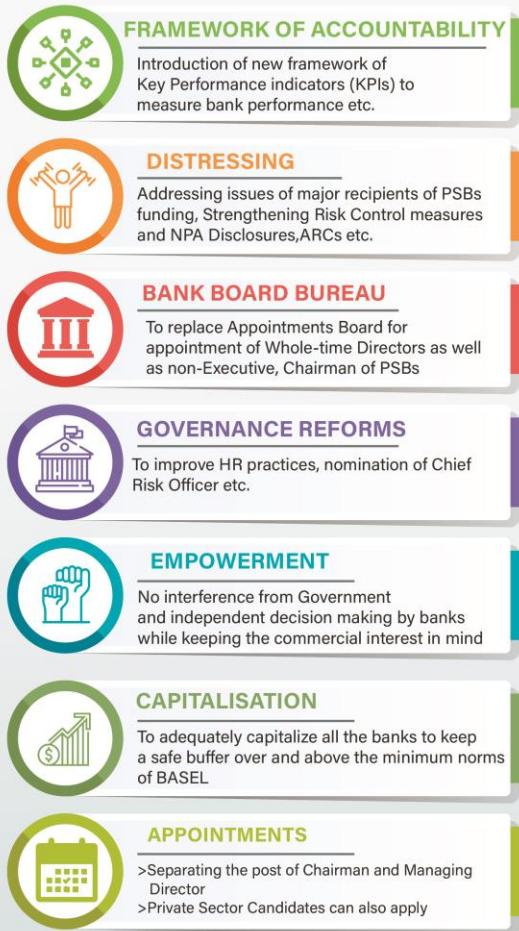
Reasons behind Reducing NPAs

- **4R's Strategy:** Started in **2015**, it is a strategy of **Recognising** NPAs transparently, **Resolution** and recovery, **Recapitalizing** PSBs and **Reforms** in the financial ecosystem and PSBs.
  - It led to a common PSB Reforms Agenda for **Enhanced Access and Service Excellence (EASE)** in 2018 for:
    - ✓ **CLEAN** Banking, i.e., **C**lean credit, **L**everaging data, **E**nsuring accountability, **A**ction against defaulters and **N**PA recovery; and
    - ✓ **SMART** Banking, i.e., **S**peedy, **M**ulti-channel reach, **A**ccessible and affordable, **R**esponsive and **T**echnologically enhanced
- **Indradhanush Plan**: A comprehensive reform initiative for PSBs to ensure accountability, adequate capitalization, distressing etc. (see **image**).
- **Policy support**: State and RBI has helped SCBs to navigate **waves of the pandemic** and **strengthen their risk absorption capacity**. E.g.
  - **Amendment in Insolvency and Bankruptcy Code (IBC)** to provide for a Pre-Packaged Insolvency Resolution Process (PPIRP) for corporate MSMEs**.**
  - **Credit Guarantee Scheme** during Covid-19.
- **Progressive normalisation of economic activity**: It helped banks to kick start a fresh lending cycle while simultaneously improving profitability.
- Other Reforms such as **merger of PSBs** and **set up National Asset Reconstruction Company Limited (NARCL)** and **India Debt Resolution Company Limited (IDRCL)** to resolve the legacy NPAs and clean up the bank books.

INDRADHANUSH

FRAMEWORK OF ACCOUNTABILITY
Introduction of new framework of Key Performance indicators (KPIs) to measure bank performance etc.

DISTRESSING
Addressing issues of major recipients of PSBs funding, Strengthening Risk Control measures and NPA Disclosures,ARCs etc.

BANK BOARD BUREAU
To replace Appointments Board for appointment of Whole-time Directors as well as non-Executive, Chairman of PSBs

GOVERNANCE REFORMS
To improve HR practices, nomination of Chief Risk Officer etc.

EMPOWERMENT
No interference from Government and independent decision making by banks while keeping the commercial interest in mind

CAPITALISATION
To adequately capitalize all the banks to keep a safe buffer over and above the minimum norms of BASEL

APPOINTMENTS
>Separating the post of Chairman and Managing Director
>Private Sector Candidates can also apply

EASENext Reforms
- EaseNext consist of two key initiatives:
  - **EASE 5.0** for a common PSB reforms agenda, and
  - Bank specific **three-year strategic roadmap** based on bank's business priorities.
- Under **EASE 5.0**, PSBs will continue to invest in **new-age capabilities** and respond to evolving customer needs, changing competition, and adoption of newer technologies.
- It will prioritise **digital customer experience** and **integrated and inclusive banking**, focusing on **small businesses** and **agriculture**.
- Under bank-specific strategic roadmap, banks will take strategic initiatives going beyond EASE 5.0, including business growth, profitability, risk, customer service, operations, and capability development.

Remaining and Emerging Challenges for PSBs and Overall Banking System

- **Higher PSBs NPAs:** PSBs NPA, the mainstay of the Indian Banking System, are still higher at **7.6%**. Also, in case of **severe stress scenario**, they will rise to **10.5%** by end of **FY23**.
- **Mergers Role:** Instead of better borrowers, PSBs mergers have helped in NPA reduction. E.g., Indian Bank (3.5% NPA) acquired Allahabad Bank (6% NPA) leading to 4.6% NPA.
- **Lower Competitiveness of PSBs:** The **Net-Interest Margins** and **profitability** of PSBs is still lower than private banks.

- **Delays in NARCL:** NARCL, registered in July 2021, has already missed its march-end deadline to complete the acquisition of **15 stressed assets** worth ₹50,000 crore from banks.
- **Decline in IBC Resolutions:** Inordinate delays in the resolution of stressed assets under IBC with amount realized from resolution turning lower than liquidation value of assets for first time in Q4 of FY22.
- **Early signs of stress:** Certain sectors are showing early signs of stress post-pandemic. E.g., Power distribution companies (discoms) dues to power generators (gencos) are piling up, touching ₹1.19 trillion.
- **Loan-Waivers:** With increasing populism, the loan-waivers from states hurt banks through write-offs and impaired credit discipline.

Way Forward

Banks are the **backbone** of every economy. The increasing risks from **economic slowdown**, **rising inflation**, warning signs of **stress in states finance**, **fears of recession** in the US and **end of the easy money era** with central banks raising interest rates, the banking system will face severe stress. Therefore, to maintain improving health of banks, banks and government must ensure:

- Following the **path of risk aversion** to maintain **asset quality** and **Capital Adequacy.**
- Overcome **poor governance** and **operational efficiency** issues by PSBs and make NARCL fully functional at the earliest.
- **Amending IBC to stipulate** that the National Company Law Tribunal (NCLT) would be held accountable for delays in the resolution process.
- **Continue banking reforms with necessary economic reforms** to strengthen state finances with fiscal discipline to withstand the upcoming economic risks.

To know more about NPA, please refer to our following Weekly Focus Document.

Non-Performing Assets (NPA) From 'a Crisis' to 'a Catalyst'

NPA crisis in India has been an amalgamation of several weaknesses such as poor credit monitoring, governance issues and limited capital availability. The solution similarly has to be an amalgamation of multiple steps expressed as a '4R strategy'. At the same time, the NPA problem has the potential to be an indicator guiding the holistic reforms in the Banking sector.

3.6. INDIAN PAYMENT SYSTEM

Why in News?

The Reserve Bank of India (RBI) has unveiled '**Payments Vision 2025**', to outline the thought process for the period up to December 2025.
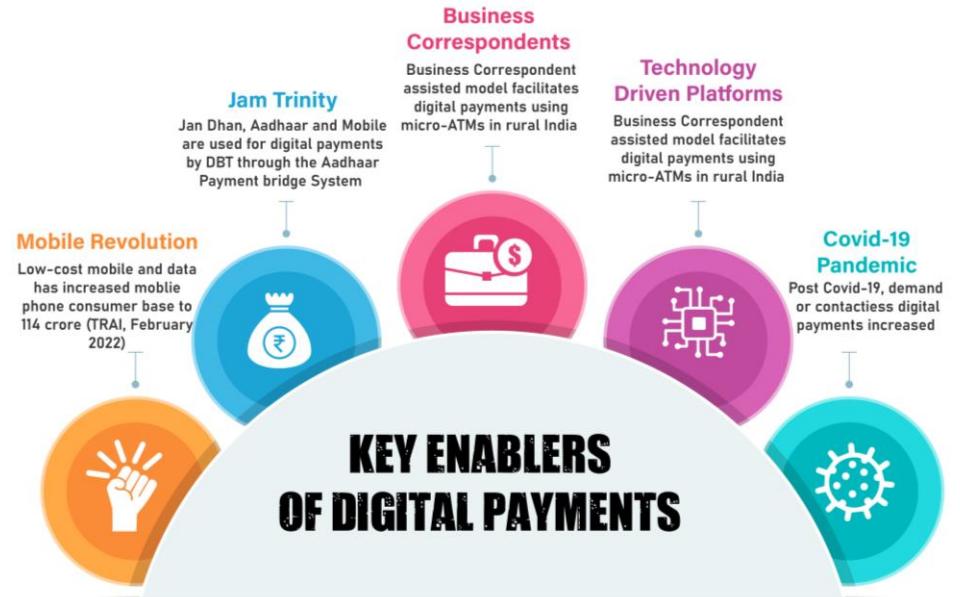
Payment System in India

- Payment System is defined as 'the system which enables payment to be effected between a payer and a beneficiary, involving **clearing**, **payment or settlement service** or all of them, but **doesn't include a stock exchange'.**
- It is the backbone of any economy and plays a vital role in **economic development**, **financial stability,** and **financial inclusion**.
- With deepening digitalization of payments and other financial services, the Indian payment system is also fast becoming digital. E.g.
  - India recorded **>500% growth** in merchants accepting digital modes of payments between 2019 and 2021.

- In digital payments, UPI, IMPS and PPI transactions registered a CAGR of **104%, 39% and 13%** respectively during the same period.
- At the same time, usage of paper instruments has come down significantly, with its **share in total retail payments** registering a decline from **3.83% to 0.88%** in terms of **volume**.
- RBI (through **Payments Vision 2021** and steps outside it) role is central to it as it ensured:
  - **Competition** through regulatory sandboxes, opening access of Centralized Payment Systems (CPS) to non-bank PSOs, facilitation of small value digital payments in offline mode, etc.
  - **Cost reduction** through waiver of RTGS and NEFT charges levied by RBI, review of Automated Teller Machine (ATM) interchange fee and customer charges, framework for regulation of PAs, etc.
  - **Convenience** through 24x7x365 basis availability of NEFT, RTGS and National Automated Clearing House (NACH) etc.
  - **Confidence** through framework for regulating Payment Aggregators (PAs), tokenisation of card transactions setting up of Centralised Payments Fraud Information Registry (CPFIR), etc.

Challenges faced by the Payment System

- **Cyber Attacks:** Cyber-attacks can easily disrupt the **operational system** (Denial-of-Service attack), or commit financial frauds such as digital payment frauds, data-theft etc.

Business Correspondents
Business Correspondent assisted model facilitates digital payments using micro-ATMs in rural India

Jam Trinity
Jan Dhan, Aadhaar and Mobile are used for digital payments by DBT through the Aadhaar Payment bridge System

Technology Driven Platforms
Business Correspondent assisted model facilitates digital payments using micro-ATMs in rural India

Mobile Revolution
Low-cost mobile and data has increased mobile phone consumer base to 114 crore (TRAI, February 2022)

Covid-19 Pandemic
Post Covid-19, demand or contactless digital payments increased

KEY ENABLERS OF DIGITAL PAYMENTS

- **Digital Infrastructure:** In parts of India, especially in rural and hilly areas, access to a fast and efficient payment system every time is a challenge.
  - In terms of people per Point of Sale (PoS) terminal deployed, India lags with one PoS terminal catering to 296 people as at the end 2020.
- **Grievance Redressal Mechanism:** Providing a customer friendly dispute resolution and grievance redressal mechanism is a challenge when certain components like Fintechs lack a physical interface.

> **Regulation and Development of Indian Payment System**
> - It is **regulated** and **supervised** by RBI under the **Payment and Settlement Systems Act, 2007**.
> - Also, as a **creator**, RBI is providing **strategic direction** and **implementation plan** for **structured development** of the payments ecosystem through periodic **Payments Vision** documents since **2001** to achieve the objective of:
>   - Ensuring **safe, secure, reliable, accessible, affordable,** and **efficient payment systems**.

- **Low Value of Transactions:** Despite significant digitization, the value of payment systems transactions to Cash in Circulation (CiC) was one the lowest in India (44.9) in 2020 with CiC as percent of GDP increasing to 14.4% of GDP in 2020 from 10.7% of GDP in 2017.
- **Data privacy issues:** Various digital payment instruments and systems like Prepaid Payment Instruments (PPIs) and FinTech have not been susceptible **personal data theft**, **cyber thefts**, **unauthorized transactions** etc.
  - In 2021, RBI Working Group on digital lending found over 600 illegal loan apps operating in India to dupe unsuspecting people.

Payments Vision 2025
- Building upon the **four goalposts** (**competition, cost, convenience and confidence**) of the Payments Vision 2021, the **Payments Vision 2025** has set **five anchor goalposts** as:
  - **Integrity, Inclusion, Innovation, Institutionalisation** and **Internationalisation** for enhanced outreach, customer centricity, cyber security and digital deepening.
- **Core Theme: E-payments** for **everyone, everywhere, everytime** (4Es).

- **Vision:** Provide every user with **Safe, Secure, Fast, Convenient, Accessible**, and **Affordable** e-payment options.

Key Features of Payments Vision 2025

- **Bring Central bank Digital Currencies (CBDC)** with **Framework for regulation of all significant intermediaries** in payments ecosystem, i.e. BigTechs, Fintechs, Buy Now Pay Later (BNPL) etc.
- Check the feasibility of creation of a **Digital Payments Protection Fund** to protect victims of online payment frauds.
- **Enabling Geo-tagging of digital payment infrastructure** and **transactions** with revisiting guidelines for prepaid payment instruments (PPIs), including closed system PPIs.
- **Link credit cards and credit components** of banking products to UPI.
- Bringing in enhancements to **Cheque Truncation System (CTS)**, including One Nation One Grid clearing and settlement perspective.
- **Real-time reporting** of payment frauds.

Way Forward

Being vital to **ease of doing financial transactions**, the Payments Vision 2025 comes at an opportune time to **build trust** in the payment ecosystem. India can further strengthen and internationalise its digital payment space to reinforce its position as leader in digital payments domain through:

- **Proactive laws and regulations** with safety and customer centric initiatives at the centre of policy. E.g., Data protection law to go beyond mandated local storage of payments data and ensure no misuse of data or minimizing data-thefts through proper framework.
- **Identification of systemically important nodes** at financial and operational levels through cyber mapping to increase the understanding of vulnerabilities and contagion channels in the financial system
- **Curtailing solvency risk** of financial entities by promoting market-based financing.
- **Leveraging domestic learning's** at a global level to enhance cross-border payments by addressing the four key challenges of cost, speed, access, and transparency. E.g. Interlinking UPI with fast payment systems in other jurisdictions.
  - As the world's largest recipient of in-bound remittances, it will open up non-bank payment systems for inward remittances and internationalise Indian Rupee for greater integration with the world economy.
- **Explore Global Cooperation** to ensure safety and security through uniform regulation on BigTechs. E.g. using the risk-based regime of **Financial Action Task Force (FATF)**.
- **Mandate a formal customer grievance redressal framework** for all participants with a designated nodal officer to handle the customer complaints/grievances.
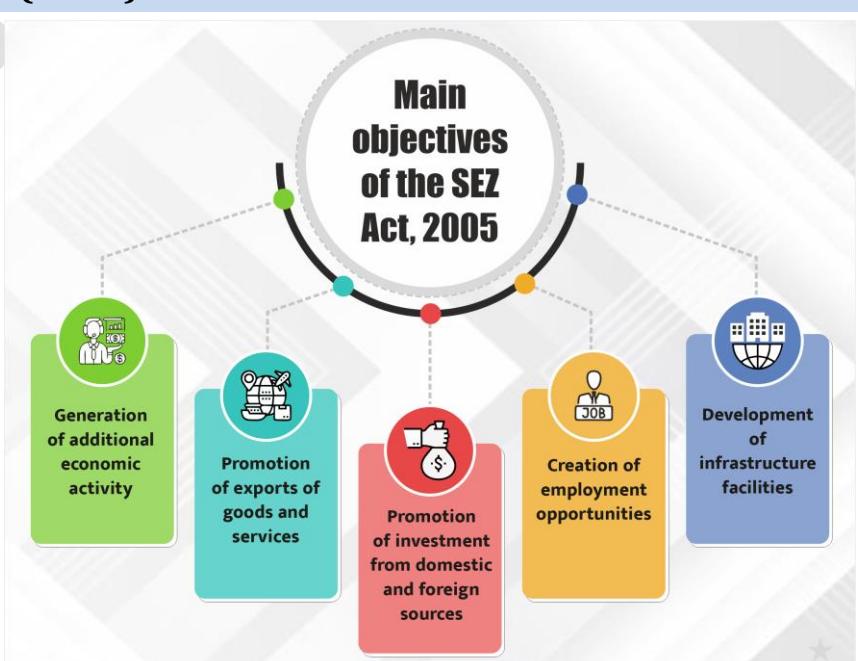
3.7. SPECIAL ECONOMIC ZONES (SEZS)

Why in News?

The government has released a draft **Development Enterprise and Services Hub (DESH) Bill, 2022** for consultation to replace the **Special Economic Zones (SEZs) Act, 2005**.

SEZs in India and their significance

- SEZ is a specifically delineated **duty-free enclave** and **deemed to be foreign territory** for the purposes of trade operations and duties and tariff.
- India recognized the effectiveness of such **Export Processing Zone (EPZ) model** early and established Asia's first EPZ in Kandla in 1965.

Main objectives of the SEZ Act, 2005

- Generation of additional economic activity
- Promotion of exports of goods and services
- Promotion of investment from domestic and foreign sources
- Creation of employment opportunities
- Development of infrastructure facilities

- In **2000**. **SEZ policy** was announced to make SEZs an engine for economic growth under the provisions of the **Foreign Trade Policy**.
- Subsequently, the **SEZ Act** was brought in **2005** with **SEZ Rules in 2006** for a comprehensive stable regime on SEZ to achieve various **objectives** (see image) through:
  - **Simplified procedures** for development, operation, and maintenance of the SEZs,
  - **Single window clearance** for setting up a unit in a SEZ and clearance on matters relating to Central as well as State Governments.
  - **Simplified compliance procedures and documentation** with an emphasis on self-certification etc. to overcome the shortcomings experienced on account of the multiplicity of controls and clearances.

SEZ's Performance

- **Number of SEZs:** As of January 2022, India has **268 operational SEZs** against **357 notified** and **425 formal approvals**.
- **Promising economic indicators: Exports** from SEZs have increased to **₹7.59 trillion** in **FY21** from just **₹22,840 crore** in **FY06**, creating **2.35 million jobs** with a **total investment of ₹6.17 trillion** by **FY21**.
- **Underperformed vis-à-vis China**: But these exports were less than **$112.3 billion** in **FY20** and nowhere close to the success achieved by China.
- **Competitive advantage of SEZs is waning** with several businesses moving away from SEZs or shifting business units to ASEAN countries because of better incentives from them and various domestic challenges.

Challenges faced by SEZs

- **Withdrawal of tax concessions** after the imposition of **minimum alternate tax** in 2012 and a **sunset clause** to remove **tax sops**.
  - SEZ units enjoy **100% income tax exemption** on export income for the first **5 years**, **50%** for the next **5 years** and **50%** of the ploughed back export profit for next 5 years.
- **Under-utilized** or vacant parcels of land under the SEZs due to **sector-specific restrictions**.
- **WTOs dispute settlement panel** ruled India's export-related schemes, including the **SEZ Scheme**, as inconsistent with WTO rules, since it **directly linked tax benefits to exports**.
  - Countries aren't allowed to directly subsidize exports as it can distort market prices.
- Policy inconsistencies and other issues in them like-
  - Need for **payment of full customs duty** on final product for domestic sales;
  - **Requirement of payment in foreign exchange** for services provided by SEZ units to Domestic Tariff Area (DTA);
    - ✓ Any area that lies outside of SEZ or any other custom bonded zone in India is known as the DTA.
  - **Limited states role** as most decisions are made by the Commerce Department at the Centre, leading to lack of support from the state government for clearances;
  - **SEZs need to be net foreign exchange positive** cumulatively in five years (i.e., export more than they import).

DESH Provisions and its Benefits

An outcome of proposals made by an expert committee in 2018, DESH aims to **transform the narrow export-oriented SEZs** into **comprehensive economic hubs**. SEZs will be

BENEFITS OF DEVELOPMENT ENTERPRISE AND SERVICES HUB

- Boosting domestic manufacturing, trading and services activity
- Employment Generation
- Promoting Investments
- Developing infrastructure facilities
- Integrating with global supply and value chains
- Support to Research and Development
- Strengthening federalism
- Keeping Indian manufacturing and export competitive

renamed as DESH and it will cover **all large existing** and new industrial enclaves to **optimally utilize** available infrastructure and enhance **competitiveness** of exports through:

- **Partial denotification** of SEZs to free up area not in demand. Also, no requirement to have specific demarcation for trading and warehousing activities.
- **Easier selling in domestic markets** with duties paid only on the imported inputs and raw materials instead of the final product. **Also, no mandatory payment** requirement in forex.
  - The government may impose an **equalization levy** on **goods or services** supplied to the domestic market to bring taxes at par with those provided by units outside.
- **Single-window portal** within six months from the date of commencement of the Act for time-bound approval for establishing and operating the hubs, including the single application forms and returns.
- **Removal** of need to become **net foreign exchange positive** cumulatively in **5 years.**
- **Active State Participation** by allowing them to directly send recommendations for development hubs to a central board for approval and set up of state boards to oversee the functioning of the hubs.
  - State boards will have powers to approve imports or procurement of goods, and monitor the utilization of goods or services, warehousing, and trading in DESH.
- **WTO-compliance** by removing the direct tax incentives for units.

Conclusion

While the draft bill is still unclear on some issues like extension of sunset clauses, it allows states and the Centre to give further incentives in the form of tax rebates, incentives, exemptions, and duty drawbacks. For this push for revival to be successful, collective engagement with states, industry and markets would be a good starting point.

3.8. INNOVATION IN RAILWAYS

Why in News?

Indian Railways (IR) launched "Indian Railway Innovation Policy" to fund innovations.

Key Highlights of Indian Railway Innovation Policy

- Under the Policy, **IR will invest in startups to get a head start in procuring innovations directly from them** with a promise of up to Rs 1.5 crore of seed money for innovative technological solutions for IR.
- **Objective of the policy is to:**
  - **Develop cost-effective, implementable, scalable solutions,** functional prototypes and innovative products for addressing Quality, Reliability and Maintainability related issues of IR.
  - **Leverage new innovative technologies** for improving Operational efficiency & Safety on IR.
- **Annual budget for the policy will be around Rs 40-50 crore** and an additional fund for the divisional railway managers so that they can find on-field solutions to on-field problems.
- Developed **Intellectual Property Rights (IPR) will remain with innovators only.**

INDIAN RAILWAYS

- 4th largest railway network in world by size
- Operates more than 13,000 passenger and 9,000 freight trains everyday
- To account for 40% of the total global share of rail activity by 2050
- Operates on three gauges: Broad gauge, Meter gauge and Narrow gauge.
- IR is divided into 17 zones (sub-divided into divisions), headed by general managers who report to the Railway Board.
- Headed by Railway Board whose chairman reports to the Ministry of Railways

Need for innovation in Indian Railways

- **Overstretched Infrastructure:** with more than 60% of routes being more than 100% utilized.
  - In the last 60-70 years while the freight loading and passenger kms has grown by over 1000%, the Route kms have grown around 25%.
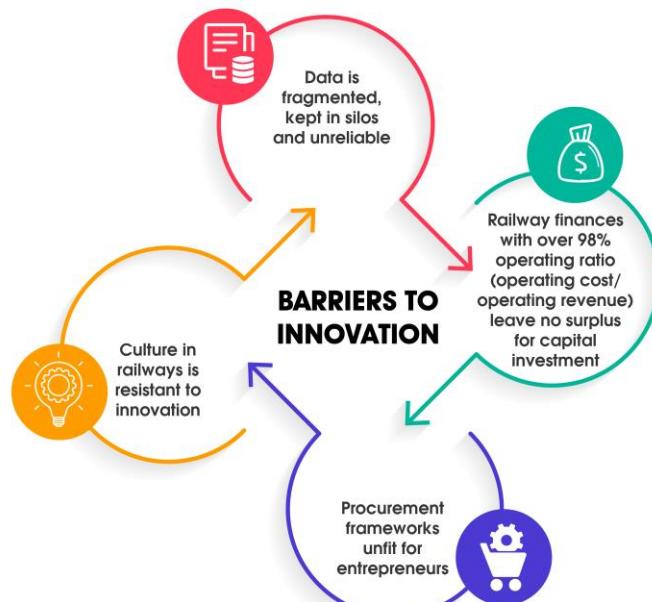
- **Lack of customer focus:** Cleanliness, punctuality of services, safety, quality of terminals, capacity of trains, quality of food, security of passengers and ease of booking tickets are among major customer focus issues.
- **Low revenue generation:** Passenger trains utilise two-thirds of capacity and generate only one-third of revenues. Issues include cross-subsidization of passenger traffic revenue with freight revenue, inadequate carrying capacity leading to decreasing modal share in freight etc.
- **Loss of passenger share to airlines:** Development of airports and thrust of airlines in Tier-2 and-3 cities has led to railways losing out on passenger traffic.
- **Safety issue:** Accidents due to unmanned level crossings, derailments, due to lapses on the part of railway staff, due to signaling errors for which loco-pilots (train-operators) are responsible are major reasons for casualties.
- **Organisation rigidity:** Slow decision making, inadequate market orientation and silo-oriented working, long project approval duration are some of the points of rigidity.

Efforts undertaken

Area	Steps taken by India
Safety Enhancement	• **Bridge Management System (BMS), a web-based IT application** to facilitate 24x7 availability of information. • **Radio Frequency Identification (RFID) tags are being fitted** on rolling stock to track and trace the rolling asset. • **Electronic Interlocking (EI) is being adopted** to enhance safety. • **Automatic Train Protection System** called **Kavach.**
Infrastructure upgrades	• **Modern track structure** consisting of **Pre-stressed Concrete Sleepers.** • Capacity Augmentation through **Dedicated Freight Corridors (DFCs).** • **Microprocessor based Train Control and Management System**, Emergency Talk Back system/Panic Buttons etc.
Passenger experience improvement	• Introduction of 'Make in India' **semi-high speed Vande Bharat Express trains** • **Focus on cleanliness of trains and stations** with the installation of bio-toilets etc. • **Safety Information Management System (SIMS)** to manage and process information related to any train accidents.
Organizational capability enhancement	• **National Monetisation Pipeline** also has an asset monetisation plan for IR and there are plans for corporatisation of production units. • **Restructuring of railway board** by trimming its strength to half and unifying its eight railways services into a central service -Indian Railway Management Service.

What can be done to create a larger innovation ecosystem in Railways?

- **Ensure greater private sector participation:** especially in areas such as station redevelopment, passenger movement etc.
  o Best practices in PPPs from other sectors, such as highways and airports could be emulated.
- **Easing organizational rigidity:** by corporatizing the existing manufacturing and production units. It will also help production units look for state-of-the-art technologies, cut costs and explore overseas markets.
- **Integration with Multi-modal connectivity:** for seamless cargo transportation to cutdown logistic costs (around 12-13% of GDP) which is higher in India in comparison to other countries.
- **Envisioning sustainable mobility and growth:** Digitalization and automatization can improve the efficiency of railways by accommodating rising traffic flows, reducing the environmental impact and achieving energy efficiency.

BARRIERS TO INNOVATION

Data is fragmented, kept in silos and unreliable

Railway finances with over 98% operating ratio (operating cost/ operating revenue) leave no surplus for capital investment

Procurement frameworks unfit for entrepreneurs

Culture in railways is resistant to innovation

3.9. INDIA AND GLOBAL INDICES

Why in News?

India has rebutted the **Environment Performance Index (EPI) 2022** findings on account of **extrapolations** and **unfounded assumptions** after being ranked at the **bottom of its analysis**.

More on News

- Released by the researchers of **Yale and Columbia University**, **EPI** ranks 180 countries on climate change performance, environmental health, and ecosystem vitality.
- It uses **40 performance indicators across 11 issue categories** to gauge how close the countries are to established environmental policy targets.
- **India's Objections:**
  - **Reduced weightage of indicators** in which India was performing well with no explanation on reasons behind the change in assignment of weights.
  - **Shorter time period** (10 years) of new indicator on 'Projected GHG Emissions levels in 2050' and **non-inclusion of indicators** on renewable energy, energy efficiency waste generation per capita etc. with close link to sustainability.
  - Bare Reflection of **principle of equity** (e.g., GHG emission per capita) and **CBDR-RC** (Common but Differentiated Responsibilities and Respective Capabilities) principle as unlike developed countries with **NET ZERO targets** of **2050**, India has given a goal of **NET ZERO** by **2070**.

Global Indices and their utility

- Global Indices are benchmarks which evaluate the **strength** and **weaknesses** of different nations on various parameters such as **economic, environmental, socio-cultural, governance-related**, or a **mix/other** parameters.
  - E.g. **Global Gender Gap** based on- **Economic Participation and Opportunity**; **Educational Attainment**; **Health and Survival**; and **Political Empowerment** parameters.
- These Indices are released by government agencies, private agencies, educational institutions, NGOs or intergovernmental organizations/institutions.
- **Utility of Global Indices**
  - **Holding Government Accountable**: They help in identifying quality of public services and civil services for improved **effectiveness of governance**.
  - **Freedom of Expression:** Accountability strengthens citizens and media freedom of expression and association by acting as a safety valve against **politically motivated violence and biased domestic media.**
  - **Force for Reforms:** These indices help in capturing perceptions on institutions, policies, and regulations, forcing government towards reforms, and establishing **rule of law**.
    - ✓ For instance, it helps in private sector development through reforms toward Ease of Doing Business such as contract enforcement, property rights etc.
  - **Controlling Corruption:** By capturing the state of elites and private interests, creating awareness on use of public power for private gains, including grand forms of collusive corruption.

Issues in India's Rating by Global Indices

Indices	Released by	India's Position	Issues in India's Rating
International Religious Freedom Report	US Commission on International Religious Freedom (USCIRF)	In **Countries of Particular Concern**	India questions the **locus standi of USCIRF** with issues of **bias** and **misrepresentation** as it places India alongside countries like Afghanistan, China, North Korea, Pakistan, etc.
World Press Freedom Index	Reporters Sans Frontiers	**150** out of **180**	India was declared as one of the **world's most dangerous countries** for the media, just **6 places** ahead of **Afghanistan** and **7** ahead of **Pakistan.**
Global Hunger Index	Concern Worldwide and Welthungerhilfe	**101** out of **116**	It uses Food and Agriculture Organisation (FAO) estimates which uses **opinion poll** rather than any **scientific methodology**.

Democracy Index	Economic Intelligence Unit (EIU)	**46** out of **167**	Though India's score recovered from **lowest** of **6.61** in **2020** to **6.91** in **2021**, the issue remains on its classification among '**flawed democracies**'.
Index of Economic Freedom	Heritage Foundation	**131** out of **184**	It ranks India among '**Mostly Unfree**' with very low score on fiscal health based on **deficit** and **debt** despite extremely low foreign currency denominated debt and zero sovereign default.
Freedom in the World	Freedom House	Score of **66** out of **100**	It ranks India among '**Partly Free**' category in terms of democracy and free society.

Impact of Poor Rating

- **Investment:** The negative commentary from **think tanks, survey agencies** etc. impact **India's global image**, hurting **investment sentiment** and **India's performance** at other places.
  - E.g., World Bank's **WorldWide Governance Indicators (WGI)** is a proxy of it as it uses data sources of EIU, Freedom House, Heritage Foundation etc. among others (see image on India's WGI score).
- **Sovereign rating:** It can also hurt India's sovereign rating as **18-26%** of a country's sovereign rating is based on factors like **governance, political stability, rule of law, corruption, press freedom** etc.
- **Global perception:** Showcasing India's Social, Economic and Political variables in negative light creates a negative global perception affecting global Indian community, Tourism sector etc.

> **Concerns over use of Global Indices**
> Due to **questionable methodologies** and **biases**, the governments shouldn't be too dependent on them as:
> - They **change infrequently** as agencies often fail to constantly monitor developments.
> - They may lead to **herding behavior**.
> - Use of ratings from government provides official sanction to these agencies and their assumptions, increasing **moral hazard risk**.
> - Use of these indices in policies **carries risk of more such indices seeking legitimacy.**

Way Forward

- **Strengthening domestic Statistical Ecosystem and Data Collection:** More frequent and detailed domestic data collection and its sharing to help these agencies' in-depth objective analysis or provide alternative response.
- **Outreach to Agencies:** Work on ways to reach out to these agencies to better understand their methodologies and clearly spell out the country's reform measures with sensitization on our internal matters.
- **Accountability of Agencies:** Keep questioning them on genuine concerns and visible biases. E.g. Democracy Index improved India's score in 2021 after questioning it in 2020.
- **Laws and Policies:** Strong Laws and Policies with proper implementation must be ensured for a positive domestic environment on Indian Democracy, Minorities, Media etc.
- **Support Indian States:** As matters like law and order, health etc. are **state subjects**, **financial** and **technical support** must be provided to them.
- **Engaging Indian Diaspora:** Use Indian Embassies to engage Indian Diaspora for spreading information on India among others and inspire them to visit India for direct observation.

3.10. NATIONAL STRATEGY FOR SUSTAINABLE TOURISM

Why in news?
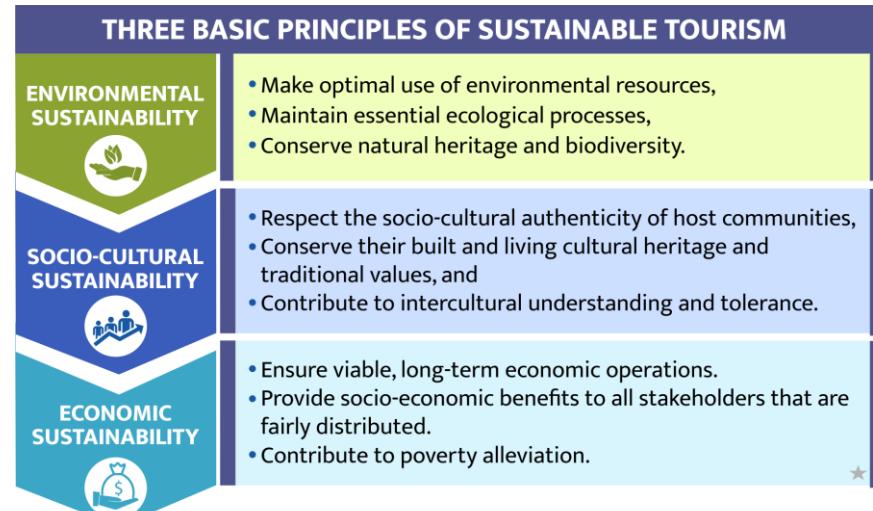
The Ministry of Tourism launched the **National Strategy for Sustainable Tourism**.

About Sustainable Tourism

- As per United Nations World Tourism Organization (UNWTO), **Sustainable tourism should follow the three basic principles** (refer to infographic).
- Tourism has been included **as targets in sustainable development goals (SDGs) 8, 12 and 14 on inclusive and sustainable economic growth,** sustainable consumption and production (SCP) and the sustainable use of oceans and marine resources, respectively.

THREE BASIC PRINCIPLES OF SUSTAINABLE TOURISM

ENVIRONMENTAL SUSTAINABILITY
- Make optimal use of environmental resources,
- Maintain essential ecological processes,
- Conserve natural heritage and biodiversity.

SOCIO-CULTURAL SUSTAINABILITY
- Respect the socio-cultural authenticity of host communities,
- Conserve their built and living cultural heritage and traditional values, and
- Contribute to intercultural understanding and tolerance.

ECONOMIC SUSTAINABILITY
- Ensure viable, long-term economic operations.
- Provide socio-economic benefits to all stakeholders that are fairly distributed.
- Contribute to poverty alleviation.

Need for National Strategy for Sustainable Tourism

- **Inclusive Community Development**: Tourism can be a key driver of inclusive community development contributing to resiliency, inclusivity, and empowerment, while safeguarding natural and cultural resources.
- **India ranks poor in sustainability**: 96th position in Adventure Tourism Development Index 2020, 128th under Environment Sustainability in 2019.49
  o Such a strategy with focus on **adventure and ecotourism has been prepared to mainstream sustainability in Indian tourism sector**.
- **COVID-19 crisis is a watershed moment to align the efforts** of sustaining livelihoods dependent on tourism to the Sustainable Development Goal.

Threats
- Natural resources extraction to meet the demand of tourists
- Coversion and degradations of natural landscapes and land use changes
- Tourists transport demand mismanagement
- Destroy ethnic and grassroots culture
- Lack of awareness among masses to reap the benefits from developing sustainable tourim

Opportunities
- Develop explicit maketing strategies for both local and foreigners
- Pilgrim and festival tourism
- Favorable goverment policies
- Employment generation and direct benefit for local community
- Cultural exchange

SWOT analysis of Sustainable tourism

Strengths
- The region weather and climate
- Rich tourism resources
- Governments at all levels attach importance to the development of tourist attractions
- Good condition for external investment
- Tourism economic potential

Weaknesses
- Lack of knowledge on developing sustainable tourism product
- Tourism marketing and supply chain not well developed
- Absence of community representation in tourism decision related marketing
- Poor Infrastructure and weak investment base
- Adequate funding

About National Strategy for Sustainable Tourism

- It aims **to mainstream sustainability in Indian tourism sector** and ensure a more resilient, inclusive, carbon neutral and resource efficient tourism while safeguarding natural and cultural resources.
- Its vision is to **position India as a preferred global destination** for sustainable and responsible tourism.
- Its mission is **to increase the economic, social and environmental benefits** to build a low carbon, inclusive and resilient tourism sector in India.
- **Following strategic pillars have been identified for development of sustainable tourism**:
  o Promoting Environmental Sustainability

- o Protecting Biological Diversity and Natural Heritage
- o Promoting Economic Sustainability
- o Promoting Socio-Cultural Sustainability
- o Scheme for Certification of Sustainable Tourism
- o **IEC and Capacity Building:** Ministry of Tourism to set up a National Resource Centre at the National level for sustainable tourism, adventure tourism and ecotourism.
- o **Governance:**
  - ✓ National Board on Sustainable Tourism under Secretary (Tourism) will be set up.
  - ✓ National Nodal Agency to be designated for promotion and development of Sustainable Tourism.
  - ✓ Each State/ UT may also designate a State Nodal Agency to assist the State Department of Tourism.

Other Steps taken for sustainable tourism

- **Special focus on promoting 'Incredible India'** brand to attract tourists, not only to major cities and heritage attractions, but also to rural India.
- With the institutionalization of Global Sustainable Tourism Council (GSTC) in 2010, **India adapted GSTC criteria for sustainable tourism in the Indian context.**
- **Ministry of Tourism has launched the Sustainable Tourism Criteria for India (STCI)** with an aim to promote and ensure environmentally responsible and sustainable practices in the tourism industry.
- The tour operators approved by **Ministry of Tourism have to sign a pledge for commitment towards Safe & Honorable Tourism and Sustainable Tourism.**

3.11. NEWS IN SHORTS

3.11.1. TWIN DEFICIT PROBLEM

- Ministry of Finance in its **Monthly Economic Review**, cautioned the **re-emergence of the twin deficit problem in the economy**, with higher commodity prices and rising subsidy burden.
  - o It's also the first time the government has **explicitly talked about the possibility of fiscal slippage in the current fiscal year**.
  - o However, **India is at low risk of stagflation**, owing to its prudent stabilisation policies
- **Twin deficit** refers to a nation's **current account deficit** and a **simultaneous fiscal deficit**.
- **Stagflation** refers to a situation of **persistent high inflation** combined with **high unemployment** and **stagnant demand** in a country's economy.
- **Impact of twin-deficit**
  - o Often used for economic growth, twin-deficits aren't necessarily harmful.
  - o But in the **long-term** or **higher deficits** can lead to- **reduced national savings rate; upward shift in interest rate and exchange rate making exports costlier; higher borrowings from abroad** etc.
- **How to overcome Twin-Deficits?**
  - o **Rationalising non-capex expenditures**
  - o **Fiscal Consolidation** through **tight monetary policy**.
  - o **Import substitution/cuts,** especially fossil fuels and non-essential goods.
  - o **Fair valuation of Rupee** for competitive exports.

- o **Ease of Doing Business reforms** for continued Capital inflows.
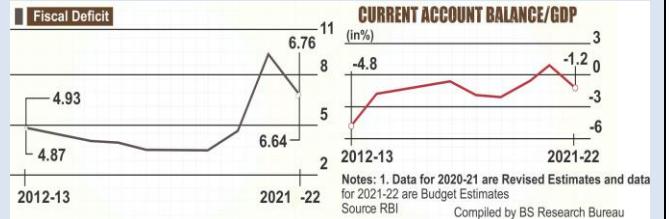
> **Key terms**
> **Fiscal Deficit**
> - It is the **shortfall in a government's income compared with its spending**.
> - **Reasons for its Deficit:** Increasing expenditures (e.g. Fertiliser Subsidy), Reduced revenues due to pandemic, excise duty cuts on diesel and petrol etc.
>
> **Current Account Deficit**
> - One of the **two main accounts** in the **Balance of Payments (BoP)**, CAD (or Surplus) records **exports** and **imports** in **goods and services** and **transfer payments** of a country.
> - **Reasons for its Deficit:** Increased **energy imports** and **Global Commodity Prices** (e.g. crude oil, edible oils), **Higher domestic demand** and **Uncompetitive Exports.**
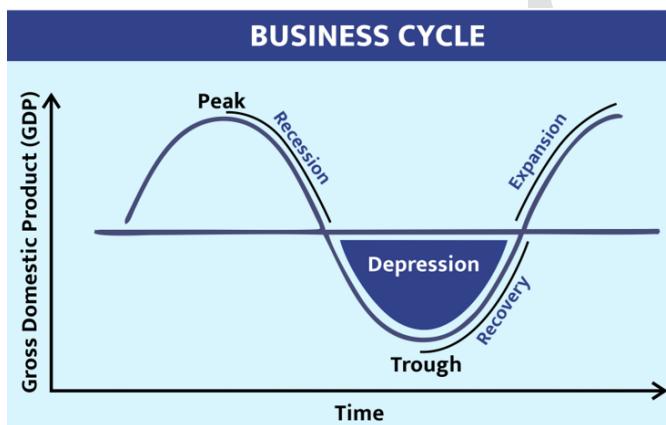
Fiscal Deficit / CURRENT ACCOUNT BALANCE/GDP (in%)

Notes: 1. Data for 2020-21 are Revised Estimates and data for 2021-22 are Budget Estimates
Source RBI   Compiled by BS Research Bureau

3.11.2. US FEDERAL RESERVE HIKES ITS BENCHMARK INTEREST RATE

- **The rate hike in the benchmark interest rates** came amid record inflation in the US since 1981 due to supply and demand imbalances, higher energy prices etc.

- o Based on the past experiences, **the sudden rate tightening can trigger recession.**
- **Recession and its Factors**
  - o **Recession or slowdown** is a period of **declining economic performance** across an entire economy lasting for several months, usually two consecutive quarters of negative growth.
  - o **Part of natural 'Business Cycle'** (see **image**), the recession is caused by different factors such as:
    - ✓ **Real Factors**, i.e. the sudden change in external economic conditions and structural shifts triggering recession.
    - ✓ **Financial/Nominal Factors**, i.e. direct consequence of over-expansion of credit during expansion periods.
    - ✓ **Psychological Factors** such as excessive euphoria and overexposure to risky capital during an economic expansion period.
- **Indicators of Recession**
  - o **Decline in real GDP**; **Decline in Real Income**; **Rise in Unemployment**; **Decline in Consumer spending, Stagnation of manufacturing and wholesale/retail sales**.
  - o **Inverted yield curve**, i.e. **short-term debt instruments** carrying **higher yields** than **long-term instruments** of the **same credit risk profile**, is an important **event preceding recession**.
    - ✓ Recently, the treasury yields of 2 and 10 year bonds inverted in the USA.

BUSINESS CYCLE

3.11.3. SINGLE NODAL AGENCY DASHBOARD OF PFMS

- Ministry of Finance launched the **Single Nodal Agency (SNA) dashboard** of the **Public Financial Management System (PFMS)** to ensure effective leveraging of technology in public finance.
  - o The initiative **is a part of forms part of PFMS reform** that **was initiated in 2021** with regards to how **funds for Centrally Sponsored Schemes (CSS)** are released, disbursed, and monitored.

- **SNA model**
  - o The SNA model requires **the states to notify an SNA** for each Centrally Sponsored Scheme (CSS) **which will open a unique bank account at a commercial bank** responsible for all transactions related to the implementation of the particular CSS.
  - o Now, the SNA dashboard is launched as a system to track the transfer of funds to states for **centrally sponsored schemes** and the **utilization of funds by central agencies.**
  - o The system **would help cut down on the interest expenditure** as **money would be released at the stage where it is needed**.
    - ✓ By providing **data on unspent balances for CSS,** state government departments can now rationalize their proposal for the fund released.

3.11.4. GST COMPENSATION CESS LEVY EXTENDED TILL MARCH 2026

- As per Goods and Services Tax (Period of Levy and Collection of Cess) Rules, 2022, **compensation cess will continue to be levied** from July 1, 2022 to March 31, 2026.
  - o **Levy of cess was to end on June 30, 2022** but GST Council (chaired by Union Finance Minister) decided to **extend it to repay borrowings that were done earlier** to compensate States for GST revenue loss.
  - o However, **whether States would be compensated till that period is not decided** yet.
- GST (introduced in 2017) is a **destination based tax** on consumption of **goods and services.**
- States were assured **compensation for loss of any revenue arising on account of implementation of GST** as per provisions of GST (Compensation to States) Act, 2017 **for a period of five years.**
  - o It was paid **bi-monthly** and a **GST Compensation Cess** is collected **on supply of select goods or services or both**.
    - ✓ This includes luxury, demerit and sin goods. E.g. pan Masala, various tobacco products etc.
- **Centre has released entire amount of GST compensation payable to States** up to May 31, 2022. However, several states have been demanding to be compensated beyond 5 years.

## 3.11.5. INTERNATIONAL FINANCIAL SERVICES CENTRES AUTHORITY (IFSCA)

- Recently, EU has given 'equivalence status' to **Central Counter Parties (CCPs)** supervised by IFSCA.

- o CCPs **interpose themselves between counterparties** to contracts traded, becoming the buyer to every seller and the seller to every buyer.
- **IFSCA (HQ: GIFT City, Gandhinagar)** was established in 2020 under the **International Financial Services Centres Authority Act, 2019.**
- IFSCA is a **unified authority for development and regulation of financial products, financial services and financial institutions** in the International Financial Services Centre (IFSC) in India.
  - o Prior to IFSCA establishment of IFSCA, **RBI, SEBI, PFRDA and IRDAI regulated the business in IFSC.**

3.11.6. NEOBANKS

- Neobanks (E.g. RazorpayX) are the **fintech firms, with only a digital presence.** Neobanks **don't have a bank license of their own** but plug into conventional bank's network to provide banking services.
  - o **Traditional banks follow an omni-channel approach** i.e. having both physical (through branches and ATMs) and digital banking presence.
  - o FinTech is broadly used to describe **emerging technological innovations in the financial services sector.**
- Neobanks are disrupting the traditional banking system by **leveraging technology and artificial intelligence (AI) to offer a range of personalised services** to customers.
  - o They simplify financial services to the point where they **meet the expectations of today's digital generation.**
- **Benefits of Neobanks:** Promote innovation and customization of services, offer level playing field to small banks, increased financial inclusion as they mainly cater underserved groups like retail customers and MSMEs segment etc.
- **Challenges/concerns:** offer only a small range of products and services, not able to cater to non-tech savvy consumers, no direct regulation from RBI, lack of customer trust because of absence of physical branches etc.

RBI WORKING GROUP'S SUGGESTIONS

1. Operations of digital banks/neobanks should be covered under RBI regulations
2. More of digital-only NBFCs to be encouraged and groundwork for digital banks should be laid
3. 'Over the top' entities posing as banks in promotional materials should be prohibited from doing so
4. Banks that partner OTT entities must set operational codes for them
5. RBI sandbox should have a category for running pilot projects on digital lenders

3.11.7. GOOGLE TAX

- India's **Equalization Levy (EL) or Google tax on offshore digital economy firms, is set to stay beyond 2023**, as a global tax deal which was to replace such levies by individual nations by then faces implementation challenges.
- EL (brought through Finance Bill 2016) **is an interim measure to tackle issues from cross-border digital transactions of foreign digital firms.**
  - o In 2016, India introduced EL applicable to **payments for digital advertisement services received by non-resident companies without a permanent establishment (PE) here,** if these exceeded ₹1 lakh a year.
  - o It was later expanded to **non-resident e-commerce operators with the levy at the rate of 2%.**
- **Global tax reform under OECD's two-pillar plan has been agreed to by 140 nations to reform international taxation rules** and ensure that multinational enterprises (MNEs) pay a fair share of tax wherever they operate and earn profits.
- **Implementation challenges**:
  - o **Divergent interests**: European countries had prioritized the question of digital taxation, while US had prioritized the global minimum rate.
  - o **Legislators in both U.S. and Europe are now struggling to pass the laws** needed to implement the deal. Eg. Hungary has recently withdrawn support for minimum corporate tax in EU.
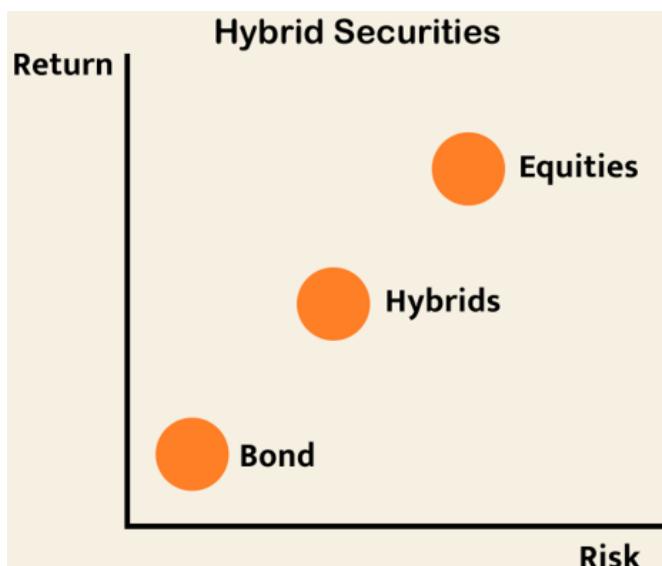
Related information
- EL was **proposed by OECD under its Action Plan on Base Erosion and Profit Shifting** (BEPS).
- BEPS refers to **tax planning strategies used by MNEs that exploit gaps and mismatches in tax rules to avoid paying tax.**

3.11.8. ALTERNATIVE INVESTMENT FUND (AIF)

- SEBI came out with **new guidelines for Large Value Fund for accredited investors.**
- LVF for accredited investors means an **AIF or scheme of AIF in which each investor is an accredited investor and invests at least Rs. 70 crore.**
- AIF means **any fund established or incorporated** in India which is a privately pooled investment vehicle which collects funds from sophisticated investors, whether Indian or foreign, for **investing it in accordance with a defined investment policy for the benefit of its investors.**

3.11.9. HYBRID SECURITIES

- The **Securities and Exchange Board of India (SEBI)** has set up a **20-member committee** under K V Kamath on **Hybrid Securities**.
- It will make recommendations on issues related to **development and regulation of primary and secondary markets of hybrid securities**.
- **Purpose:** Boost the **growth of hybrid securities**, **ease of issuance** and **attracting domestic and global capital**.
- Hybrid Securities are **investment instruments** that **combine two or more different financial instruments**, commonly the **equities** and **bonds (debt) characteristics**.
  - o For example, Infrastructure investment Trusts (InvITs), Real Estate Investment Trusts (REITs), Preferred Stocks etc.

3.11.10. PRODUCTION LINKED INCENTIVE (PLI) -TELECOM SECTOR

- Department of Telecommunications (DoT) has **extended the PLI scheme for one year** along with an **amendment in scheme to facilitate Design-Led Manufacturing**
  - o It also **proposed additional incentive rate of 1% over** and above existing incentive rates.
  - o It is proposed to **provide Rs 4,000 crore incentive under PLI scheme.**
- Union Budget 2022-23 **had proposed to launch a scheme for design-led manufacturing as part of the existing PLI scheme** to build a strong ecosystem for 5G.
- The design-led manufacturing scheme is open for **both medium and small-scale enterprises (MSMEs) and non-MSMEs, including domestic and global companies.**

3.11.11. SAGARMALA YOUNG PROFESSIONAL (SYP) SCHEME

- SYP Scheme is **formulated by the Ministry of Ports, Shipping and Waterways to engage talented, forward-thinking and dynamic young professionals in various divisions of the Ministry.**
  - o Sagarmala is an ambitious national initiative, launched in 2015, to transform India's Logistics Sector performance.
- Under the latest scheme, initially, around **25 young professionals will be hired for 2 years (extendable to 2 more years)** to deliver high-quality inputs in areas such as infrastructure, data analysis, project management, etc.

3.11.12. JAN SAMARTH PORTAL

- **PM launched the Jan Samarth Portal.**
- JanSamarth Portal is **a digital portal linking thirteen Credit Linked Government schemes on a single platform,** for ease of access to all the beneficiaries and related stakeholders.
- It provides intuitive **guidance to beneficiaries for checking subsidy eligibility** and auto recommendation system **offers best suitable schemes as per Beneficiary's requirements** and credentials.
- It is having **multiple integrations within the platform with UIDAI, CBDT, NSDL etc.**

3.11.13. NIRYAT (NATIONAL IMPORT-EXPORT RECORD FOR YEARLY ANALYSIS OF TRADE) PORTAL

- Prime Minister launched new portal NIRYAT portal- a **one-stop place for all info** needed on India's foreign trade.
  - o It will help in breaking silos by providing **real time data to all stakeholders**.
- Important information related to **more than 30 commodity groups** exported to **more than 200 countries** of the world will be available.
  - o In the coming time, information related to **district-wise exports** will also be made available.

3.11.14. WORLD COMPETITIVENESS INDEX 2022

- **Released by:** Institute for Management Development (IMD)
- **Highlights**:
  - o India has witnessed the **sharpest rise among the Asian economies**, with a six-position jump **from 43rd to 37th rank**, largely due to gains in **economic performance.**

- o Denmark has **moved to the top** of the 63-nation list from the third position last year.
- o **Three most important trends** found to be impacting businesses in 2022 are **inflationary pressures, geopolitical conflicts** and supply chain bottlenecks with **COVID being the fourth**.
- **Note**: This is different from **Global competitiveness report** of World Economic Forum.

3.11.15. SPECIAL 301 REPORT

- The Office of the United States Trade Representative (USTR), in its Special 301 report, **retained India on its Priority Watch List** along with **six other countries**- Argentina, Chile, China, Indonesia, Russia and Venezuela.
  - o Report highlighted the **main point of contention between India and U.S related to Section 3(d) of Indian Patent Act 1970.**
    - ✓ Section 3 deals with what does not qualify as an invention under the Act, and Section 3(d)

prevents what is known as "evergreening" of patents.
- ✓ Evergreening means **reapplying for patent by carrying out certain minute modifications** in the existing product.
- Indian patents are **governed by Indian Patent Act of 1970**. It **replaced the Indian Patents and Designs Act 1911.**
  - o Under the act, patents are granted if the invention fulfils following criteria:
    - ✓ It **should be novel.**
    - ✓ It **should have inventive step/s or it must be non-obvious.**
    - ✓ It **should be capable of Industrial application.**
    - ✓ It should **not attract the provisions of sections 3 and 4 of Patents Act 1970.**
- India is **signatory to IPR related conventions**, including **TRIPS**, **Berne Convention** which governs copyright, **Budapest Treaty, Paris Convention** for Protection of Industrial Property, and Patent Cooperation Treaty (PCT).

4. SECURITY

4.1. AGNIPATH SCHEME

Why in News?

Union Cabinet approved Agnipath Scheme-a recruitment scheme for Indian youth to serve in the Armed Forces.

About Agnipath Scheme

- It is a major defence policy reform **to usher in a new era in the Human Resource policy** of the three Services.
  - Idea of a **short-term recruitment model or 'Tour of Duty' (ToD) was first mooted around two years back** for the selection of officers and jawans, for a limited number of vacancies.
- **Youth (from 17.5 years to 23 age group) selected under this scheme will be known as Agniveers** who will be enrolled for a period of **four years**. They would form **a distinct rank in the Armed Forces**, different from any other existing ranks.
- **Upon the completion of four years of service,** Agniveers will be offered an **opportunity to apply for permanent enrolment** in the Armed Forces.
  - **Up to 25% of each specific batch will be enrolled in regular cadre** based on objective criteria including performance during their four-year engagement period.

PAY & BENEFITS: WHAT THE AGNIVEERS GET
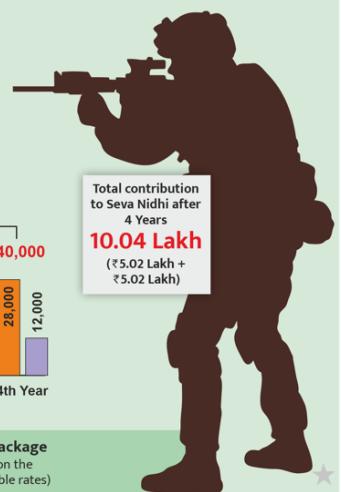
- In hand (70%)
- Contribution to seva Nidhi (30%)*

Similar contribution to corpus fund by Government of India**

BASIC PAY PER MONTH

	1st Year	2nd Year	3rd Year	4th Year
Basic Pay	30,000	33,000	36,500	40,000
In hand	21,000	23,100	25,580	28,000
Contribution	9,000	9,900	10,950	12,000

All figures in ₹ (Monthly contribution)

Total contribution to Seva Nidhi after 4 Years
10.04 Lakh
(₹5.02 Lakh + ₹5.02 Lakh)

Exit after 4 Years } ₹11.71 Lakh as SevaNithi package (Including interest accumulated on the above amount as per the applicable rates)

A Transformative Scheme

Nation
- **National integration based** on unity in diversity with equal opportunity to youth including women from all regions.
- **Nation building through empowered,** disciplined & skilled youth with military ethos in civil society.
- **Pontential Social transformation** as any citizen can apply for Agniveers recruitment diluting the caste and regional composition overtime.

Armed Forces
- **Improved battle preparedness** through transformative evolution with energetic, fitter, diverse, more trainable & resilient youth, suited to the changing dynamics .
- **Youthful profile** by optimal balance of youth & experience.
- **Harness benefits of SKILL INDIA** by induction from tech Institutes.
- **Addressing manpower** cost of Ministry of Defence.

Individuals
- **Imbibe** military discipline, motivation, skill and physical fitness.
- **Smooth integration into society** with skill Screening Assesment sets, certification and diplomas/higher education/credits.
- **Confident & better citizens** by military training, team building, ethos & camaraderie forged over the years.

Global practices

A careful analysis of methodology of induction, retention, and release of armed forces personnel in various developed countries shows similar kind of reforms in recruitment. For ex:

- **Russian military is a hybrid format** combining a traditional cadre-and-reserve conscript system (includes one year of training and one year of service) and a contract-professional system.
- In **Israel period of active-duty conscript is 32 months for men and 24 months for women,** followed by a decades-long period of compulsory reserve duty.
- For **French soldiers there are two types of enlistment:** 1 year contract or 3-5 years contract (both renewable).

Concerns related to scheme

- **Building cohesion:** Time period for Agnipath is too short to build cohesion as it is built over a long period of living, training and experiencing rigours of field/operational/high altitude/counter-insurgency tenures together.

- **Might not attract best candidates:** as they are likely to apply for more permanent avenues like police or paramilitary forces first. This might result in young aspirants opting for the army as second or third choice.
- **Unfair to the potential recruit:** as the absence of a continued employment guarantee at the expiry of four years when he's still in his 20s and without the skillsets or credentials required to thrive in the civilian/corporate world, could be demoralizing.
- **Less training time:** It reportedly takes two to three years to train a member of the army, but as a part of the Agnipath scheme, soldiers will only be trained for six months.
- **Untested scheme:** For a scheme that will be the principal mode of recruitment across the three services, there has been no independent study, pilot project and/or test run to ascertain the viability of the scheme.
  - Defence analysts have allegedly pointed out that the Russian soldiers who were trained for a limited amount of time before they went to war in Ukraine have performed disastrously.
- **Potentially militarize the society:** With their ambitions of serving in the military for a full 15 years, frustrated and unemployed, the demobilised Agniveers could fall prey to the lure of crime syndicates and radical political outfits.
- **Disturbing the regional balance:** With the scheme calling for recruitment on an all-India basis, rather than by state allotments, army's ranks could well become northern states heavy, disturbing regional balance within the military.

Way forward

- **Scheme needs to be linked to other manpower management related reforms** based on optimisation/ reduction of manpower and restructuring/ reorganisation.
- **Educational qualification can be raised** to 10+2 and a more stringent all-India merit-driven entrance examination with psychological tests must be introduced for a shift towards a more tech-savvy armed forces.
- Due care must be taken to ensure that the Agnipath scheme **does not upset the regimental ethos of the Indian Army.**
- Amendments such as the **extension of their initial service period and mandatory re-enlistment of at least 50%** of Agniveers as recommended by some veterans could be considered.
- Reduced training period will have to be offset by **focused training and employment of other innovative methods**. Also, Army leadership will have to employ innovative devices to inculcate loyalty and camaraderie in quick time.
- It is important to **ensure that Agniveers are absorbed gainfully in the society**, lest they become a potential threat to the society.
- **Incentivise this new scheme.** For instance, in the US the short-term duty soldiers undergo education at government expense.

What will an Agniveer do after 4 years?

Many will get selected to the permanent cadre in the Armed Forces

For the rest

Get a financial package of **about Rs 12 lakh** and a head start in life

For those wishing to be entrepreneurs

Priority under **bank loan schemes**

For those wishing to study further

Class 12 equivalent certificate and **Bridging Course (of choice) for further studies**

For those wishing to work

▸ **Given priority in CAPFs, Assam Rifles and police and allied forces** in several states
▸ **Tangible skills and work experience** in different facets including engineering, mechanics, law and order etc.
▸ Major companies and sectors (IT, Security, Engineering) have announced **they will prefer hiring a skilled & disciplined Agniveer**

4.2. DEFENSE MODERNISATION

Why in news?

Recently, limit of funding of innovative defense projects under Technology Development Fund (TDF) has been raised to Rs 50 crore per project, from the present limit of Rs 10 crore.

About Technology Development Fund (TDF) scheme
- Executed by the Defence Research and Development Organisation (DRDO), TDF aims **to create an ecosystem for promoting self-reliance** by building indigenous state-of-the-art systems for defence application.

KEY FEATURES OF SCHEME

PROMOTING SELF-RELIANCE IN DEFENCE TECHNOLOGY	BOOST TO MSMES AND STARTUPS	BETTER FUNDING MECHANISM	RELAXED CRITERIA
Established to promote self-reliance in Defence Technology as a part of the Make in India initiative.	Encourages participation of public/private industries especially MSMEs and Startups so as to create an ecosystem for enhancing cutting-edge technology capabilities for defence application	Scheme facilitates up to 90 percent of the total project cost and allows industry to work in consortium with another industry/academia	Limited to the development of technologies or prototype of product having potential use for the Services with a typical development period of two years

More on News

- To facilitate increased funding for innovative TDF products, **Union Budget for 2022-23 has reserved 25 per cent of the defence R&D budget** for private industry, start-ups and academia.
- Enhanced funding **will further boost the vision of 'Aatmanirbharta'** (self-reliance) in defence.

Need for Defense Modernisation

- **Challenging strategic environment:** that encompasses a wide swathe of geography, from the Western Pacific to the Indian Ocean Region (IOR) to western borders with Pakistan to standoff along Line of Actual Control (LAC).
- **Changing landscape of warfare:** Future battle space will be shaped by combination of cyber and AI-based autonomous weapons, using precision targeting and adaptive-learning techniques and superiority in these will determine the outcome of future battles.
- **Reducing import dependency:** As per the latest Stockholm International Peace Research Institute (SIPRI) report, India along with Saudi Arabia has emerged as the largest arms importers between 2017-21, each accounting for 11% of all global arms sales.
- **Regional Power:** To act as a net security provider in the region, India needs to acquire self-sufficiency in terms of the development of advanced defence hardware and technology.
- **Enhancing capabilities for additional responsibilities** like disaster response, evacuation missions, Humanitarian Assistance and Disaster Relief (HADR) Exercise etc.

EMERGING TECHNOLOGIES IN DEFENCE

BLOCKCHAIN
- For protecting confidential military data, countering cyber threats, streamlining the procurement process, and supply chain security etc.

INTERNET OF MILITARY THINGS
- Connecting ships, planes, tanks, drones, soldiers etc. for improving situational awareness and response time.

CYBER WARFARE CAPABILITIES
- including cyber protection for major institutions and offensive capabilities ranging from malware and ransomware to phishing attacks.

ROBOTICS & AUTONOMOUS SYSTEMS
- Increasing situational awareness, reducing soldiers' workload, facilitating movement in challenging terrains.

ARTIFICIAL INTELLIGENCE (AI)
- Enhances capability for intelligence, surveillance, and reconnaissance (ISR) missions, empowers autonomous weapon systems, thereby reducing soldier casualties etc.

IMMERSIVE TECHNOLOGIES
- (AR/VR) to build flexible experiences, such as for flight or combat training, mapping information, movement markers etc.

ADDITIVE MANUFACTURING (3D PRINTING)
- Localized, on-demand production, novel material combinations for armors, self-heating military clothing, and ammunition.

QUANTUM TECHNOLOGY
- for secure communication systems

5G
- Enhances training and battlefield capabilities due to its fast-speed, low latency, enhanced throughput etc.

Steps taken for defence modernisation

For defence production and indigenization	**Defence Acquisition Procedure, 2020** aims to empower Indian domestic industry through 'Make in India' projects with the aim of turning India into a global manufacturing hub. **SRIJAN Portal:** It is a 'one stop shop' online portal that provides access to the vendors to take up items that can be taken up for indigenization. **Encouraging innovation through schemes like** **iDEX (Innovation for Defence Excellence):** Aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace.

	o **Technology Development Fund (TDF) Scheme:** It has been established to promote self-reliance in defence technology as a part of the 'Make in India' initiative.
For improving military organization	• **Chief of Defence Staff (CDS)** was created to provide "effective leadership at the top level" to the three wings of the armed forces. This is addition to creation of new **Department of Military Affairs** for better management of military resources and procurement. • **Integrated Battle Groups:** IBGs are brigade-sized, agile, self-sufficient combat formations, which can swiftly launch strikes against adversary in case of hostilities. • **Theatre commands with tri-service capabilities:** The armed forces are envisaged to be reorganized in multiple Theatre commands in which all the three services will operate in a regionally integrated manner
Other efforts	• 15th Finance Commission has recommended constitution of a dedicated non-lapsable **Modernisation Fund for Defence and Internal Security (MFDIS)**. • **Task Force has been constituted** to assess the current AI capabilities and necessary steps for inclusion of AI in Defence. • **DRDO also has two dedicated laboratories,** Centre for Artificial Intelligence and Robotics (CAIR), Bengaluru and DRDO Young Scientist Laboratory (DYSL)-AI, Bengaluru **for application-oriented research in AI.** • **DRDO has established 10 Centres of Excellence** in collaboration with various academia institutes all over the country to develop critical technology for enabling futuristic requirements of Armed Forces. • **Ministry of Defence launched 75 AI products/technologies** during first-ever 'AI in Defence' symposium & exhibition.

Challenges to Defense Modernisation

- **Lack of investment in R&D:** India is funding around 6% (on defence R&D) of the Defence Budget whilst, USA and China are spending approximately 12% and 20%, respectively.
- **Lack of Private sector Participation:** especially MSMEs which can play a critical role in developing niche technologies and providing solutions that are critical for modernization.
- **Limited Public Sector Manufacturing Capacity and Capability:** Agencies like Ordnance Factories, DRDO, HAL etc. are limited and overburdened and is marred with several issues.
- **Absence of a concrete Defense Industrial Base:** Participation of the private sector in Defense manufacturing has been limited. The primary reason for this can be attributed to absence of communication platforms between industry and defense.
- **Slow decision-making process:** Despite multiple avenues available for procurement and development, production and acquisition contracts take close to 7 to 9 years for finalization before the production starts.

Way forward

- **Identifying long term requirement capability:** as building complex platforms like ships, submarines, tanks and fighter jets has a long lead time which is constantly challenged by the race to keep-up with changing technology.
- **Fostering innovation through Board of Research for Advanced Defence Sciences (BRADS):** Rama Rao Committee recommended the creation of BRADS, to function on the lines of Defence Advanced Research Projects Agency (DARPA) in USA, for operational flexibility and bureaucracy-free research environment.
- **Conducive Financial Framework:** to nurture and develop the defence production sector. For example, in South Korea, government raised funds through a special defence tax during early phase of defence incentivization.
- **Adopt 5Is:** There is need to adopt the concept of **5 Is (Identify, Incubate, Innovate, Integrate and Indigenize)** to accelerate progress, reduce costs and achieve modernisation in a time bound manner.
- **Human Resource Development:** Scientific and technologically trained pool of manpower, enhancing R&D skills and technological expertise of public and private sector would be the key to achieving modernization.
- **Development of Industry-defence-academia linkage** to strengthen research capabilities.

Indigenisation of Defence Industry: From Necessity to Opportunity

As India inches to achieve its rightful strategic autonomy, it needs to do much more in planting the seeds for a commercially viable and technologically robust indigenous defence industrial base. Taking stock of India's efforts towards indigenous defence manufacturing, the document examines the gaps and suggests a way ahead to build an impregnable security architecture in the country.

4.3. CHIEF OF DEFENCE STAFF (CDS)

Why in News?

Ministry of Defense (MoD) issued a notification which broadens the scope of eligible officers for the post of the Chief of Defence Staff (CDS).

More on News

- Notification **specifies the professional qualifications and age limitations** for military generals to be eligible for appointment as CDS.
- Officers from all three services are required to **meet broadly the same two qualifications:**
  - First, an officer must be either **serving, or retired, in the rank of general or lieutenant general** (three-star generals).
  - Second, his **age should be below 62 years on the date of his appointment.**
  - The central government has reserved the **right to extend the tenure of the CDS to a maximum of 65 years.**
- New notification will make **a large number of officers eligible for CDS, thus providing a wider pool for the selection.**

About Chief of Defence Staff (CDS)

CDS REFORM TIMELINE

Based on Kargil Review Committee, GoM recommended creation of CDS.	Integrated Defence Services (IDS) Headquarters, a tri-service organisation was set-up.	Chairman of Chiefs of Staff (COSC) established (recommended by Naresh Chandra Committee)	Shekatkar committee recommended CDS	General Bipin Rawat was appointed as the first CDS.
2001	**2001**	**2012**	**2016**	**2019**

- CDS was created **to increase efficiency & coordination among the Armed Forces** and reduce duplication.
- **Aimed to**
  - **Achieve better results at all levels** through effective coordination between the Armed Forces and the Civil Services.
  - **Help facilitate inter-service integration** and better civilian-military coordination in the Nation's Higher Defence Organisation.
  - **Strengthen the process of Joint Planning, Operations and Procurement,** thereby making Armed Forces more effective and efficient.
- CDS **does not exercise any military command,** including over the three Service Chiefs, so as to be able to provide impartial advice to the political leadership.

Need of CDS

- **Better advice to political executive:** CDS rises above inter-services rivalry and provide holistic advice on critical issues such as joint strategy and planning, weapons procurement, manpower allocation and joint operations.
  - **Can act as an arbitrator** when the Chiefs of Staff express divergent views on an issue, such as the use of military resources in the battlefield.
- **Integration of armed forces:** CDS is principally responsible for getting the armed forces better integrated rather than operating in silos.
  - The job includes the **creation of new military commands** which integrate armed forces to fight together.

> **Duties and functions of CDS include**
> - To **head the Department of Military Affairs (DMA)** in Ministry of Defence (MoD) and function as its Secretary.
> - To **act as the Principal Military Advisor to Defence Minister** on all Tri-Service matters.
> - To **function as the Permanent Chairman of the Chiefs of Staff Committee** and to administer the Tri-Service organizations/agencies/commands.
> - To be a **member of Defence Acquisition Council** (chaired by Defence Minister) and function as the Military Advisor to the Nuclear Command Authority.
> - To ensure **optimal utilisation of infrastructure** and rationalise it through jointness among the Services.
> - To **implement Five-Year Defence Capital Acquisition Plan and Two-Year roll-on Annual Acquisition Plans,** as a follow up of Integrated Capability Development Plan.
> - Bring about reforms in the functioning of three Services aimed at **augmenting combat capabilities of the Armed Forces.**

- **Constantly changing security dynamic:** Requires India's military needs to be efficient in combat and in averting adversaries, which is achievable only if the military is integrated.
- **Prioritizing procurement:** CDS can help meet country's military requirements in a manner that operational capabilities of forces are not compromised, and at the same time, needs are met with the available monetary resources.
- **Global similarity:** Many major countries of the world have created the post of CDS to bring more jointness and integration in their Armed Forces. These include Italy, France, China, UK, USA, Canada, and Japan.

Challenges

- **Other pending reforms might make it less effective:** Without other structural reforms, including creation of unified theatre commands, questions are bound to be raised about the wisdom of appointing a CDS.
- **Domination of Army:** It is argued that CDS will establish the Army's domination and other services may be reduced to a supporting role.
- **Balancing procurement requirements** in the current procurement ecosystem. For example, while the Air Force is embarking on a programme for 114 new fighters, the Navy is running a parallel and unrelated procurement programme. This runs contrary to what the office of the CDS was set up for.
- **Gender balance in forces:** CDS will have to deal with involving women in the military following the recent court order barring gender discrimination.

Conclusion

With the creation of CDS, India embarked upon a much-delayed process of integration of the armed forces and the defence establishment.

CDS holds key to modernization of forces and therefore must be supplemented by other structural reforms such as indigenous R&D, production of equipment, fostering innovation etc. to improve the future readiness of the forces.

4.4. NEWS IN SHORTS

4.4.1. CRITICAL INFRASTRUCTURE (CI)

- Government recently declared ICICI, HDFC, NPCI's IT resources as critical infrastructure (CI),
- CI, also known as Critical Information Infrastructure (CII), refers to **a physical or cyber-based system,** incapacitation or destruction of which shall have debilitating **impact on national security, economy, public health or safety.**

- o **Threats to CI include:** Natural (Earthquakes, Tsunami etc), Human-caused (Terrorism, economic espionage etc) and Accidental (power grid/safety system failure etc).
- **IT resources form the backbone of countless critical operations** in a country's infrastructure, and given their interconnectedness, disruptions can have a cascading effect across sectors.
- Government, under **Information Technology Act, 2000, has the power to declare** any data, database, IT network or communications **infrastructure as CI** to protect that digital asset.

- **Measures taken to protect CI**
  - o **National Critical Information Infrastructure Protection Centre (NCIIPC)** is the nodal agency for taking all measures to protect CIIs.
  - o **Indian Computer Emergency Response Team (CERT-In)** is nodal agency for responding to computer security incidents.
  - o **National Cyber Security Coordinator (NCSC)** to coordinate with different agencies at the national level for cyber security matters.
  - o **National Cyber Security Policy 2013** to build a secure and resilient cyberspace

Critical Infrastructure

TRANSPORT

POWER & ENERGY

TELECOM

GOVERNMENT

BANKING, FINANCIAL SERVICES & INSURANCE

STRATEGIC & PUBLIC ENTERPRISES

4.4.2. MULTI AGENCY CENTRE (MAC)

- The Ministry of Home Affairs has **sanctioned ₹138.48 crore to the Intelligence Bureau (IB) to upgrade the MAC.**
- MAC is the country's biggest **intelligence input sharing platform** under the IB.
  - o Set up in 2001 after the Kargil War, centre is **headquartered in Delhi. 28 agencies** like the R&AW, state police, financial intelligence bodies, etc. share intelligence inputs through MAC.
  - o State-level MACs coordinate with the centre through nodal officers.
  - o Plans are now afoot to **link it to the district office of Superintendent of Police.**

4.4.3. OVERGROUND WORKERS (OGWS)

- Recently, nearly 250 overground workers (OGWs) were arrested in Jammu & Kashmir (J&K).
- OGWs were **arrested** under **Public Safety Act (PSA)** and **Unlawful Activities (Prevention) Act (UPA).**

- o **PSA 1978 of J&K** is an **administrative detention law** that allows detention of any individual for up to two years without a trial or charge.
  - ✓ **Detention of a person below the age of 18** is **strictly prohibited** under this Act and an **individual detained** shall be **produced before the magistrate within 24 hours.**
- o UPA 1967 **provides for the more effective prevention of certain unlawful activities of individuals and associations** (and for **dealing with terrorist activities**) and for matters connected therewith.
- OGWs are those that **provide logistical support, cash, accommodation, and other facilities to militants or terrorists** in J&K.
  - o OGW **carry out a few activities, then remain silent and live a normal life**, thus posing a huge challenge for security forces to track them.
  - o They are also known as **hybrid terrorists** or **terrorist associates**.

- **What Do OGWs Do?**
  - OGWs "**act as eyes and ears of the underground militants**", **arranging hideouts, transporting weapons**, **keeping an eye on security forces' movements**, **distributing separatist literature**, and **engaging in hate campaigns** against security forces.

4.4.4. ABHYAS

- ABHYAS - High speed Expendable Aerial Target (HEAT) was **successfully flight-tested from the Integrated Test Range (ITR),** Chandipur off the coast of Odisha.
  - It **consists of twin under-slung boosters which provide the initial acceleration** to the vehicle. Further, the **aerial vehicle is powered by a small gas turbine engine to sustain a long endurance flight** at high subsonic speed.
- ABHYAS is an **indigenous unmanned aerial target system** to meet the requirement of Indian Armed Forces to eliminate air-borne threats.
  - **Designed & developed by Aeronautical Development Establishment of Defence Research and Development Organisation (DRDO).**

4.4.5. AGNI-4

- A successful **training launch of Agni-4** was carried out.
- Agni-4 is an **Intermediate Range Ballistic Missile** with a range of around 4,000 km.
- Developed by DRDO, it can carry a **1,000-kg payload and can go as high as 900 km.**

Series	Range
Agni 1	1000 kms
Agni 2	2000 kms
Agni 3	2500 kms
Agni 4	4000 kms
Agni 5	5000-8000 kms
Agni-P (Prime)	2000 km dual redundant navigation and guidance system

4.4.6. HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)

- As part of its support to Ukraine, **USA** has announced sending its **advanced missile systems HIMARS to Ukraine.**
  - HIMARS is a **long-range, mobile, precision artillery system** developed by Lockheed Martin.

4.4.7. MILITARY EXERCISES IN NEWS

- **"EX SAMPRITI-X":** It is a **joint military training exercise** between **India and Bangladesh**.
- **Ex Khaan Quest 2022:** It is a multinational Peacekeeping exercise featuring participation from military contingents from 16 countries (including India) that commenced in Mongolia.
- **IND-INDO CORPAT**: It is a joint Coordinated Patrol between Indian and Indonesian Navy.

4.4.8. OPERATION SANKALP

- It has entered **third year of operation.**
- In the backdrop of **deteriorating security situation in the Gulf region,** Indian Navy had commenced Maritime Security Operations, code named **Op SANKALP, in the Gulf Region in June 2019.**
- Objective is **to ensure safe passage of Indian Flag Vessels** transiting through the Strait of Hormuz.
- India is dependent for about 85% of its demand for oil on imports. Also, **around 60% of India's oil imports come from the Gulf region.**

5. ENVIRONMENT

5.1. 50 YEARS OF STOCKHOLM CONFERENCE

Why in news?

Recently, **Stockholm+50 meeting** was held at Stockholm, Sweden to commemorate the 50 years since the **1972 United Nations Conference on the Human Environment (also known as the Stockholm Conference),** which made the environment a pressing global issue for the first time.
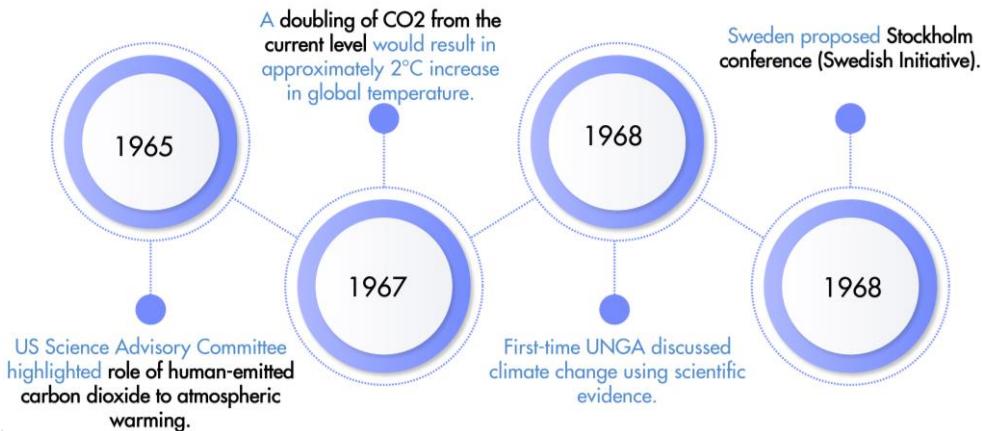
More about news

- **Stockholm+50 theme**: A healthy planet for the prosperity of all — our responsibility, our opportunity.
- **Stockholm+50 agenda:**
  o To share experiences and initiatives to protect the planet.
  o Sustainable recovery from the COVID -19 pandemic.

About Stockholm conference
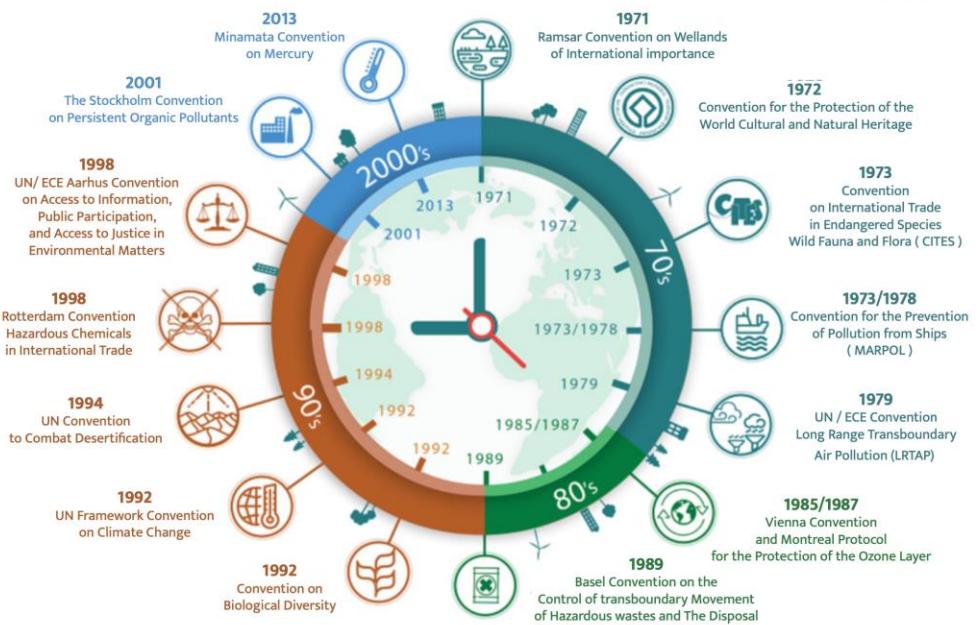
- It was the **UN's first major conference on international environmental issues**, and marked a turning point in the development of international environmental politics.
- It was **organized in 1972** to coordinate global efforts to promote sustainability and safeguard the natural environment with the **theme 'Only One Earth'**.
  o **122 countries adopted the Stockholm Declaration** on to **26 principles and an action plan**.

EVOLUTION TO STOCKHOLM CONFERENCE

A doubling of CO2 from the current level would result in approximately 2°C increase in global temperature.

1965

1967

US Science Advisory Committee highlighted role of human-emitted carbon dioxide to atmospheric warming.

1968

Sweden proposed Stockholm conference (Swedish Initiative).

1968

First-time UNGA discussed climate change using scientific evidence.

- **The three dimensions of this conference were**:
  o Countries agreeing not to harm each other's environment or the areas beyond national jurisdiction;
  o Action plan to study the threat to Earth's environment; and
  o Establishment of an international body called the UN Environment Programme (UNEP) to bring in cooperation among countries.
- **Outcome & success of Stockholm Conference**
  o **Establishment of UNEP**: UNEP was created as a result of the conference.
    ✓ UNEP is the global authority that sets the **environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development** within UN system, and serves as an authoritative advocate for the global environment.
  o **Paradigm shift**: It started **the contemporary "environmental era".** In many ways, it made multilateral governance of planetary concerns mainstream. This led to more than 500 multilateral environmental agreements being adopted in the last 50 years.
    ✓ Most of the conventions related to planetary crises **like the United Nations Framework Convention on Climate Change (UNFCCC), the Convention to Combat Desertification (UNCCD), and the Convention on Biological Diversity (CBD) etc. have their origin in the Stockholm Declaration.**
  o **Sustainable development**: The Stockholm Conference **identified a theme of sustainable development**, that has been at the center of international environmental discourse.
    ✓ 20 years later, the **1992 UN Conference on Environment and Development – the Earth Summit – in Rio de Janeiro** provided an answer by embracing sustainable development – development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

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- o **Establishing Key Principles**
  - ✓ **Precautionary principle**: The Vienna Convention for **the Protection of the Ozone Layer** was the first multilateral environmental agreement (MEA) that codified precautionary measures in 1985.
  - ✓ **Polluter-pays principle (PPP):** It mandates that those producing pollution should bear the costs of managing it to prevent damage to human health and the environment.
- o **Multi stakeholder approach**: It opened the door to **broader participation in sustainable development arena, by welcoming non-governmental organizations (NGOs)**, Indigenous Peoples, the scientific community, and the private sector and established the Environmental Forum.
- o **Start of Environmental diplomacy**: It led to **establishment of environmental ministries** all over the world. Until 1972, no country had an environmental ministry. In India, Ministry of environment and forest was set up in 1985.

Multilateral Environment Agreements (MEAs) under UNEP

- **2013** Minamata Convention on Mercury
- **2001** The Stockholm Convention on Persistent Organic Pollutants
- **1998** UN/ECE Aarhus Convention on Access to Information, Public Participation, and Access to Justice in Environmental Matters
- **1998** Rotterdam Convention Hazardous Chemicals in International Trade
- **1994** UN Convention to Combat Desertification
- **1992** UN Framework Convention on Climate Change
- **1992** Convention on Biological Diversity
- **1971** Ramsar Convention on Wetlands of International importance
- **1972** Convention for the Protection of the World Cultural and Natural Heritage
- **1973** Convention on International Trade in Endangered Species Wild Fauna and Flora (CITES)
- **1973/1978** Convention for the Prevention of Pollution from Ships (MARPOL)
- **1979** UN/ECE Convention Long Range Transboundary Air Pollution (LRTAP)
- **1985/1987** Vienna Convention and Montreal Protocol for the Protection of the Ozone Layer
- **1989** Basel Convention on the Control of transboundary Movement of Hazardous wastes and The Disposal

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Stockholm 50+ Recommendations for actionable agenda
- **Placing human well-being at the center** of a healthy planet and prosperity for all.
- **Recognizing and implementing the right to a clean,** healthy and sustainable environment.
- **Adopting system wide changes** in our current economic system.
- **Accelerate transformations** of high impact sectors.
- **Help developing countries** tackle environmental challenges by providing access and support for digital and technological solutions.

5.2. CLIMATE EQUITY

Why in news?

India made an intervention during the closing plenary of the Bonn Climate Conference stating that equity is being overlooked in climate negotiations.

About the Bonn Climate Change Conference

- The Bonn Climate Change Conference has been **the first opportunity for all Parties to the UNFCCC to meet since the** adoption of the Glasgow Climate Pact at COP26 last year (2021).
  - o In Glasgow, governments agreed a package of decisions that pave the way for full implementation of the Paris Agreement.
- The UN **Climate Change Conference COP27 will take place in Sharm el-Sheikh, Egypt**, in November 2022.
- **Major outcomes of the conference**:
  - o **First technical dialogue of the Global Stocktake**, designed to review collective progress towards achieving the Paris Agreement's goal to limit global warming to 1.5 degrees Celsius.
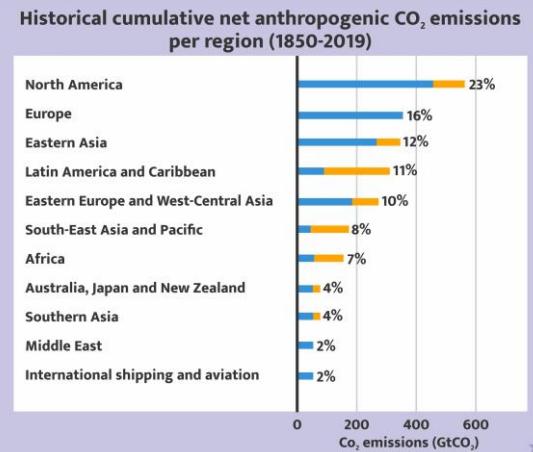
- ✓ But the **talks ended without the Glasgow Dialogue being added to the formal negotiating agenda**.
  - o **Draft of a "global goal on adaptation" (GGA),** which aims to reduce vulnerability, strengthen resilience and increase the capacity of people and the planet to adapt to the impacts of climate change, was discussed.
  - o **Negotiations around the Adaptation Fund and to get international carbon markets up and running** under Article 6 of the Paris Agreement.
  - o **Additional work streams included those focusing on the gender action plan**, the Koronivia joint work on agriculture and Action for Climate Empowerment, which focuses on public involvement in climate action.

What is Climate Equity?

- Climate equity **ensures the just distribution of the benefits of climate protection efforts** and alleviates unequal burdens created by climate change.
- It ensures that **the climate goals are achieved in a sustainable manner**, without unjust burden or fallouts on certain sections.
- The principle of equity has been interpreted synonymously with the principle of **common but differentiated responsibilities and respective capabilities (CBDR/RC)** which acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change.
  - o According to the principle, **higher responsibility of climate action,** including contribution in climate finance, emission reduction targets etc., is to be **placed upon developed countries since they have been historically responsible for large share of GHG emissions**, exhausting the carbon budget.

What is carbon budget?
- The carbon budget is the **maximum amount of cumulative net global anthropogenic CO_2 emissions** that would result in limiting global warming to a given level with a given likelihood.
- According to **Working Group-III's (WG3) contribution to the Sixth Assessment Report** (AR6), historical cumulative net CO_2 emissions between 1850 and 2019 amount to about-
  - o **4/5th of the total carbon budget** for limiting global warming to 1.5°C (50% probability); and
  - o **2/3rds of the total carbon budget** to limit global warming to 2°C (67% probability).
- The carbon budget is important because **stock of greenhouse gases in the atmosphere has a long life.**
  - o For instance, India contributes 6 per cent to the annual global emissions but is only responsible for 3 per cent of the stock.
  - o While the developed countries are responsible for historically exhausting around 70 per cent of the stock.

Historical cumulative net anthropogenic CO_2 emissions per region (1850-2019)

Region	%
North America	23%
Europe	16%
Eastern Asia	12%
Latin America and Caribbean	11%
Eastern Europe and West-Central Asia	10%
South-East Asia and Pacific	8%
Africa	7%
Australia, Japan and New Zealand	4%
Southern Asia	4%
Middle East	2%
International shipping and aviation	2%

CO_2 emissions (GtCO$_2$)

  - o Also, **developmental and economic benefits of past emissions, have made developed nations more capable** to undertake this responsibility and further aid climate mitigation and adaptation efforts across the globe.
- Further, the **concept of climate equity also applies to individual level**, where climate change is expected to disproportionally affect vulnerable and marginalised communities who are least responsible for climate change emissions.

What is the significance of addressing climate equity in Climate Change negotiations?

India has **stressed that countries should acknowledge Intergovernmental Panel on Climate Change (IPCC)'s suggestions** on the global carbon budget and equity.

- **Social and economic transformation required for climate mitigation:** Deeper emissions reduction from developed countries alongside accelerated financial support for developing countries to strengthen their climate action strategies can become a critical enabler to enhance mitigation action.
- **Enable just transition towards low-emissions development**: Transfer of technology and finances, concentrated in developed nations, can be utilised by developing countries to transition to lower emission pathways in the future.
- **Ensure sustainable development**: Developing countries need access to a fair share of carbon budget to achieve their developmental rights and achieve sustainable development goals.

- **Fundamental to international co-operation on climate change**: In the ongoing climate negotiations, climate equity is a contentious issue among developing and developed nations, especially with respect to funding of Loss and damage.
- **Other benefits:**
  - **Ensures accountability & responsibility** for those benefiting from the root causes that drive climate change.
  - **Manages the negative consequences of climate mitigation on vulnerable populations**.

Does Paris climate agreement ensure climate equity?

Several enabling decisions were taken during COP 26 in Glasgow for ensuring climate equity, including establishment Glasgow Dialogue was established on funding for loss and damage, Global goal on adaptation, institutionalising the functions of the Santiago Network on loss and damage, etc.

But the negotiations saw several setbacks as well:

- **Undermining historic responsibility**: All countries have been requested to revisit and strengthen their climate pledges by the end of 2022 with no differentiation and no concrete targets.
  - This not only denies fair share to developing nations in the remaining carbon budget, but also enhances the possibility of exceeding the climate goals creating additional impacts on vulnerable communities.

> **About Loss and Damage (L&D)**
> - It refers to **impacts of climate change that cannot be adapted to, and where losses are permanent**.
> - It covers both **slow-onset processes like sea-level and temperature rise,** and extreme events such as floods, hurricanes and tropical cyclones.
> - **Financing for L&D is seen as climate reparations**, paid by historical emitters, in accordance with the 'polluter pays' principle.
> - Loss and damage impacts **are felt disproportionately by small island nations** who have had negligible emissions with estimated costs of L&D by 2030 ranging from $290-580 billion.

- **Targeted action against fossil fuels**, calling for a "phasedown of unabated coal" and "phase-out" of inefficient fossil-fuel subsidies. Doing so will disproportionately impact developing countries who are dependent on coal and fossil fuel, especially in their efforts to provide accessible and affordable energy to large number of citizens living with either limited or no access to modern energy at all.
- **Absence of financial mechanism for addressing loss and damage:** Discussion have been restricted to technical assistance and insurance based interventions and does not address liability and compensation from developed nations due to push back from countries like US and the European Union.
- **Allowing Carbon credits generated under the Kyoto Protocol to be carried over into the Paris mechanism:** This would make limiting global warming to 1.5°C more difficult, necessitating larger commitment from developed nations.

Way Forward

- **Establishment of a Glasgow Loss and Damage Facility** as a financial mechanism to respond to current climate damage can help vulnerable nations. Such finance must be grant-based so that countries are not further indebted by a crisis they contributed little to.
- **Developed countries should enhance their emission reduction targets** to give developing countries' tier fair share in the carbon budget, which is essential to achieve their developmental rights.
- **Creating mechanisms for technological and financial transfers** to aid countries in transitioning towards low emission pathways.
- **Enhancing accessibility of adaptation fund for vulnerable communities.**

5.3. BAN ON SINGLE USE PLASTIC

Why in news?

Several single use plastic (SUP) items identified by the Ministry of Environment, Forest and Climate Change (MoEFCC) will be banned across India from 1st July, 2022.

About the SUP Ban

- MoEFCC had **earlier notified the Plastic Waste Management (PWM) Amendment Rules, 2021**, to curb pollution caused by littered and unmanaged plastic and phase out SUP items by 2022.

- Under the new rules, **several SUP items** which have low utility and high littering potential **were identified whose manufacture, import, stocking, distribution, sale and use was prohibited** with effect from1st July, 2022.
  - The ban will **not apply to commodities made of compostable plastic**.
- Those found violating the ban can be **penalised under the Environment Protection Act 1986** – which allows for imprisonment up to 5 years, or a penalty up to Rs 1 lakh, or both.

What is Single use plastic (SUP)?

- It has been defined as a **plastic item intended to be used once for the same purpose** before being disposed of or recycled.
- Single use plastics **do not provide an incentive enough** for the effort needed to collect them. Thus, their banning in India is a significant move given its adverse impact on environment, economy and human health.
- **Status of Plastic Pollution in India**
  - 3.5 Million Tonnes of plastic waste is generated annually.
  - Per capita plastic waste generation has almost doubled over the last five years.
  - Only 60 per cent of plastic waste is collected.

What steps have been taken by the Government to ensure enforcement of the ban?

- **Setting up of National and state level control rooms** and **special enforcement teams** for checking illegal manufacture, import, stocking, distribution, sale and use of banned SUPs.
- **States and Union Territories directed to set up border check points** to stop inter-state movement of any banned SUPs.
- **PRAKRITI mascot** to spread greater awareness among masses and bring behavioural change.
- **MoEFCC and Central Pollution Control Board (CPCB) launched various e-governance portals & apps**, like-
  - **National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management** (MoEFCC) to bring all stakeholders at one place and track the progress made for elimination of SUP.
- **Extended Producer Responsibility (EPR) Portal for Plastic Packaging** (CPCB) for compliance to EPR Obligations by Producers, Importers and Brand-owners.

Related news: **Global Plastics Outlook: Policy Scenarios to 2060**
- The 'Global Plastics Outlook: Policy Scenarios to 2060' report **was recently released by OECD.**
- **Projections of the report for the year 2060**:
  - **Use of plastics and plastic waste will almost triple globally**, driven by economic and population growth.
  - **Largest increases expected in emerging economies** in Sub-Saharan Africa and Asia.
  - **Half of all plastic waste still expected to reach landfills** with less than a fifth being recycled.
  - **Plastic leakage to the environment will double** and **build-up of plastics in aquatic environments will more than triple**, exacerbating environmental and health impacts.
  - Following impacts from plastic lifecycle are projected to more than double- **Greenhouse gas emissions, Ozone formation, acidification, and human toxicity**.

Other important provisions of PWM Amendment Rules, 2021
- **Thickness of plastic carry bags increased** from 50 microns to 75 microns with effect from **30th September 2021** and to 120 microns with effect from the 31st December, 2022.
- **Complete ban on** use of sachets using plastic material for **storing, packing or selling gutkha, tobacco and pan masala.**
- **Extended Producer Responsibility (EPR) Guidelines given legal force:** Plastic packaging waste not covered under identified SUP items shall be collected and managed in an environmentally sustainable way through **EPR of the producer, importer and brand owner (PIBO)** as per PWM Rules, 2016.
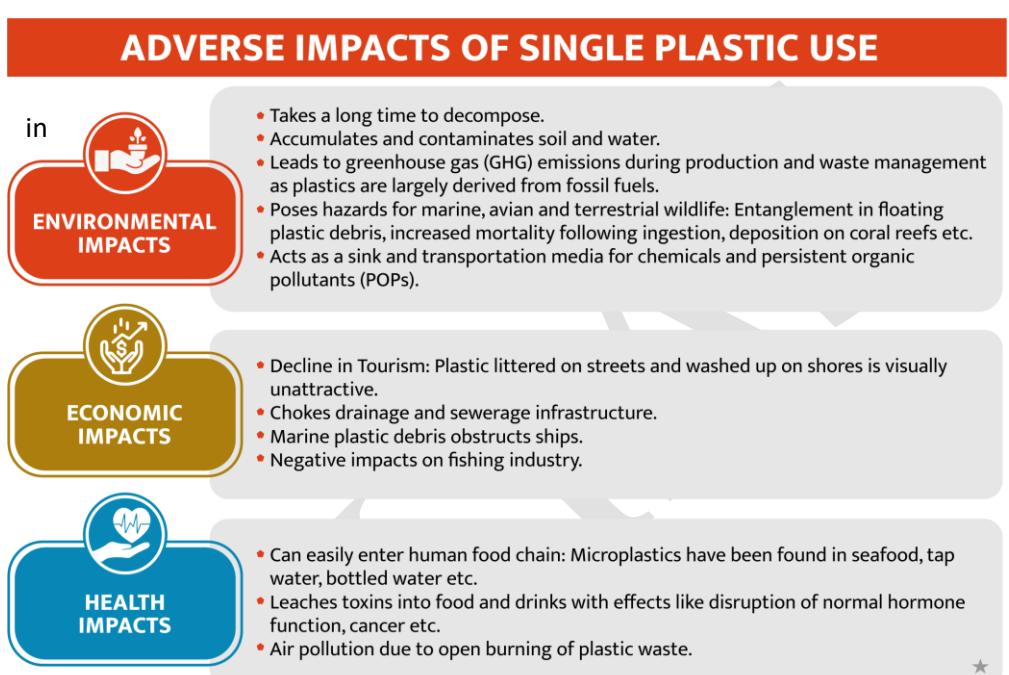
SUP ITEMS BANNED UNDER PWM AMENDMENT RULES, 2016

PLASTIC STICKS	Earbuds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice- cream sticks.
CUTLERY ITEMS	Plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays
PACKING/WRAPPING FILMS	Wrapping or packing films around sweet boxes, invitation cards, and cigarette packets.
OTHER ITEMS	Plastic or PVC banners less than 100 microns, stirrers, polystyrene (Thermocol) for decoration.

- o **Mobile App for SUP Grievance Redressal** (CPCB) to empower citizens to check sale/usage/manufacturing of SUP in their area and tackle the plastic menace.
  - o **Monitoring module for SUP** (CPCB), for local bodies, State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) and CPCB, to inventorize details of SUP production/ sale & usage in commercial establishments at district level, and on-ground enforcement of ban on SUP.
- **Directions have been issued at national, state and local level**: For example-
  - o **All leading petrochemical industries to not supply plastic raw materials** to the industries engaged in banned SUP production.
  - o **SPCB/PCCs to modify/revoke consent to operate** issued under Air/Water Act to industries engaged in banned SUP production.
  - o **Customs Authority to stop the import** of banned SUP items.
  - o **Local authorities to issue fresh commercial licenses with the condition that SUP items will not be sold** on their premises.

ADVERSE IMPACTS OF SINGLE PLASTIC USE

ENVIRONMENTAL IMPACTS
- Takes a long time to decompose.
- Accumulates and contaminates soil and water.
- Leads to greenhouse gas (GHG) emissions during production and waste management as plastics are largely derived from fossil fuels.
- Poses hazards for marine, avian and terrestrial wildlife: Entanglement in floating plastic debris, increased mortality following ingestion, deposition on coral reefs etc.
- Acts as a sink and transportation media for chemicals and persistent organic pollutants (POPs).

ECONOMIC IMPACTS
- Decline in Tourism: Plastic littered on streets and washed up on shores is visually unattractive.
- Chokes drainage and sewerage infrastructure.
- Marine plastic debris obstructs ships.
- Negative impacts on fishing industry.

HEALTH IMPACTS
- Can easily enter human food chain: Microplastics have been found in seafood, tap water, bottled water etc.
- Leaches toxins into food and drinks with effects like disruption of normal hormone function, cancer etc.
- Air pollution due to open burning of plastic waste.

Issues related to PWM in India

- **Lack of adequate infrastructure and technology** for segregation, collection and disposal of plastic waste in a cost- and resource-efficient way.
- **Limited manpower and financial and operational capability in the local authorities and municipal bodies** responsible for enforcement of the ban.
- **Limited capacity in India to provide biodegradable replacements** due to lack of adequate infrastructure and technology.
- **Loss of livelihood** due to closure of plastic manufacturing units, impact on small vendors etc.
- **Challenges in bringing behavioral change** among consumers, especially since **alternatives to everyday SUP items are expensive**.
- **Large consumption** makes transitioning in a short period difficult.
- **Disposal of existing stocks of SUP with vendors and SUP littered in the streets/beaches, buried in landfills etc.**
- **Poor performance of EPR regime** in India.
- **Technological and financial challenges faced by plastic bag manufacturers** to comply to new norms.
- **Unwillingness among plastic industry** with demand of longer transitionary period.
  - o **Sectors like Fast Moving Consumer Goods companies (FMCG)** will be adversely impacted due to their dependence on plastic straws, plates etc.

Way forward

- **Restrain plastic demand and enhance circularity through:**
  - o Fiscal instruments that disincentivise the production and use of plastics, such as **tax on plastic packaging**.
  - o **Policies that enhance product design** to increase their durability and favour reuse and repair.
- **Enhance accessibility and affordability of SUP-alternatives and compostable plastics** by incentivising production by promoting innovation, providing tax benefits, etc.

- **Close leakage pathways** by Investments in waste collection and sanitary landfills as well as improved collection of litter. It should be accompanied with **enhanced recycling.**
- **Identify and target priority areas** of source and distribution of plastics.
- **Combining plastics and climate mitigation policies** and achieving emission reduction in the sector by shifting energy use in plastics-related activities (e.g. production and conversion) to less carbon intensive sources.
- The government has advised a **range of complementary initiatives for ULBs** to strengthen enforcement, reduce demand of SUPs and raise awareness-
  - o **Identify SUP-alternatives** (such as cloth/jute/plastic bags, degradable cutleries, etc.) **readily available in the market** and create awareness about such alternatives among citizens.
  - o **Requesting companies to setup Bottle Banks** (where users can get paid for dropping off PET bottles) or **subsidized reusable plastic bottle booths** at different locations as part of EPR mandate.
  - o Establishing *Thaila* **(bag)/***Bartan* **(Utensils) kiosks or** *bhandars* to provide citizens with alternatives to SUP.
  - o **Deploying '***Swachhata raths'* in all public places, markets, and other high footfall areas to spread awareness against use of SUP.

5.4. FOREST (CONSERVATION) RULES, 2022

Why in news?

Recently, **Ministry of Environment, Forest and Climate** change has notified the Forest Conservation Rules 2022.

Salient features of Forest (Conservation) Rules, 2022

- These rules are notified under the **Forest (Conservation) Act, 1980** and will **replace the Forest (Conservation) Rules, 2003.**
- **The rules establish certain committees to perform various functions-**

Committees	Features
Project screening committee	• To be constituted by State or UT. • It shall meet atleast twice every month to recommend projects to State/UTs administration. • It shall **examine the proposal received from the State Government or Union territory Administration**, **except proposals involving forest land of five hectares** or less.
Regional Empowered Committee	• To be setup by Central govt in each of the regional offices. • To meet atleast twice every month to examine every referred project for approval or rejection.
Advisory Committee	• To be setup by the Central govt consisting 6 members to meet every month. • The role of the Advisory Committee is to **advise with regards to grant of approval under various sections of rules.**

- **Time frame**:
  - o **Non-mining projects between 5-40 hectares:** reviewed within 60 days.
  - o **Mining projects between 5-40 hectares:** reviewed within 75 days.
  - o For projects involving a **larger area:**
    - ✓ **120 days for non-mining projects involving more than 100 hectares.**
    - ✓ **150 days for mining projects involving more than 100 hectares**.
- **Proposals for Prior Approval of the Central Government**
  - o **In- Principle' approval after considering the recommendation of the Advisory Committee.**
  - o **Final approval**: The **Nodal Officer may, after receipt of the 'In-Principle' approval from the Central Government**.
- **Compensatory Afforestation**
  - o Land for compensatory afforestation shall be provided which is **neither notified as forest under the Indian Forest Act, 1927 or any other law nor managed as fores**t by the Forest Department.

> **Forest Conservation Act 1980**
> - It came into force to address deforestation. Though the Indian Forest Act has been in force since 1927, it was geared to allow the colonial British administration to control the extraction of timber.
> - There have been at least two major amendments to the FCA — in 1988 and 1996 to **incorporate the Supreme court judgment in the Godavarman case relating to definition of forest.**

Analysis of the Forest Conservation Rules 2022

- **Compensatory afforestation**: Rules **aims to make land availability for compensatory afforestation easier.**
  - But it is **necessary to ensure, that these compensated tree lots or plantations offer the same ecological features and services as the natural forest** that is diverted.
- **Tribal rights**: Rules states that **only the state government will now be responsible to ensure that the rights of the forest dwellers are secured**, that too after the union government has given its final approval.
  - Rules **goes against the Gram Sabha's decision under the Forest Rights Act 2006** who is the authority to initiate the process for determining the nature and extent of individual or community forest rights and issuing certificate that the forest rights recognition process is complete.
- **Lack of proper scrutiny**: Rules seek to simplify and shorten the process of appraising any infrastructure or other development project involving the diversion of forest land.
  - However, rules **don't scrutinise** the impacts of projects for **less than 5 hectares.**

Conclusion

The new rules ease and streamlines the procedure for development purpose, but it is also necessary to secure traditional rights of tribal and other forest-dwelling communities over forestlands through their consent and make development more inclusive.

Compensatory Afforestation Fund Act, 2016
- Compensatory Afforestation (CA) refers to afforestation and regeneration activities carried out as a way of compensating for forest land diverted to non-forest purposes.
- The act establishes **National and State Funds for the same purpose.**
- **90% of the all monies** collected for compensatory afforestation by a State/UT shall be **transferred to the State Fund** and the **balance 10% to the National Fund.**
  - The monies received in the National and State fund shall be an **interest bearing and non-lapsable under public accoun**t.
- **National and State Authority**
  - Their function is to **manage and utilise the respective funds for the purposes of this Act** such as conservation and development of forest and wildlife.

Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006
- The Act provides that the **gram sabha, or village assembly, will initially pass a resolution recommending whose rights to which resources should be recognised**. This resolution is then screened and approved at the level of the sub-division and subsequently at the district level.
- **The rights granted under the act are:**
  - **Title rights**: It is ownership to land that is being farmed by tribals or forest dwellers as on 13 December 2005, subject to a maximum of 4 hectares
  - **Use rights:** Use of minor forest produce and its ownership, grazing areas, pastoralist routes, etc.
  - **Relief and development rights:** For rehabilitation in case of illegal eviction or forced displacement; and to basic amenities, subject to restrictions for forest protection.
  - **Forest management rights:** To protect forests and wildlife.

5.5. ECO-SENSITIVE ZONES (ESZ)

Why in news?

The Supreme Court has directed that every protected forest, national park and wildlife sanctuary in the country should **mandatorily have a minimum 1 km ESZ**, from their demarcated boundaries.

More about the judgment

- The directions were passed in reference to applications filed under the **TN Godavarman Thirumalpad versus Union of India** case.
- The order would apply in **all such states/UTs where the minimum ESZ is not prescribed.**

Significance of the judgement
- **Moving beyond bare-minimum legal compliance**: Some states have conceded only a few metres of area to ESZs which is insufficient in fulfilling the purpose and role of ESZs.
- **Maintaining ecological connectivity** between different PAs.
- **Preventing ecological damage in fragile areas like Western ghats** where demarcation of ESZs has not been finalized yet.
- **Managing negative impacts (**deforestation, displacement of local people, littering, pollution etc.) **of rising tourist activities** on land around parks and sanctuaries.

- **Other highlights of the judgment**:
  - **Extended boundary shall prevail** if the existing ESZ goes beyond 1 km buffer zone or if any statutory instrument prescribes a higher limit.
  - **No new permanent structure** will be allowed within the ESZ.
  - **Mining within national wildlife sanctuary or national park is not permitted**.
  - **Activity already being undertaken**, within the 1km or extended ESZ, **but lying outside the ambit of prohibited activities may continue with permission.**
  - The **Principal Chief Conservator of Forests** of each State/UT has been directed to make a list of subsisting structures at the ESZs and **submit a report to the court within 3 months.**
  - The requirements could be **diluted if there is "overwhelming public interest"**.
  - In respect of PAs for which the proposal of a State/UT has not been given, **the 10 kilometres buffer zone as ESZ shall be implemented,** according to MoEFCC guidelines, till a final decision is arrived.

Significance of ESZ: Protection of natural heritage; In-situ conservation; Minimizes forest depletion; Conserve biological diversity; Reduces man-animal conflict; Minimizes or eliminates damages to protected areas

About Eco-sensitive zones (**ESZs)**

- ESZ or Ecologically sensitive areas (ESA) are **ecologically important and fragile areas** around protected areas designated to be protected from industrial pollution and unregulated development under the **Environment Protection Act (EPA), 1986.**
- It is **notified by Central Government**, i.e. Ministry of Environment, Forest and Climate Change (MoEFCC), **under Environment Protection Act, 1986.**
- **Background of ESZs in India**:
  - **2002**: '**Wildlife Conservation Strategy-2002'** was adopted envisaging lands falling within 10 Kms of the boundaries of National Parks and Sanctuaries to be **notified as Eco fragile zones.**
    - ✓ All the **Chief Wildlife Wardens were requested for listing out** such areas for notification as eco-sensitive areas.
    - ✓ **Many states didn't comply due to concerns regarding impact of ESZ** on habitations and developmental activities.

Identification of activities undertaken within an ESZ, generally classified under 3 categories:	
Prohibited	Commercial mining, setting of saw mills, polluting industries, major hydroelectric projects etc.
Regulated (Restricted with safeguards)	Felling of trees, Establishment of hotels and resorts, drastic change of agriculture system, widening of roads, introduction of exotic species etc.
Permissible	Rainwater Harvesting, Organic farming, Ongoing Agricultural and Horticulture practices by local communities, Adoption of green technology for all activities etc.

- **2005**: Addressing concerns of the states, National Board of wildlife decided that **delineation of ESZs should be site specific and related to regulation**, rather than prohibition, of specific activities.
- **2006:** In **Goa Foundation v. Union of India,** the SC ordered all States/UTs to comply to 2005 order.
    - ✓ The court also contemplated **notification of the areas within 10 km of the boundaries of the PAs as ESZs** if there is delay in site-specific preparation of ESZ for individual States/Union Territories.
  - **2011**: The '**Guidelines for declaration of ESZ around National Parks and Wildlife Sanctuaries'** were notified by MoEFCC to deal with the process and procedures to be adopted for declaring ESZ.
- Statutory Provisions related to declaration of ESZs are dealt in **Wildlife (Protection) Act, 1972, Environment (Protection) Act 1986 (EPA) and Environment (Protection) Rules, 1986 (EPR).**

Extent of ESZs as per 2011 guidelines
- As a general principle the width of the ESZ **could go up to 10 kms around a PA** as provided in the Wildlife Conservation Strategy-2002.
- **Sensitive corridors, connectivity and ecologically important patches**, crucial for landscape linkages, even **beyond 10 kms width**, are also included in the ESZ.
- The **distribution** of an area of ESZ and the **extent** of regulation may **not be in uniform** all around and are kept PA specific**.**

Issues related to creation of ESZs

- **Opposition from States**: Several states like Kerala, Karnataka etc. have been lobbying for reduction in areas demarcated as ESZs due to impact on developmental activities and revenue.
- **Lack of participatory planning exercises** while implementing the ESZ.
- **Enforcing a one-size-fits-all '1 km' buffer zone in all protected areas** will be difficult.
- **Lack of ground investigation** for proposals with areas being **randomly marked** on topographic sheets.
- **Community protests:** There have been demands that human settlements located close to the forest boundary must be exempted from ESZs as it restricts land-use change, affecting livelihood prospects of local residents.
- **Practical difficulties:** The density of human population around the forest lands is high in some regions, making implementation of ESZ regulations tough.

Procedure for Declaration of ESZ

Creation of inventory
- Inventory of activities around each of the Protected Area as well as important Corridors is made with the help of range officers.

Constitution of a committee
- The committee is tasked wtih demarcating extent of ESZ and create a Master Plan for its management (including classification of activities to be regulated).
- The committee generally comprises of: Wildlife Warden, Warden, an Ecologist and officials from local self-government and Revenue Department.

Notification of ESZ
- Final proposal is forwarded to the MoEFCC for further processing and notification.

Way Forward

- **Undertaking participatory planning of ESZs** which addresses the needs and aspirations of the local and indigenous people while protecting the environment and biodiversity.
- **Conducting on ground investigations** to verify environmentally fragile zones identified by satellite images.
- **Promoting eco-friendly livelihood practices such as natural farming, agroforestry etc**. in areas lying in notified ESZs and building capacity among locals for the same.
- **Building consensus among States** though negotiations.
- **Extensively studying the impact of infrastructural projects** on the forest and wildlife before giving permission.

5.6. WATER INSECURITY

Why in news?

According to some estimates, **annual per capita availability of water in India has declined by 75% – from 6,042 cubic meters in 1947 to 1,486 cubic meters in 2021**, making India a highly water insecure nation.

About Water Insecurity
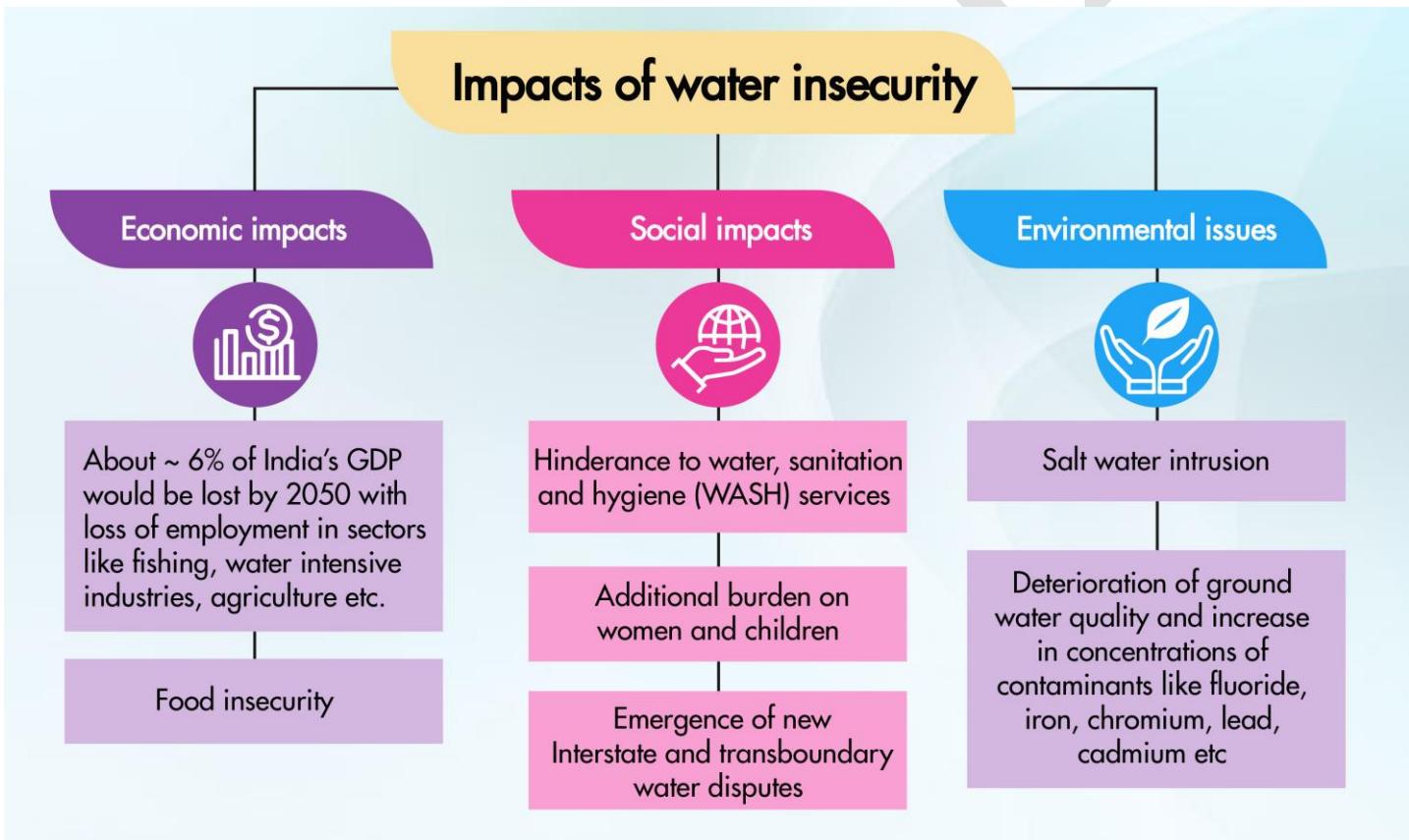
It can be defined as the **lack of availability of sufficient water of good quality to meet basic human requirements, livelihoods and ecosystem functions**, and an increased risk of water-linked disasters.

> **Related concept: Water scarcity**
> - According to **Falkenmark's water stress index** (the world's most widely used index for estimating water scarcity), where the water availability is less than 1,700 cubic meter per capita per year, there is water scarcity.
> - Per this criterion, about 76**% of the people in India are currently facing water scarcity.**
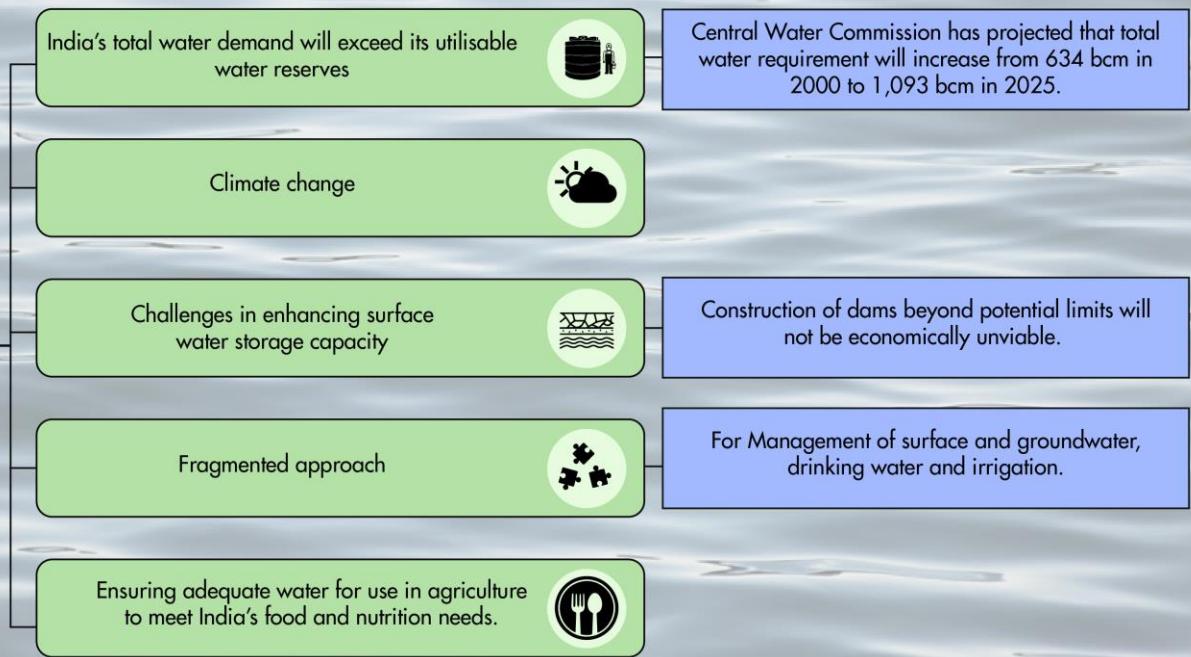
Factors responsible for India's rising water insecurity		
Factors	**Facts**	**Reasons**
Depletion of groundwater	- Groundwater level in India has **declined by 61 per cent between 2007 and 2017**. - Rate of groundwater extraction is higher than the natural recharge rate.	- **Illegal and excessive extraction** for industrial, domestic and agricultural use. - **Concretization of urban infrastructure** disrupting rejuvenation of the underground aquifers.

		• **Low water use efficiency in agriculture**: Traditional techniques like farm inundation, high farm runoff, cultivation of the water intensive crops etc.
Pollution of surface water	• **~70% of surface water in India is unfit** for consumption. • The **Central Pollution Control Board (CPCB) in 2018 identified 351 polluted river** stretches in India.	• **Discharge of untreated or partially treated industrial and domestic wastewater in rivers, lakes etc**.: More than 60% of sewage generated by urban India is untreated and enters. • **Agricultural runoff**. • **Low capacity** and inadequate number of sewage treatment plants. • **Poor enforcement** of environmental norms.
Vanishing water bodies – ponds, lakes, tanks, wetlands	• **2% of India's water bodies** have been encroached.	• **Direct Encroachment of water bodies** due to rapid urbanisation and unplanned growth. • **Lack of proper maintenance** for restoration of carrying capacity. • **Removal of vegetation from the catchment area.** • **Increasing siltation, salinity, eutrophication.** • **Disrupted channels of water flows.** • **Illegal sand mining.** • **Unsustainable tourism.**
Hydrological factors	• **India witnessed a 6% Decline** in Summer monsoon rainfall during the period 1951-2015.	• **Altered rainfall patterns.** • **Reduced flow of rivers.** • **Higher evapotranspiration.**

Impacts of water insecurity

Economic impacts

About ~ 6% of India's GDP would be lost by 2050 with loss of employment in sectors like fishing, water intensive industries, agriculture etc.

Food insecurity

Social impacts

Hinderance to water, sanitation and hygiene (WASH) services

Additional burden on women and children

Emergence of new Interstate and transboundary water disputes

Environmental issues

Salt water intrusion

Deterioration of ground water quality and increase in concentrations of contaminants like fluoride, iron, chromium, lead, cadmium etc

Central Water Commission has projected that total water requirement will increase from 634 bcm in 2000 to 1,093 bcm in 2025.

Construction of dams beyond potential limits will not be economically unviable.

For Management of surface and groundwater, drinking water and irrigation.

Challenges lying ahead in fulfilling India's water needs
- India's total water demand will exceed its utilisable water reserves
- Climate change
- Challenges in enhancing surface water storage capacity
- Fragmented approach
- Ensuring adequate water for use in agriculture to meet India's food and nutrition needs.

Way Forward

- **Increase water use efficiency in the agricultural sector** through:
  - **Promotion of modern micro-irrigation** methods such as drip and sprinkler,
  - **Incentivising crop diversification to** less water intensive crops.
  - **Enhancing adoption of sustainable agricultural** practices like mulching, System of Rice Intensification (SRI), etc.
- **Governance reforms:**
  - **Adopt a One Water approach in policy making** that considers recognizes all water resources – surface water, groundwater, stormwater, and wastewater as a single integrated system.
  - **Invest in enhancing capacity and efficiency of existing treatment plants** and establish new and efficient sewage treatment facilities.
  - **Accurate pricing of water** to discourage over use.
- **Restoration of water bodies and recharge of aquifers**:
  - **Nature-based solutions** like specially curated "blue-green infrastructure" such as rain gardens, restored rivers with wet meadows, wetlands constructed for bio-remediation, etc.
  - Maintenance of existing water bodies through regular de-siltation.
  - **Undertaking low-cost artificial aquifer** recharging techniques suitable to local conditions.
- **Circular water economy:**
  - **Promote use of Greywater and Unconventional water resources** through stringent monitoring procedures and appropriate treatment**.**
  - **Wastewater treatment and recycling** for non-drinking purposes in residential complexes.

Government initiatives to tackle the crisis
- **Jal Shakti Abhiyan (JSA):** A campaign for water conservation and water security, with focus on water stressed districts and blocks.
  - **Jal Shakti Abhiyan: Catch the Rain campaign** focuses on saving and conserving rainwater
- **Jal Jeevan Mission (JJM)** aims to make provision of tap water supply to every rural household of the country by 2024.
- **National Water Mission** aims to ensure integrated water resource management helping to conserve water, minimize wastage and ensure more equitable distribution both across and within states.
- **Mission Amrit Sarovar** is aimed at developing and rejuvenating 75 water bodies in each district of the country.
- **Atal Bhujal Yojana (ATAL JAL)** lays emphasis on community participation and demand side interventions for sustainable ground water management in identified water stressed areas in seven States of the country.
- **New guidelines on groundwater extraction of CPCB** with provisions like- mandatory requirement of applying for NOC for new and existing industries, group housing societies, and private water supply tankers.
- **Composite Water Management Index (CWMI)** developed by NITI Aayog to enable effective water management in Indian states.

- **Awareness generation and community led interventions**:
  - Adopting participatory water management approach.
  - Encourage creation of traditional water harvesting structures like temple tanks, baolis etc.
  - Conducting restoration drive to clean up existing water bodies.

5.6.1. WATER CONVENTION

Why in news?

2022 marks the **30th anniversary** of the **Water Convention.**

About Water Convention (Convention on the Protection and Use of Transboundary Watercourses and International Lakes 1992)

- It is **an international legal instrument and intergovernmental platform** which aims to ensure the sustainable use of transboundary water resources.
  - It requires Parties to use transboundary waters in a **reasonable and equitable way** and ensure their **sustainable management**.
  - Parties bordering the same transboundary waters have to cooperate by entering into **specific agreements and establishing joint bodies**.
- Initially negotiated as a regional instrument, it **was opened globally for accession to all UN Member States in 2016.**
- This **United Nations Economic Commission for Europe (UNECE)'s Water Convention was adopted in Helsinki in 1992** and entered into **force in 1996**.
- It is a **powerful tool to achieve the objectives of SDG 6 (**clean water and sanitation) and its **target 6.5**, which calls upon all States to implement **integrated water resources management** at all levels by 2030, including through **transboundary cooperation**.
- In 2022, **Water Convention organized the first ever transboundary** pavilion at the ninth World Water Forum in Dakar, Senegal.
  - World Water Forum is **the world's largest event on water** and has been organized **every three years** since 1997 by the World Water Council (a think tank), in **partnership with a host country**.
  - Forum provides a u**nique platform where the international water community and key decision makers can collaborate** on global water challenges.

> **Related news**
> **Geneva Water Dialogue**
> - The **first Geneva Water Dialogue** co-organized by the **Permanent Missions** of the Netherlands, Tajikistan and Egypt took place in **Geneva, Switzerland**.
> - The event was supported by the **WMO, UN-Water, UNDRR, OHCHR, and the Geneva Water Hub**, and attended by **heads and representatives** of the diplomatic missions, as well as high level representatives of the **UN system organizations**.
> - **Objective**: To prepare a **substantive input** from the Geneva-based organizations and missions to the **UN 2023 Water Conference**, as well as to **identify and propose concrete solutions** to accelerate the achievement of **SDG 6, also beyond 2030.**

> **About United Nations Economic Commission for Europe (UNECE)**
> - It was **set up in 1947** by United Nations Economic and Social Council (ECOSOC).
> - It is **one of five regional commissions** of the United Nations. The others are:
>   - Economic Commission for Africa (ECA),
>   - Economic and Social Commission for Asia and the Pacific (ESCAP),
>   - Economic Commission for Latin America and the Caribbean (ECLAC),
>   - Economic and Social Commission for Western Asia (ESCWA).
> - UNECE's major aim is to promote **pan-European economic integration**.
> - It includes **56 member States in Europe, North America and Asia.** However, **all interested UN member States** may participate in the work of UNECE.

5.7. LAND SUBSIDENCE IN COASTAL AREAS

Why in news?

According to new research conducted by IIT Bombay experts, **Mumbai is sinking at a pace of 2mm per year due to a geographical phenomenon known as land subsidence.**

What is Land Subsidence?

- Land subsidence is the **gradual settling or sudden sinking of the earth's surface** due to removal or displacement of subsurface earth materials.
- It is considered a **natural-anthropogenic hazard** and is **irreversible.**

- It is estimated that by 2040, land subsidence will affect approximately 8% of the world 's top layer and approximately 1.2 billion people living in 21% of the world's big towns.
- In India areas other than Mumbai like Kolkata and Delhi are also witnessing land subsidence.
  - **Areas where the earth matter is made up of thin soil particles**, like the alluvial deposits of fertile Gangetic plains, are more vulnerable.

Major causes of Land subsidence

- **Natural factors**: Land subsidence happens due to gradual or sudden natural compaction or collapse of soils due to reasons like-
  - Tectonic activities (e.g. earthquake and faulting).
  - Volcanic activities.
  - Landslide.
  - Formation of sinkholes.
  - Thawing of permafrost.
- **Anthropogenic causes:**
  - **Compaction of aquifer-systems due to extensive groundwater withdrawals**: When water is extracted from aquifers, the clay between pockets of water collapse gradually, leading to land subsidence.
    - ✓ More than 80% of land subsidence across the world is caused due to excessive groundwater extraction.
  - Development of underground infrastructure such as metro, tunnels etc.
  - Excessive underground mining of minerals, oil and gas.
  - High load of constructions such as high rise buildings.

ADVERSE IMPACTS OF LAND SUBSIDENCE

INFRASTRUCTURAL
- Weakening of foundations or cracking of permanent constructions and roads
- Tilting and/or sinking of houses and buildings
- Damage to underground pipelines and utilities.
- Malfunction of sewerage and drainage system.
- Deterioration in function of building and infrastructures.
- Permanent inundation of areas and infrastructures.
- Frequent Waterlogging.

ENVIRONMENTAL
- Changes in river canal and drain flow systems.
- Permanent destruction of underground aquifer.
- Earthquakes due to weakened soil layers.
- Frequent coastal flooding.
- Wider expansion of coastal and/or inland flooding area.
- Increased inland sea water intrusion.
- Deterioration in quality of ecosystems such as wetlands, mangroves

ECONOMIC
- Increase in maintenance cost of infrastructure.
- Decrease in land and property values.
- Abandoned buildings and facilities.
- Disruption to economic activities.

SOCIAL
- Deterioration in quality of living environment and life (e.g. health and sanitation condition)
- High impact on people living in low lying regions leading to loss of homes and livelihood, migration, etc.
- Compounding risks and hazards like rising sea level, extreme rain events, earthquakes, floods etc. can lead to devastating disasters

Way Forward

- **Using advanced satellite technology to accurately identify hotspots** afflicted by land deformation, which can prompt local authorities to carry out ground measurements.
- **Understanding the geophysical properties of the subsiding areas to tackle causes.**
  - For instance, in regions with high groundwater extraction, stricter measures for rainwater harvesting, punishing illegal groundwater mining etc.
- **Implementing solutions to offset the over-extraction of groundwater** like- recharging groundwater by rainwater harvesting, managed aquifer recharge, pond revival, curbing illegal groundwater pumping, and planting native species that can help in groundwater conservation.
- **Evaluating building conditions in hazard zones** to undertake necessary repair and maintenance.
- **Incorporating land subsidence in assessment and modeling of flooding and inundation** in urban areas.
- **Systematic and continuous monitoring of land subsidence to avoid widespread disasters**, especially in areas which are highly populated and prone to other hazards like earthquakes, floods etc.

5.8. FLOODS IN NORTH-EAST INDIA

Why in news?

Floods situation have displaced millions of people in northeast India.

Causes for recurring floods in NE India

Natural Causes

- **Geography and topography**: Entire Northeast India is a flood-prone zone due to their geographical and topographical region making it one of the highest rainfall zones in the world.
  - Additionally, Assam, the Gateway of North East India, is crisscrossed by a number of major rivers originating from lower Himalayan ranges and debouching into the plains causing flash floods in the flood plains of Assam and neighbouring states.
- **Shifting river course:** Rivers in North East are characterised by shifting of course frequently

Adaptation followed in NE India during floods

Houses, school structures, handpumps raised above the ground to protect them submergence during flood.

Shifted cropping patterns by cultivating more Rabi than Kharif crops. Eg. Boro rice and vegetables, because traditional variety of Kharif paddy gets damaged in floods

Village disaster management committee trained with the help of the National and State Disaster Response Force

due to meandering and flows through several channels. Hence, one can never predict as to when floods will strike. Eg. Kumutiya river has shifted 3 km since 1960 and an entire village has had to shift with it.
- **High silt and braided channel:** The rivers on their courses are joined by various streams and tributaries which brings huge silt from upper catchment area, which shallows depth of river bed, clogs mouth of streams that forms braided channels, which leads to drainage congestion and flooding.

Anthropogenic Causes

- **Weak embarkments**: Standing Committee on Water Resources (SCWR) observed that, most of the embankments, constructed on the main stem of the Brahmaputra and its tributaries, date back to the 1960s and 70s which are weak and causing floods.
- **Encroachment of riverine areas:** The flood plain of a river is essentially its domain and any intrusion into or developmental activity therein obstructs the river's 'right of way' leading to frequent severe floods.
- **Deforestation and destruction of wetlands:** Trees and wetlands have ability to reduce runoff, but deforestation and destruction of wetlands for development reasons have intensified the erosion process by rivers and causing floods.
- **Climate change:** India has been witnessing a surge in extreme weather events associated with the lethal impact of climate change like heatwaves and strong low pressure over the Bay of Bengal that resulting into sheer volume of early rain by strong south-westerly winds.
- **Lack of inter-state cooperation**: According to the SCWR report, Lack of cooperation among States in respect of inter-state projects, difficulty in implementation of flood plain zoning and regulations are some of the problems faced in checking the recurring floods in Assam and North East (NE) region.

Measures needed to be taken for flood management

- **Structural measures**
  - **Construction of reservoirs**: Flood storage and integrated reservoir operation are required along with the construction of storage reservoirs on the tributaries and distributaries.

> **Initiatives taken by government for flood management**
> - **Brahmaputra Board**: It is statutory body was set up under the **Brahmaputra Board Act, 1980**. The jurisdiction of the Board includes all States of North East region in Brahmaputra and Barak Basin.
>   - Its vision is to **Integrated Management of Flood and River Basins of interstate / international rivers of NE Region** by involving expertise of domain experts, state of art knowledge & technology, working closely with State Governments and other Stake Holders.
> - **Flood Management Programme (FMP)**: It was implemented during XI Plan for taking up works related to **river management, flood control, anti-erosion, drainage development, flood proofing, restoration of damaged flood management works and anti-sea erosion.**
> - **Central Water Commission (CWC):** It was set up in 1945 for **promoting measures of flood control**, conservation and utilization of water resources throughout the country in the areas of beneficial uses, irrigation and hydropower generation, **flood management and river conservation.**
> - **National Water Policy, 2012**: Policy states that **ecological needs of the river should be determined** recognizing that river flows are characterized by low or no flows, **small floods (freshets), large floods and flow variability** and should accommodate development needs.

- o **Strengthening embarkments**: The Standing Committee on Water Resources (SCWR) stated need of strengthening and raising embankments with bank protection measures in form of revetment or Reinforced cement concrete (RCC) porcupines.
  - o **Dredging rivers:** Dredging of river beds helps in increasing the water-holding capacity of the rivers, address erosion by silt accumulation and reduce the intensity of floods.
  - o **Weather stations**: Set up modern weather stations in the upstream catchment of all dams in the North East and install sirens on river banks near dams. This would alert downstream populations in the event of floods.
- **Administrative measures**
  - o **North East Water Management Authority (NEWMA)**: Setting up apex body involved in implementation and monitoring of all projects related to hydro-power, bio-diversity conservation, irrigation, flood control, inland waterways, forestry, fishery and eco-tourism in all north-eastern states.
  - o **River Basin Organizations (RBO)**: Setting up RBOs would effectively provide immediate, short-term and long-term solutions in addition to the overall development of river basin and, which effectively help in integrated basin management and minimize flood situations.
  - o **Flood Plain Zoning**: Flood-plain zoning measures aim at demarcating zones of floods of different magnitudes or frequencies and specify the types of permissible developments in these zones, so that whenever floods actually occur, the damage can be minimised.
- **Other measures**
  - o **Medical preparedness and evacuation**: Floods as a natural disaster have a high potential of precipitating the incidences of mass casualties. There is the risk of drowning and **physical trauma along with the threat of diseases associated with contamination of water** and the creation of **mosquito breeding sites.** Hence, medical preparedness for floods is necessary with **trained medical responders and Patient Evacuation Plan.**

Summary of NDMA guidelines on Floods	
Structural Measures	**Non-Structural Measures**
Embankments/Banks, Flood Walls, Flood Levees to prevent river shifting its course. - Dams and reservoirs to manage flood water. - Channel improvement to increase river's carrying capacity. - De-silting of rivers. - Catchment areas afforestation to control river water run-off.	**Flood plain zoning** to regulate land use in flood plains. **Flood proofing** with raised platforms, flood shelters, etc. **Flood Forecasting and warning.** **Integrated watershed management** for water resources assessment, socio-economic assessment, water resources planning, implementation of action plans, day-to-day water resources management**.** - Measures to **strengthen Ganga and Brahmaputra Flood Control Boards.**
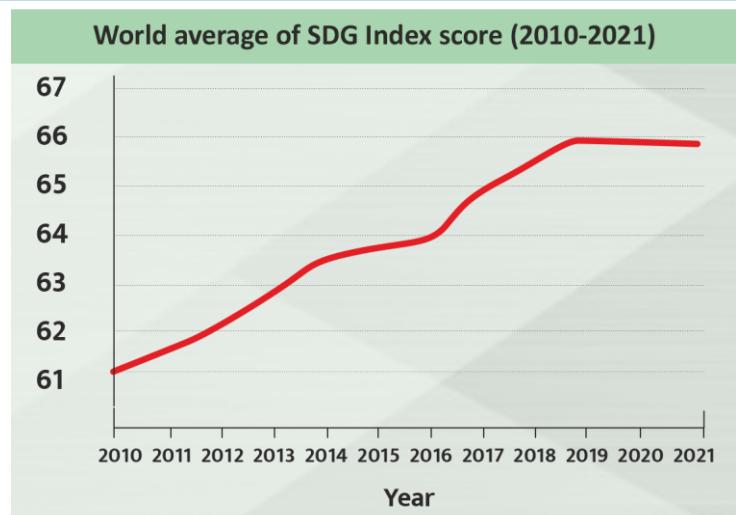
5.9. SUSTAINABLE DEVELOPMENT REPORT 2022

Why in news?

Recently, Sustainable Development Solutions Network (SDSN) released Sustainable Development Report 2022 named From Crisis to Sustainable Development: The SDGs as Roadmap to 2030 and Beyond.

Background

- Sustainable development is an **overarching paradigm of the United Nations**. The concept of sustainable development was described by the **1987 Brundtland Commission Report** as development that **meets the needs of the present without compromising the ability of future** generations to meet their own needs.
- The adoption of three major international agreements in 2015, the **2030 Agenda and the SDGs,** the **Paris Climate Agreement**, and the **Addis Ababa Action Agenda on financing for development** – represented **major global breakthroughs** for the international community.

World average of SDG Index score (2010-2021)

Findings of Sustainable Development Report 2022

- **Peace, diplomacy, and international cooperation are fundamental for progress on the SDGs.**
  - The **war in Ukraine and other military conflicts** are impacting prosperity and social outcomes like **poverty, food insecurity, and access to affordable energy**. Also, the **climate and biodiversity crises amplifying the impact of these crises**.
- **For the second year in a row, the world is no longer making progress on the SDGs**
  - The average **SDG Index score declined in 2021 due to slow or non-existent recovery in poor and vulnerable countries**.
- **International spillovers:** International spillover **effects are one country's actions generate benefits or impose costs on another country** that are not reflected in market prices and therefore are not 'internalized' by the actions of consumers and producers. It generates **negative socioeconomic and environmental spillovers, including through unsustainable trade and supply chains**.

Major priorities to curb negative international spillovers generated by rich countries:
- **Scale up international development and climate finance**: The international agreement to implement a **global minimum corporate tax rate by 2023** is a step in the right direction but will require effective implementation.
- **Leverage technical cooperation and SDG diplomacy**: Technical cooperation and knowledge transfer can support greater sustainability in producing countries. It is critical that major international infrastructure investment programs – including the **United States' Build Back Better plan, the European Union's Global Gateway strategy, and China's Belt and Road Initiative** – align with the SDGs and modernize production systems and connectivity in developing countries.
- **Adopt national targets and instruments to address consumption-based impacts on other countries**: Rich countries should also **curb trade in waste and toxic pesticides and reduce unsustainable consumption,** including through improved diets and lower material consumption.
  - ✓ Eg. In **2022, Sweden** became the **first country** to commit to setting a **national target to curb its imported consumption-based CO_2 emissions**.
- **Accountability, data, and statistics**: Robust data systems are **paramount and integral part of SDG reporting** at the international, national, industrial, and corporation levels to track negative impacts of spillovers.

India in Sustainable Development Report 2022

- In the 2022 **Finland topped**, while **India ranked 121 out of the 163 countries** compared to 117 in 2020 and 120 in 2021, that shows slip in ranking for the third consecutive year.
- According to report India is facing **major challenges in achieving 11 of 17 Sustainable Development Goals**, while it mentioned India is on track to achieving SDG 13 on climate action. (**Refer infographic**)
- Report also found that **SDGs are not mentioned in the latest central or federal budget documents of India.**

India SDG dashboard and trends in report 2022

India and Sustainable Development Goals (SDGs)
* The Government of **India is strongly committed to the 2030 Agenda, including the SDGs**. India's national development goals and its **"sab ka saath, sab ka vikas" or "development with all, and for all,"** policy initiatives for inclusive development converge well with the SDGs.
* **National Action on the SDGs in India**
    * **NITI Aayog**, the Government of India's premier think tank, has been **entrusted with the task of coordinating the SDGs**. NITI Aayog has undertaken a mapping of schemes and relate to the SDGs and their targets, and has identified lead and supporting ministries for each target.
    * In addition, the **Ministry of Statistics and Programme Implementation (MoSPI) has been leading discussions for developing national indicators for the SDGs**.
* **State Governments and local government are a crucial driving force for SDG progress**
    * **States have been advised to undertake a similar mapping** of their schemes, including centrally sponsored schemes. State **governments are key to India's progress on the SDG Agenda** and paying keen attention to visioning, planning, budgeting, and developing implementation and monitoring systems for the SDGs.
    * Many of the Government's flagship programmes such as **Swachh Bharat, Make in India, Skill India, and Digital India are at the core of the SDGs** and **State and local governments play a pivotal role** in many of these programmes.
    * The **15 of the 17 SDGs directly relate to activities undertaken by local governments** in the country. Hence the role of local governments is equally important.

Conclusion

The prevalence of challenges **like climate change, global hunger, internal and external conflict have showcased the importance of Sustainable Development approach**. But with the advent of energy efficient technology and recognition of the importance of inclusive development, a harmonious relation between **development, social equity and environment is possible**. Therefore, it is imperative for India to develop effective methods for implementing, monitoring, and measuring the progress of SDGs.

5.10. URANIUM MINING

Why in news?

Recently, Rajasthan has issued Letter of Intent for Uranium mining

More about news

* A Letter of Intent of mining lease has been issued to the Uranium Corporation of India (UCI) for mining of Uranium deposits, which were discovered at **Rohil (Khandela Tehsil) in Sikar district.**
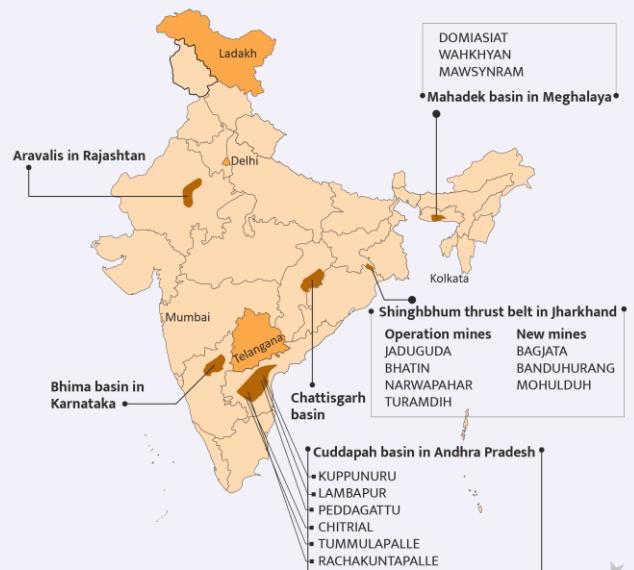
About Uranium

* Uranium is a **naturally occurring radioactive mineral** and is vital to India's nuclear power programme.
    * **Uranium is not a rare element on Earth**.
    * It occurs in 2.8 parts per million in the Earth's crust and occurs in fairly large quantities in various geological settings.
    * It is **more abundant than gold, silver, or mercury, about the same as tin and slightly less abundant than cobalt, lead or molybdenum**.
    * Vast amounts of uranium **also occur in the world's oceans, but in very low concentrations.**
* **Kazakhstan has the world's largest Uranium reserves and also the largest producer** (45% of world supply), followed by Namibia and Canada.

Key data
* **Uranium Resource in India**: 650 thousand tonne (approx.) as per 2021 data.
* **Production of uranium in India**: Government does not disclose the quantity of uranium extracted in India.
* **Import of uranium:** India has imported 7600 tonnes (approx.) of uranium in the last 3 years, mostly from Kazakhstan and Canada.

Uranium Reserves in India

- o Most of the uranium deposits around the world are of low grade but there are quite a few medium to high grade deposits especially in Canada and Australia.
- **All isotopes of uranium are radioactive** and over time they decay to other lighter elements.
  - o The most **common isotope of Uranium is U-238** with a relative abundance of 99.3%. The second most common is **U-235 with a relative abundance of 0.7% and the rest occur in trace amounts**.
  - o **U-235 is fissile** and so neutrons emitted during fission can cause other U-235 nuclei to fission also, releasing a lot of energy.
    - ✓ This reaction is the basis of operation for the world's current nuclear power stations and is the major reason why uranium is a valuable mineral resource.
- India is one of the few countries in the world which has **mastered all the stages of nuclear fuel cycle – starting from uranium exploration, mining, extraction and conversion, through fuel fabrication, to reprocessing and waste management.**
- India is **both a producer and importer of uranium** and given its limited reserves it consumes all the uranium it produces.

Uranium Mining
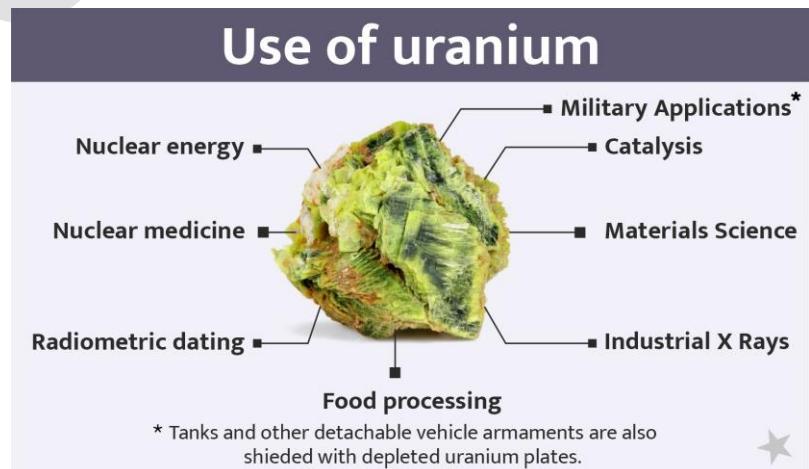
- Uranium resources can be extracted from the ground in three ways: **open pit, underground, and in-situ leach (ISL).**
  - o **Open pit:** When uranium is found near the surface - usually no more than 100 meters deep, it can be extracted via open pit mining. In this method, soil and waste rock is removed by heavy equipment, allowing the ore to be accessed.

> **Uranium Mining in India**
> - India has been surveying and exploring uranium since 1949.
>   - o According to the UCIL, **mining operations at Jaduguda began in 1967, and it is also India's first uranium mine.**
> - **Atomic Minerals Directorate** for Exploration and Research is **to identify and evaluate uranium resources required for the successful implementation of Atomic Energy program of the country.**
>   - o After the AMD completes the final exploration of uranium, **it hands over information/data to Uranium Corporation of India Limited (UCIL).**
>   - o In India, **UCIL is the only organisation responsible for mining and processing of uranium ore for commercial purposes**.
> - **Mines and Minerals (Development and Regulation) Act** as well as Mineral Conservation & Development Rules along with Mineral Conservation Rules further guide mining and exploration of uranium.

  - o **Underground:** For mines more than 100 m below the surface, the quality and amount of uranium is sufficient, underground mines will be established.
  - o **In situ leach (ISL) mining:** In this method, the ore is deep underground so it cannot be mined with open pits, and there may be other factors which make it more practical than other underground mining methods. It leaves very little environmental disturbance at the ground surface level.

Challenges in Uranium mining

- **Small Low-Grade Deposits:** Most of the uranium deposits established in India so far falls under the category of low grade.
- **Radiation hazard**: Underground mines can present a radiation hazard to miners. Without proper air ventilation, radon can collect in the mineshafts, where it is inhaled by miners.
- **Environmental degradation:** Uranium mining has widespread effects, contaminating the environment and groundwater with radioactive

Use of uranium

Nuclear energy — Military Applications*
— Catalysis
Nuclear medicine — Materials Science
Radiometric dating — Industrial X Rays
Food processing
* Tanks and other detachable vehicle armaments are also shieded with depleted uranium plates.

dust, radon gas, water-borne toxins, and increased levels of background radiation.
- **Negative public perception:** about nuclear and mining industries.

Way Forward

- **Technology upgrade:** Technology towards uranium exploration needs to be improved / upgraded for locating better grade, large, buried deposits.

- **Mobilisation of manpower:** A dedicated training centre at one of the operating units or one attached to any academic institute of national repute may help inculcating professionalism within the work force.
- **Managing waste:** With greater public awareness of health hazards and stringent environmental guidelines, the generation and management of tailings (solid and liquid waste) shall become a crucial part of uranium mining sector.
- **Acquiring stakes in uranium properties abroad:** The recent developments in international nuclear co-operation provide opportunity for meeting the energy situation through import of fuel from favourable countries.
    - However, the preferred path of pursuing the three-stage nuclear power programme of the country shall continue to require more indigenous fuel in future.
- **Raising awareness:** Adverse public perception on uranium mining needs to be cautiously dealt through many socio - economic programmes in different platforms involving community and civic society.
- **Global Cooperation:** Advantages of global co-operation should be fully exploited by assimilating the global technology and adopting the best practices in uranium production sector.

5.11. NEWS IN SHORTS

5.11.1. MAJOR ECONOMIES FORUM (MEF) ON CLIMATE AND ENERGY

- MEF meeting was aimed **to build on the progress achieved at COP 26** by further strengthening climate action while also **addressing urgent energy and food security concerns** arising from Russia-Ukraine war.
- MEF, launched in 2009 by US President Obama, is **aimed at facilitating dialogue among major emitting countries,** both developed and developing, **to advance efforts against climate change.**
    - **Major economies participating in MEF** (Australia, Brazil, Canada, China, EU, France, Germany, India, Japan, UK etc) together account for **roughly 80 percent of global GDP and global greenhouse gas emissions.**
- **New initiatives that were announced**
    - **Global Methane Pledge Energy Pathway:** Tackling methane leaks, venting, and flaring from the oil and gas sector.
    - **Collective 2030 Zero-Emission Vehicle Goal and Green Shipping Challenge** to reduce emissions in transport sector.
    - **Clean Energy Technologies Demonstration Challenge** to break dependence on fossil fuels.
    - Efforts to **Enhance Food Security by increasing fertilizer efficiency.**
- **India also called upon** the members of MEF **to launch a global movement on LIFE** i.e. Lifestyle for Environment as **espoused by PM Modi** at the COP26 in Glasgow.

5.11.2. LEADERS IN CLIMATE CHANGE MANAGEMENT (LCCM)

- **National Institute of Urban Affairs (NIUA) and World Resources Institute** (WRI) jointly announced LCCM
- LCCM is a **practice-based learning program** that aims at **building capacity among urban professionals to**

lead climate action across sectors and geographies in India.
- LCCM envisions **capacitating 5,000 professionals** and preparing them **to champion climate change adaptation and mitigation solutions**.
- Administrative Training Institute (ATI), Mysuru **became the first delivery partner of LCCM program.**

5.11.3. GLOBAL ENVIRONMENT FACILITY (GEF) COUNCIL

- The 62nd meeting will be the **final council of GEF Trust Fund (GEF-7), closing four-year funding cycle, and commencing GEF-8 cycle.**
    - GEF-7 safeguard the **world's forests, land, water, climate, and oceans, build green cities, protect threatened wildlife, and tackle marine plastic pollution.**
- **Key highlights**
    - **Leaders' Pledge for Nature** to **reverse species loss by 2030** by protecting land and ocean territory with globally important biodiversity.
    - **29 donor counties have pledged $5.33 billion** for **GEF-8 replenishment period** i.e. July 2022 to June 2026 to meet nature and climate targets.
    - **Address threats** from climate change, land degradation, and chemicals and waste, and easing pressures on ocean and international waters.
- GEF was established **during 1992 Rio Earth Summit** and is **only multilateral fund** working across all aspects of environmental health.
    - It is a **unique partnership of 18 agencies** — including UN agencies, multilateral development banks— **working with 183 countries to address biodiversity challenges.**
    - It is **financial mechanism** for five major international environmental conventions: UNCBD, **UNCCD**, UNFCCC, **Minamata Convention on**

Mercury, and Stockholm Convention on Persistent Organic Pollutants.

- o **GEF Trust Fund** was established to help tackle planet's most pressing environmental problems.

> **GEF Council**
> - It is GEF's **main governing body**, comprises **32 members appointed by constituencies of GEF member countries** (14 from developed countries, 16 from developing countries, and two from economies in transition).
> - Its **members rotate at different intervals** determined by each constituency.
> - India is presently a **member of a constituency comprised of the following countries**: Bangladesh, Bhutan, India, Maldives, Nepal, Sri Lanka.
> - It **meets twice annually**, develops, adopts and evaluates the operational policies and programs for GEF-financed activities.
> - It reviews and approves the work program **making decisions by consensus.**

5.11.4. ENVIRONMENT PERFORMANCE INDEX (EPI)

- **India ranked at 180th with a score of 18.9 EPI** in EPI 2022.
- EPI, a **biennial index**, was **started in 2002 as Environmental Sustainability Index.**
  - o Prepared by **World Economic Forum (WEF) in collaboration with Yale Center for Environmental Law and Policy** and **Columbia University Center for International Earth Science Information Network**.
  - o EPI ranks **180 countries** on climate change performance, environmental health, and ecosystem vitality.

5.11.5. LIVING LANDS CHARTER

- All **54 Commonwealth members** have agreed to **voluntarily dedicate** a '**living land**' in their respective **countries to future generations.**
- It **aims to support member countries to deliver their commitments** under the three Rio conventions i.e.,
  - o UN Convention on **Biological Diversity**.
  - o UN Convention to Combat **Desertification**.
  - o UN Framework Convention **on Climate Change**.
- **Commonwealth Nations**
  - o It was created in the early 1900s when **nations began to secede from British Empire** to **ease the process of British decolonization**.
  - o India is part to the **Commonwealth nations.**

5.11.6. UN OCEAN CONFERENCE

- The 5-day UN Ocean Conference took off with the **Governments of Kenya and Portugal being the co-hosts.**
  - o Leaders from over 130 countries from across the world will deliberate for five days to find an **international agreement on protecting the world's oceans, seas and marine resources**.
- Conference comes at a crucial juncture as the world is seeking to **address many of the challenges requiring structural transformations** and Innovative and Green solutions to achieve the **SDG Goal 14**.

5.11.7. CARBON PRICING LEADERSHIP REPORT 2021-22

- The report was prepared by the Secretariat of **Carbon Pricing Leadership Coalition (CPLC)** to review **global developments in carbon pricing, implications for carbon market growth** and broader limitations to carbon pricing potential.
  - o Carbon pricing **curbs greenhouse gas emissions by placing a fee on emitting and/or offering an incentive** for emitting less.
  - o Price on carbon emissions is applied **either through**
    - ✓ **Carbon tax**, the price that governments impose on polluters for each metric ton of carbon dioxide emissions generated.
    - ✓ **Emission Trading System (cap and trade)**, a **tradable-permit system for GHG emissions**. It sets a limit (cap) on GHG emissions that can be emitted.
- CPLC is a **voluntary initiative that brings together leaders from government, business, civil society and academia** to enhance global understanding of carbon pricing as a tool for accelerating and financing effective climate action.
- **Key Findings**
  - o **Less than 4% of global emissions are currently covered by a carbon price** within the range needed by 2030 to meet the Paris Agreement temperature goals.
  - o Several countries **increased their carbon tax rates** and adopted more ambitious trajectories, and **pilot ETS are being considered in a number of countries.**
  - o **Agreement on Article 6 is encouraging further interest in carbon markets**.
    - ✓ It gives countries the **tools for environmental integrity to avoid double counting** and paves the way to get private capital flowing to developing countries.

5.11.8. CARBON DIOXIDE (CO₂) LEVELS ARE NOW COMPARABLE TO WHAT THEY WERE 4 MILLION YEARS AGO

- **CO₂ measured at Mauna Loa Atmospheric Baseline Observatory (MLABO), Hawaii,** run by US National Oceanic and Atmospheric Administration (NOAA), **peaked for 2022 at 421 parts per million (ppm) in May.**
  - MLABO is a **benchmark site for measuring CO₂ on the slopes of Mauna Loa volcano**, world's **largest active volcano.**
  - Other gases measured include **carbon monoxide, methane, nitrous oxide, sulfur dioxide etc.**
- Since 1958, MLABO has been **a site for daily record of global atmospheric CO₂** concentration **under Keeling Curve.**
  - Named after Dr. Charles David Keeling, **it is the longest uninterrupted instrumental record of atmospheric CO₂** in the world.
- **CO₂ measured at MLABO this year is**
  - **50% higher than pre-Industrial Revolution levels** of 280 ppm (1.8 ppm higher over 2021).
  - **About the same level as 4.1 to 4.5 million years ago in the Pliocene era,** when temperatures were 3.9 degrees Celsius hotter and sea levels were 5 to 25 meters higher than now.
- CO₂ is a **greenhouse gas that traps heat, gradually causing global warming.**
- **Main anthropogenic causes behind CO₂ emission** are- burning of fossil fuels (for transportation, energy production etc.). Deforestation, land use changes, livestock etc.

KEELING CURVE

ATMOSHPHERIC CO2 AT MAUNA OBSERVATORY

5.11.9. COMMISSION FOR AIR QUALITY MANAGEMENT (CAQM) BANS USE OF COAL IN DELHI, NEARBY CITIES FROM JANUARY 2023

- **The Commission for Air Quality Management (CAQM)** has issued directions to **ban the use of coal in industrial, domestic and other miscellaneous applications** to bring down greenhouse gas emission.
  - However, **use of low-sulphur coal in thermal power plants has been exempted** from the ban.
  - **Ban on use of coal** will come into force with effect **from October 1 in areas having PNG (piped natural gas) infrastructure and supply** and from January 1, 2023 in areas where PNG supply is still not available.
- **Significance of the ban**
  - **Reduce pollutants** including **particulate matter (PM), nitrogen oxide (NOx), CO2 and CO.**
  - **Save 1.7 million tonnes of coal annually** which is used in industrial applications in NCR.
- **About CAQM**
  - It is a statutory body established under the **Commission for Air Quality Management in National Capital Region and Adjoining Areas Act, 2021.**
    - ✓ It was first established in 2020 through an Ordinance.
  - **Head:** Headed by **Chairperson** with at least 15 years' experience in the field of environment and pollution or 25 years of administrative experience.
  - **Appeal:** CAQM orders, directions etc. can be challenged at the National Green Tribunal.
- **Functions of CAQM**
  - Coordinate actions on **monitoring of air quality.**
  - **Planning and executing plans** to prevent and control air pollution in NCR.
  - **Conduct research and development** through networking with technical institutions.

5.11.10. ZOOS EXEMPTED FROM PERMISSIONS UNDER FCA

- The **Ministry of Environment Forest and Climate Change** approved consideration of **Central Zoo Authority** approved **Zoos on forest land as forestry activity** under the **Forest Conservation Act (FCA), 1980.**
  - FCA considers zoos, rescue centres etc as a non-forestry activity and **makes forest clearance from Centre mandatory.**
  - Now, **zoos will be exempted** from taking multiple permissions under FCA.

- **About FCA**
  - It was introduced after the **42nd Constitutional Amendment**- moving **Forests** from the **State List** to **Concurrent List.**
  - It came into force **to address deforestation** and made it **necessary for states to get Centre's permission for using forest land for "non forestry purposes"** and also created a Forest Advisory Committee to recommend such re-classification.
  - **Non-forestry purpose means** clearing of any forest land or portion for any **purpose other than reafforestation.**
    - ✓ Cultivation of tea, coffee, spices, rubber, palms, oil-bearing plants, horticultural crops or medicinal plants are also non-forestry purpose.
    - ✓ However, any **work relating to conservation, development and management of forests** and wildlife is not considered as **non-forest purpose.**

> **About Central Zoo Authority (CZA)**
> - **Wildlife (Protection) Act, 1972 provides for establishment of CZA (1992)** to complement and strengthen the national effort in conservation of the rich biodiversity of the country.
> - CZA consists of a **Chairman, ten members and a Member Secretary.**
> - **Every Zoo** in India needs **CZA recognition** for its **operation**.

5.11.11. INDIA ACHIEVED 10% ETHANOL BLENDING TARGET IN PETROL

- The **original target for 10% ethanol blending in petrol was November 2022.**
  - Central government had also set the target of **20% ethanol blending in petrol (also called as E20), by 2025.**
- An ethanol blend is defined as a **blended motor fuel containing ethyl alcohol** that is at least 99% pure, derived from agricultural products, and blended exclusively with gasoline.
  - Since it is plant-based, **it is considered to be a renewable fuel.**
- **Measures taken to improve ethanol blending**
  - **Government has fixed remunerative prices of ethanol** from maize & FCI rice.
  - Government is **encouraging sugar mills and distilleries to enhance their distillation** capacities for which Government is facilitating them to avail loans from banks for which interest subvention up to 6% is being borne by Government.
  - The Ministry of Petroleum & Natural Gas (MoPNG) has **amended Motor Spirit & High-Speed Diesel**

(Regulation of Supply, Distribution & Prevention of Malpractices) Order, 2005 by permitting direct sale of Bio-ethanol (E100).
  - **Ethanol Blended Programme (EBP)** to increase indigenous production of Ethanol.
- India is **world's fifth largest producer of ethanol** after the US, Brazil, EU and China.
- **Significance**
  - **Reduce Pollution**
  - Combustion of ethanol made from biomass is considered atmospheric **carbon neutral** because as the biomass grows, it absorbs CO_2, which may offset the CO_2 produced when the ethanol is burned.
  - **Help lower India's energy import dependency** and thus, lowering the crude oil import bill.
  - Profitable for farmers and sugar mills

5.11.12. REN21'S RENEWABLES 2022 GLOBAL STATUS REPORT

- **India specific findings**:
  - **India added around 15.4 GW of renewable power capacity** in 2021, third highest after China (136 GW) and the US (43 GW).
  - **India is now the third-largest market in the world for new solar PV capacity** and **ranked fourth in the world for total solar energy installations** (60.4 GW) following China (305.9 GW).
  - India ranked **2nd**in **new Solar Water Heating Capacity addition**, **3rd in Hydropower capacity** addition and **5th in Ethanol production** addition in **2021**.
  - **$24.3 billion was allotted for its solar energy schemes**, providing incentives to domestic and international companies to set up battery manufacturing plants.
- REN21 is the **only global community of actors from science, governments, NGOs and industry** working collectively to drive the rapid uptake of renewables.
  - It was **created in 2004 as an outcome of the Bonn2004 International Conference** on Renewable Energy.
- **India's Initiatives in Renewable energy:** India **invested $11.3 billion** in **renewables** in **2021** with number of running schemes and policies such as:
  - **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM)**
  - **Solar Parks Scheme**
  - **National Policy on Biofuels, 2018 etc.**

5.11.13. ELECTRICITY (PROMOTING RENEWABLE ENERGY THROUGH GREEN ENERGY OPEN ACCESS) RULES, 2022

- Ministry of Power has notified Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022.
- **Key highlights**
  - **Reduction in the limit of Open Access Transaction** from 1 MW to 100 KW for green energy.
    - ✓ This aims to **enable small consumers also to purchase renewable power through open access.**
  - **Increase transparency** in approval process of OA.
    - ✓ OA approvals will be **granted in 15 days** or else it will be deemed to have been approved subject to fulfilment of technical requirements. It will be **through national portal**.
  - **Uniform renewable purchase obligation** on all obligated entities in the area of a distribution licensees.
  - **Green certificates for consumers** if they consume green power.
  - **Cross subsidy surcharge and additional surcharge shall not be applicable** if green energy is utilized for production of green hydrogen and green ammonia.
- **Significance of the move**
  - To ensure the **access to affordable, reliable, sustainable and green energy** for all.
  - **To promote generation, purchase and consumption of green energy** including energy from Waste-to-Energy plants.
  - To **streamline overall approval process for granting OA**, including timely approval, etc.
  - To **enable simplified procedure for OA to green power**.
  - To help in **achieving India's commitment of 500 GW of non-fossil fuel by 2030.**

5.11.14. BUREAU OF INDIAN STANDARD (BIS) FORMULATES PERFORMANCE STANDARDS FOR ELECTRIC VEHICLE (EV) BATTERIES

- BIS has published standards for **Test Specifications for Lithium-ion (Li-ion) Traction Battery Packs** and Systems (Performance Testing) for Electrically Propelled Road Vehicles.
  - **IS 17855:2022 standards are formulated considering real life scenarios** such as parked vehicles (no battery use for a longer period of time), battery running at high and low temperatures etc.
- EVs are **powered by battery electric power.** Different types of batteries are available Li-ion, Solid state, Nickel-Metal Hydride etc.
  - However, **Li-ion batteries are most preferred** because of their **high power-to-weight ratio, high energy efficiency, low self-discharge etc.**
- **Issues with EV batteries**
  - **Incidents of fires** due to defects in battery cells and design.
  - **Reliability of Battery Performance (range)** as it varies with ambient conditions and age of battery.
  - **Disposal of EV batteries** with concerns over its cost and toxic disposal of the batteries.
- **Steps Taken**
  - **Constitution of a Probe Committee** to look into fire incidents reasons.
  - **Regenerative braking** to increase its range by recovering energy.
  - **Re-use of EV batteries** in factories and home energy battery storage systems.
  - BIS to publish **battery standards** for various **passenger and goods carrying vehicles.**

About BIS

- BIS **came into existence, through BIS Act, 1986.** It was established into **National Standard Body of India** under BIS Act 2016.
- **BIS is involved in various activities such as**
  - **Certification:** a manufacturer is given the self-marking rights of BIS standards mark (ISI mark).
  - **Hallmarking**: of gold, silver jewellery, gold bullion etc.
  - **ECO mark**: to environmentally friendly products.
  - **Compulsory Registration Scheme**: for categories of electronics items.
  - **Laboratory services**: to cater to the testing need of samples generated from conformity assessment schemes.

5.11.15. 11ᵀᴴ WORLD URBAN FORUM (WUF), 2022

- Held at Katowice, Poland, the **WUF** is the **premier global conference on sustainable urbanization co-organized** by **UN-Habitat**.
- WUF was **established** in **2001** by the **UN** to examine **rapid urbanization** and **its impact** on communities, cities, economies, climate change and policies.
  - **First WUF** was held in **Nairobi, Kenya** in **2002**.
- At **11ᵗʰ WUF**, the **National Institute of Urban Affairs (NIUA) Climate Centre for Cities** (NIUA C-Cube), **World Resources Institute India** (WRI India) etc. launched

India's first **national coalition platform** for urban **nature-based solutions (NbS)**.

5.11.16. CDRI

- Cabinet approved Categorization of the CDRIas an 'International Organization'.
- It also approved signing of **Headquarters Agreement (HQA)** with Coalition for Disaster Resilient Infrastructure (CDRI) for granting it the **exemptions, immunities and privileges** under Section-3 of **United Nations (Privileges & Immunities) Act, 1947**.
  - o The United Nations (Privileges & Immunities) Act was **enacted in India to give effect to the Convention on the Privileges and Immunities of the United Nations**, adopted by the UN General Assembly in 1946.
  - o Article 104 and 105 of the UN Charter allows UN to enjoy in the territory of each of its Members with such legal capacity, privileges and immunities which are necessary for the exercise of its functions and the fulfillment of its purposes.
- It will provide CDRI an **independent and international legal persona**, allowing it to carry out its functions on a **global scale efficiently and effectively**.
- It will allow CDRI to
  - o **Deputing experts** and **also bringing in experts from member countries** to India.
  - o **Deploying funds globally and receiving contributions** from member countries.
  - o Making available **technical expertise** to assist countries to develop resilient infrastructure.
  - o **Leveraging international engagement** to foster disaster resilient infrastructure at home.

About CDRI (Secretariat: New Delhi)

- CDRI is a **multi-stakeholder global partnership** of National Governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, academic and knowledge institutions.
- It was launched in **2019** by the **Indian PM** at the **UN Climate Action Summit** (New York) to promote the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development.
- Since its launch, **31 Countries**, **6 International Organizations** and **2 private sector organizations** have joined CDRI as members.

5.11.17. AZOOXANTHELLATE CORALS

- For the first time, Zoological Survey of India (ZSI) recorded **four species of azooxanthellate corals** from **waters of Andaman and Nicobar (A&N) Islands**.
  - o All four groups of corals are from **same family Flabellidae**.
  - o Four species, namely **Truncatoflabellumcrassum, T. incrustatum, T. aculeatum, and T. irregulare**, were previously found from **Japan to Philippines and Australian waters**.
  - o **Only T. crassum** was reported within **range of Indo-West Pacific distribution including Gulf of Aden and Persian Gulf**.
- Azooxanthellate corals are a **group of corals that do not contain zooxanthellae and derive nourishment** not from the sun but from capturing different forms of plankton.
  - o These groups of **corals are deep-sea representatives**, with the majority of species reporting from between 200 m to 1000 m.
  - o Their occurrences are also **reported from shallow coastal waters.**
  - o About **570 species of hard corals found in India** and almost 90% of them are found in waters surrounding A&N Islands.
  - o **Corals share less than 1% of the earth's surface** but they provide a home to nearly 25% of marine life.

About Coral reefs
- Coral reefs are one of the **most productive, sustainable and pristine ecosystems** of world's oceans, especially in **shallow coastal waters**.
- They are **invertebrate animals belonging to Cnidaria** and live in **symbiotic relationship with algae zooxanthellae.**
- **Gulf of Mannar, Palk-bay, Gulf of Kutch, A&N Islands and Lakshadweep** islands have major reef formations in India.

- They are protected under **Schedule I of Wildlife Protection Act (WPA), 1972**.

5.11.18. NUN CHO GA

- The **baby mammoth's remains** were discovered during excavation through the **permafrost south region in Canada's Yukon territory.**
- It has been named **Nun cho ga**, which means "big baby animal."
- It is believed to be female and would have **died during the ice age, more than 30,000 years ago.**
- Earlier, a **partial mammoth calf**, named **Effie**, was found in 1948 at a gold mine in Alaska's interior.

5.11.19. BAMBOO DWELLING BAT IN MEGHALAYA

- A new species of bamboo-dwelling bat (named **Glischropusmeghalayanus)** was discovered in Meghalaya near the forested patch of **Nongkhyllem Wildlife Sanctuary.**
  - **Total number of bat species** known from India stands at 131.
  - **Meghalaya harbours the highest bat diversity** in the country.
- They **live in the internodes of bamboo.** The present discovery is the **first report of a thick-thumbed bat from South Asia.**
- Thick-thumbed bats of the genus Glischropus are **currently composed of four recognised species from Southeast Asia.**

5.11.20. HEAT WAVES 2022: CAUSES, IMPACTS AND WAY FORWARD FOR INDIAN AGRICULTURE

- The above analysis and study of heatwaves was done by the **Central Research Institute for Dryland Agriculture**, ICAR.
- **Causes**
  - **Anticyclones over western parts of Rajasthan** (March) and **absence of western disturbances** (absence of rainfall) triggering early and extreme heat waves.
    - ✓ **Anticyclones cause hot and dry weather** by sinking winds around high-pressure systems in the atmosphere.
- Heat wave (HW) is defined **based on the temperature thresholds over a region in terms of actual temperature or its departure from normal.**
- **Heat wave impact**
  - It can **induce yellowing and shrivelling** of the grain and **forced maturity.**
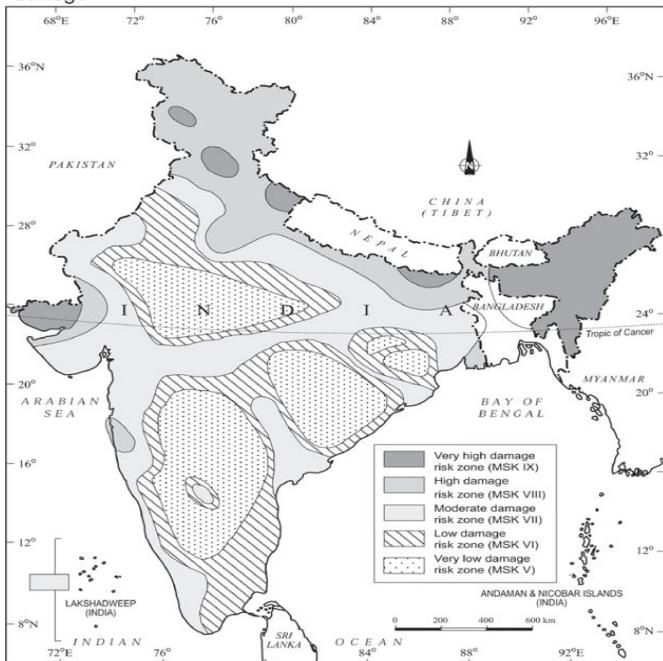
- It may result in moisture stress, sunburn, flower drop.
- Loss of appetite and higher body temperature in milch/fowl.
- **Recommendations for Heatwave mitigation**
  - Opting for the **right crop varieties, bathing animals, and adopting the mulching** technique (e.g., Plastic Mulching).
  - **Timely sowing and adoption of heat-tolerant** wheat crop varieties PBW03, DBW187 etc.
  - Spray of **Potassium Nitrate** at boot leaf and flowering stages minimised yield loss.
  - **Mulching in sugarcane, ridge and furrow** conserved the soil moisture and minimised the stress.
  - Fruit trees should be cover with shade nets/cotton cloth to reduce sun scalding.

5.11.21. TECTONIC LINKAGE TO GREAT ASSAM EARTHQUAKE

- Researchers traced the 1950 Great Assam earthquake to the complex tectonics of **the north-eastern edge of the East Himalayan Indian Plate** and the **Indo-Burma Range (IBR).**
  - The Great Assam Earthquake is the **largest intra-continental earthquake ever recorded,** which was located at the **India-China border near the Mishmi Hills of Arunachal Himalaya**.
- The **Eastern Himalayan Synthesis (EHS)** in **Arunachal Pradesh and the areas adjacent to Assam** is known as one of the most seismically active areas in the world.
  - It belongs to seismic zone V (**Very High-Risk zone).**
  - Study stated that, the **area between Upper Assam and Mishmi Block** is considered a **seismic gap area** (i.e., **active fault area in which earthquake has not occurred in a long time**).
  - The **Tidding-Tuting Suture Zone (TTSZ)** is seismically active up to ~40 km depth, whereas the seismicity in the IBR is observed up to a depth of around 200 km suggesting the **active subduction process** of the **Indian plate beneath the IBR**.
  - It suggests that the IBR is more susceptible to deeper earthquakes, while crustal-scale earthquakes are more likely to occur in the TTSZ.
- **TTSZ is a major part of the Eastern Himalaya**, where the Himalaya takes a sharp southward bend and connects with the IBR. This bend is called **theSyntaxial bend**.
  - Western and Eastern Himalayan syntaxial bend are near **Nanga Parwat, and at NamchaBarwa respectively.**

EARTHQUAKE RISK ZONE IN INDIA

About **59 percent** of the land area of india is liable to seismic hazard damage

Legend:
- Very high damage risk zone (MSK IX)
- High damage risk zone (MSK VIII)
- Moderate damage risk zone (MSK VII)
- Low damage risk zone (MSK VI)
- Very low damage risk zone (MSK V)

5.11.22. MAWSYNRAM AND CHERRAPUNJI

- Mawsynram and Cherrapunji together get more rainfall in a day than entire country's average in June.
- Both Cherrapunji or Mawsynram lies on the Windward side of the **Meghalaya's East Khasi Hills district**.
- It has immense rainfall from the South West Monsoon through the Bay of Bengal Branch as it is in the Pathway of these winds.
  - The location is bordered by the 'hills on three sides'. The **south-west winds are blocked by the mountains leaving the Bay of Bengal monsoons get stuck to this place.**


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6. SOCIAL ISSUES

6.1. ACCREDITED SOCIAL HEALTH ACTIVIST (ASHAS)

Why in News?

India's ASHAs are among the six recipients of the WHO Director-General's Global Health Leaders Award.

More on News
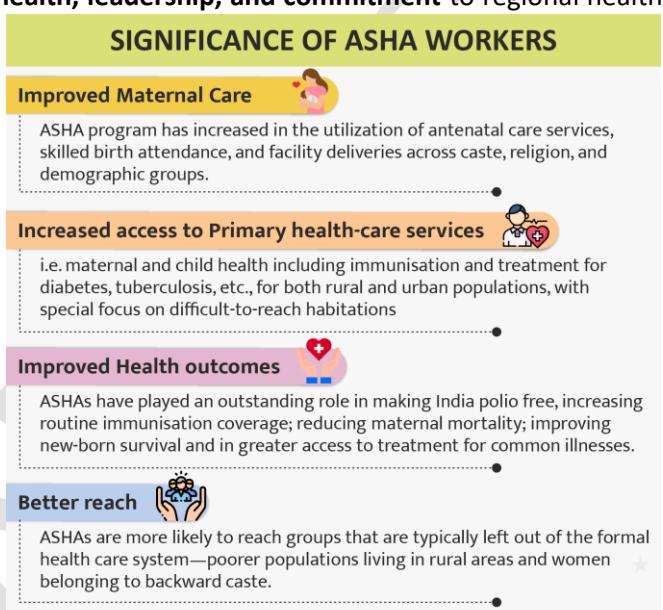
- The honour **recognizes contributions to advancing global health, leadership, and commitment** to regional health issues.
- **A total of six recipients were given the awards**. These included Dr. Paul Farmer, Dr. Ahmed Hankir, Ludmila Sofia Oliveira Varela, Polio workers in Afghanistan, and Yōhei Sasakawa.

About Accredited Social Health Activist (ASHA) Workers
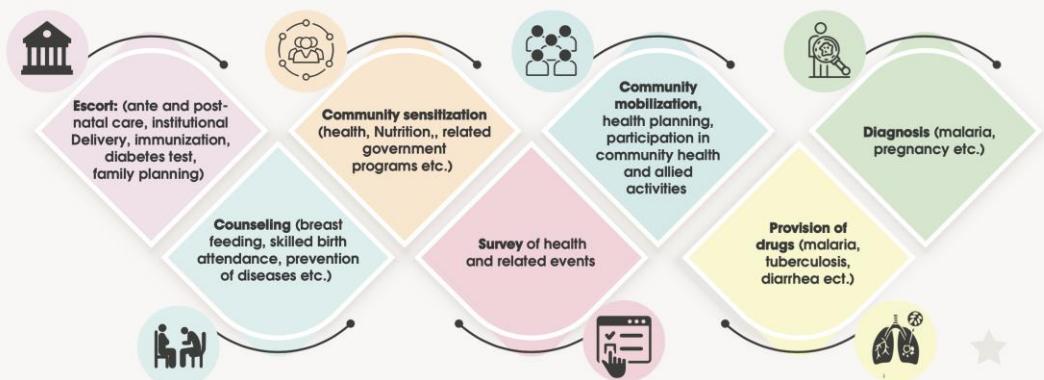
- ASHA workers are **female community health workers** instituted as community-based health functionaries **under the National Rural Health Mission (NRHM)** launched in 2005.
  - With launch of National Urban Health Mission in 2013, it was extended to urban settings.
- The core of the ASHA programme has been an intention **to build the capacity of community members in taking care of their own health** and being partners in health services.
- ASHA workers are **chosen through a process that involves community groups, self-help groups, Anganwadi Institutions,** block nodal officer, district nodal officer, the village health committee and the general body of the village.
  - There are **around 10.4 lakh ASHA workers** across the country, with the largest workforces in states with high populations – Uttar Pradesh, Bihar, and Madhya Pradesh.
  - **Goa is the only state with no such workers,** as per the latest National Health Mission data available from 2019.
- According to the guidelines laid down by the National Health Mission, **these women are preferably between 25 and 45 years of age** and preference is given to candidates who have **qualified up to the tenth standard.**
  - The education criteria is relaxed only if no qualified person is available.
  - In most cases, women from the village itself are selected as ASHA workers who operate within the local community.
- Since they are **considered "volunteers", governments are not obligated to pay them a salary.**

- They **receive performance-based incentives** for promoting India's universal immunisation programme, referral and escort services for the government's Reproductive and Child Health (RCH) programme, and construction of household toilets.
- All this adds up to only between₹6,000-8,000 a month.

Difficulties faced by ASHA Workers

- **Inadequate Compensation:** Among the Anganwadi workers (AWW) and Auxiliary Nurse Midwife (ANM) and ASHAs, ASHAs are the only ones who do not have a fixed salary.
- **Socio-cultural factors:** Since women have less representation in the village council and have little role in decision making with matters related to village therefore for ASHAs to initiate community action is not very feasible.
- **Poor infrastructure:** such as inadequate transports caused difficulty in implementing their regular duties.
- **High Workload:** Other than the regular defined tasks, ASHAs routinely must take on other work (from other government departments) beyond the scope of their roles.
- **Other demotivating factors:** Shortage of medicines, lack of training, family disapproval, attitude of health staff at the referral centers, and non-cooperation of the auxiliary nurse midwife/Anganwadi Worker.

> **Challenges faced during COVID-19**
> - At the beginning of the COVID-19 pandemic, **ASHA workers faced several attacks** in different parts of the country during their door-to-door visits for surveillance.
> - Despite the higher risk of contracting COVID-19, **had limited or no access to basic PPE,** such as masks, gloves and hand sanitisers.
> - They experienced **difficulty in arranging transport** and breakdown of services at remote health facilities.
> - **ASHAs reported hostile attitudes of the communities** they served due to the breakdown of social relations, trauma due to displacement, and loss of family members, particularly their husbands.

	Anganwadi workers (AWW)	Auxiliary Nurse Midwife (ANM)	ASHAs
Under Scheme of	• Integrated Child Development Services (ICDS) Scheme (Ministry of Women and Child Development)	• National Rural/Urban Health Mission (Ministry of Health and Family Welfare (MoH&FW))	• National Rural/Urban Health Mission (MoF&HW)
Based at	• Anganwadi center	• Health sub-center and visits villages in addition to providing care at the sub-center.	• Village level
Key roles	• Providing early childhood care and development of the beneficiaries i.e., children in the age group of 0-6 years, pregnant women, and lactating mothers. • Guiding ASHAs.	• Create awareness on factors that determine health status. • Counsel women, families, and adolescents on birth preparedness. • Curative care and supplies.	• Focuses on promotion of Maternal and Child Health, including immunizations and institutional-based deliveries
Incentives	• Honorarium as decided by the Government of India. • Also, performance linked incentive is provided.	• Honorarium as decided by the Government of India	• Receive performance-based incentives

Way Forward

- **Higher remuneration:** Indian States need to develop mechanisms for higher and timely incentives followed by fixed monthly payments for ASHAs.
- **Capacity Building:** In-built institutional mechanisms are created for capacity-building and avenues for career progression for ASHAs to move to other cadres such as ANM, public health nurses and community health officers are to be opened.
- **Making ASHAs permanent employees:** Considering the extensive shortage of staff in the primary health-care system and diverse functions being undertaken by ASHAs, it is a policy option that is worth serious consideration.
- **Extending social sector benefits:** Including health insurance (for ASHAs and their families) should be considered. Possibility of ASHAs automatically being entitled and having access to a broad range of social welfare schemes needs to be institutionalized.

- **External review needed:** To conduct ongoing monitoring and evaluation of the program to understand approaches to effectively scale the program and strengthen strategies to recruit, train, incentivize, and retain ASHAs.
- **Special training:** Their role vis-a-vis specific lethal child related conditions, such as diarrhea and pneumonia, needs to be specifically elaborated and their training needs to be enhanced to contribute for the same.
- **Community connect:** Success and sustainability of the ASHA program can be enhanced by community sensitization and increasing the knowledge of communities about the jobs and responsibilities of ASHA workers.

## 6.2. SURROGACY (REGULATION) RULES, 2022

Why in news?

The government has issued **Surrogacy (Regulation) Rules, 2022 under Surrogacy (Regulation) Act, 2021.**

**About Surrogacy (Regulation) Rules, 2022**

- Rules provide **form and manner for registration and fee for a surrogacy clinic and the requirement**, and qualification for persons employed, at a registered surrogacy clinic.
- **Key Highlights of the rules**
  - **Number of attempts of any surrogacy procedure** on surrogate mother shall not be **more than 3 times**.
  - A surrogate mother **may be allowed for abortion** during surrogacy in accordance with the **Medical Termination of Pregnancy Act, 1971** as advised by the doctors.
  - A surrogate mother has to **give her consent** through an agreement for **giving up all her rights over the child** and shall hand over the child/children to:
    - ✓ the **intending couple**, or
    - ✓ a Person (appointed by the intending couple) in case of their **separation during her pregnancy** or in case of death of both, or
    - ✓ **The survivor** in case of the **death of one** of intending couple during pregnancy.
  - **Intending couples will need to purchase a general health insurance cover** in favour of the surrogate mother **for a period of 36 months** from an insurance company/agent recognized by the Insurance Regulatory and Development Authority of India (IRDAI).
    - ✓ The insurance amount should be sufficient to cover **all expenses for all the complications** arising out of pregnancy and **postpartum delivery complications**.

About Surrogacy (Regulation) Act, 2021

- Act **defines surrogacy as a practice whereby one woman bears and gives birth to a child for an intending couple** with the intention of handing over such child to the intending couple after the birth.
- It **allows altruistic surrogacy** which involves no monetary incentives or rewards to the surrogate mother other than the medical expenses incurred and insurance coverage.
- It **seeks to prohibit commercial surrogacy,** which includes trading human embryos and gametes and buying and selling of the services of a surrogate by a monetary reward except for insurance.
- **New bodies created under the act:**
  - **National Assisted Reproductive Technology (NART) and Surrogacy Board by Central government at Centre level.**
    - ✓ **Minister in-charge** of the Ministry of Health and Family Welfare, shall be **Chairperson** of the board.
    - ✓ The Board **shall discharge the following functions**:
      - To **advise the Central Government** on policy matters relating to surrogacy;
      - To **review and monitor** the implementation of the Act.
      - To lay down the **code of conduct to be observed** by persons working at surrogacy clinics;

Certificate of essentiality for couples

- Certificate of proven infertility of one or both members of the intending couple from a District Medical Board
- An order of parentage and custody of the surrogate child passed by a Magistrate's court
- Insurance coverage for a period of 36 months covering postpartum delivery complications for the surrogate.

- To set the **minimum standards of physical infrastructure, laboratory and diagnostic equipment and expert manpower**.
- To **supervise the functioning of State Assisted Reproductive Technology and Surrogacy Boards;**
  - **State/ Union territory Assisted Reproductive Technology and Surrogacy Board by each state and UT having a legislature** at state level.
  - **National Assisted Reproductive Technology and Surrogacy Registry** for the purposes of registration of surrogacy clinics.
- **Other features of the Act**
  - It **seeks for regulation of surrogacy clinics** through registration and prohibits taking services of unqualified professionals or inducing women to become surrogates through advertisements or other means**.**
  - **Eligibility criteria for surrogate mother:** A **willing woman** shall act as a surrogate mother and be permitted to **undergo surrogacy procedures** on fulfilment of following conditions:

Certificate of eligibility for couples

Between 23 to 50 years old (wife) and 26 to 55 years old (husband);

They do not have any surviving child (biological, adopted or surrogate);

  - ✓ Shall possess **an eligibility certificate** issued by the appropriate authority.
  - ✓ A married woman having **a child of her own** and between the age of **25 to 35 years.**
  - ✓ No woman shall act as a surrogate mother by **providing her own gametes.**
  - ✓ Shall possess a certificate of **medical and psychological fitness** for surrogacy and surrogacy procedures.
  - ✓ No woman shall act as a surrogate mother **more than once** in her lifetime.
  - **Eligibility criteria for intending couple:** The eligible couple should have a **'certificate of eligibility 'and 'certificate of essentiality'** issued by the authorities in charge. (refer infographics)
  - A child born out of surrogacy procedure shall be **deemed to be a biological child** of the intending couple or intending woman.
  - Conducting surrogacy procedures for commercial purposes **shall be punishable with imprisonment which may extend to five years** and with fine which may extend **to five lakh rupees** for the **first offence**.

Significance of act

- **Progressive move**: It aim to clean up India's hitherto unregulated surrogacy industry by bringing thousands of ART and surrogacy clinics under the ambit of the law.
- **Protection of the rights of the surrogate mother:** Due to the absence of legal regulations, surrogate mothers faced multiple challenges, including **exploitation, unhygienic living conditions, and unfair treatment**.
- **Safeguards the rights of the child:** Abandonment of child due to genetic or other disability, or changing of couple's social or marital status is legally not allowed.

> **Issues with the act**
> - **Exclusionary in nature:** The Act exclusively allows a man and a woman alone, who are legally married under Indian laws, to avail of surrogacy services, thus prohibiting **non-binary and same sex couples** from experiencing the joy of parenthood.
> - In **Devika Biswas v. Union of India**, the Apex Court held that Right to Reproduction was an essential facet of the 'Right to Life' under Article 21.
> - **Issues with the Definition of 'infertility' restricted to failure to conceive:** It does not cover all cases in which a couple is unable to bear a child.
> - **Banning commercial surrogacy denies a legitimate source of income** of the surrogates, further limiting the number of women to willingly surrogate.

- **Promotes medical tourism in the country:** India is a huge market for surrogacy as is reflected from the fact that in 2012, the size of India's surrogacy industry was $2 billion a year with more than 3,000 fertility clinics engaged in this across the country.

Conclusion

In India the major obstacle to surrogacy is **balancing the different interests** of both parties. On one side, it is the duty of the State to **prevent the exploitation** of surrogate mothers and protect the rights of the unborn child, while on the other hand, the right of the women to make **their own reproductive choices and the rights of the intended parents**. India's regulation of surrogacy is still **struggling to find the right balance** between these conflicting interests.

6.3. CHILD MARRIAGE

Why in news?

Every fourth woman surveyed in the age group of 20 to 24 was married before they turned 18: National Family Health Survey-5 (NFHS-5).

More findings about child marriage in NFHS-5
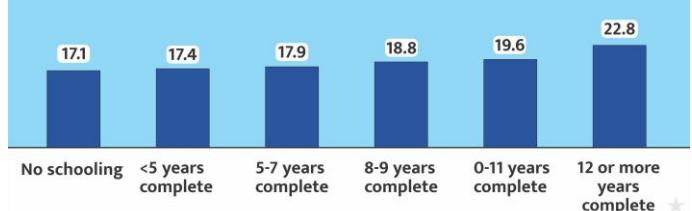
- **Age at first marriage**
  - **Marriage before legal age**: 38% of women age 20-49 marry before the legal minimum age of marriage of 18 years, and 23% of men age 25-49 marry before the minimum legal age of marriage of 21 years.
    - ✓ However an overall declining trend of early marriage has been observed in both men and women.
  - **Median age**: The median age at first marriage is 19.2 years among women age 20-49 and 24.9 years among men age 25-49.
  - **State with low child marriage age**: In West Bengal, about two-fifths of women marry before reaching the legal minimum age at marriage followed by Bihar.
- **Teenage childbearing**
  - In India, 7% of women age 15-19 have begun childbearing. Teenage pregnancy is relatively high in rural areas.
  - The level of teenage pregnancy decreases with an increasing level of schooling. 18% of women age 15-19 with no schooling have already begun childbearing, compared with only 4% of women who had 12 or more years of schooling.

Women's Median Age at First Marriage by Schooling

Among women age 25-49

No schooling	<5 years complete	5-7 years complete	8-9 years complete	0-11 years complete	12 or more years complete
17.1	17.4	17.9	18.8	19.6	22.8

Child marriage and its causes

- Child marriage is defined as **a formal or informal union before the age of 18**. The practice affects mostly girls and **child marriage is widely considered as a violation of human rights** and a form of violence against girls.
- The elimination of child marriage by **2030 is a global target under the Sustainable Development Goals (SDGs).**
- **Various causes of child marriage are as given below;**
  - **Cultural and social factor**: It is because of social norms in many regions and cultures that parents begin preparations for a girl's marriage once she has reached menarche.
    - ✓ In many societies, polygamy tends to be associated with child marriage.
  - **Prevalence of Poverty and burden of dowry**: For many poor families, marrying their daughter at an early age essentially is a strategy for economic survival; it means one less person to feed, clothe and educate.
    - ✓ Also, huge costs of dowry associated with delayed marriages forces families to marry child at early age.
  - **Security and safety**: Parents marry their child earlier because they think it will protect and secure them from increased or generalised violence, including sexual violence.
  - **Lack of education**: Little or no schooling strongly correlates with being married at a young age. Educating girls often is less of a priority and their most important role is considered to be that of a wife, mother and homemaker which forces them to marry at early age.
  - **Inadequate implementation of the law:** The Prohibition of Child Marriage Act, 2006 requires only marriages resulting from use of force/threat/fraud/kidnapping or violation of an injunction order of a court to prevent such a marriage from taking place are null and void, which means child marriages other than these reasons are valid.

CHILD MARRIAGE REDUCES OPPORTUNITIES

Effects of child marriage on fertility have implications for population growth and reduced socio-economic welfare.

Deliveries at a young age lead to higher risks of complications during childbirth and Poor nutritional status causes low Body Mass Index and anaemia among women.

Various reports suggest girls who married before age 18 reported experiencing physical violence twice as often, and sexual violence three times as often as girls who married at a later age.

Child marriage greatly reduces the likelihood of girls completing secondary school

Child marriage reduce the future earnings of child brides by 9%

Child brides may have less decision-making ability in the household and face higher risks of violence

Ways to end child marriage

- **Education:** Access to quality primary and secondary education is seen by parents and community members as the most effective way to delay marriage.
  - However, the current law Right to Free and Compulsory Education 2009 covers children only upto the age of 14 years. Hence law is **required to be amended so that children can continue in school up to 18 years and delay age of marriage**.
- **Economic empowerment**: Programs should be created to sensitize parents on the need to foster within the home an environment that encourages their daughters to learn to manage finances, make financial decisions, and operate savings accounts that helps in controlling over their earnings or savings.
- **Law enforcement**: Not always lack of awareness of the law, but unaccountability, and the ability to use the gaps in the law leads to child marriage. In this context, compulsory registration of marriages may be a deterrent to child marriages and Prohibition of Child Marriage Act of 2006 needs to be reviewed for its effective implementation.
- **Communication campaigns**: These campaigns help to examine traditional beliefs about marriage and foster behavioural change from within communities and leads to attain equality, access to education and freedom from exploitation and discrimination.
- **National Plan of Action on Prevention of Child Marriage**: A comprehensive National Plan of Action is needed with regional consultations that can help to address regional problems and eliminate child marriages.

Initiatives by Govt of India to end child marriage
- **Prohibition of Child Marriage Act of 2006**: Act is to prohibit solemnization of child marriage, by providing **age of marriage for boys at 21, and for girls at 18** and any marriage of people below this age will be considered as a child marriage which is illegal, an offence and is punishable under the law.
  - Recently, the Prohibition of Child Marriage (Amendment) Bill, 2021 was introduced in the Parliament to raise age of marriage for girls to 21.
- **Beti Bachao Beti Padhao (BBBP)' scheme** by Ministry of Women and Child Development.
- **Child Help line**: 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** in coordination with police and District Child Protection Units.
- **National Commission for Protection of Child Rights (NCPCR):** It undertakes various **activities and programmes from time to time on the issue of child marriages** and related matters. Further, NCPCR requested all States/ UTs to issue directions to all stakeholders, including Sarpanches and Civil Society Organizations to take **proactive steps and preventive measures to stop child marriages.**

Conclusion

Promising interventions such as keeping girls in school, economic empowerment and stringent law enforcement and investing in such interventions, documenting their impacts, and implementing a broad range of gender transformative policies will all be key to end child marriages and ensuring a better future both for girls and countries as a whole.

6.4. NEWS IN SHORTS

6.4.1. SHRESTHA SCHEME

- Ministry for Social Justice and Empowerment recently launched Scheme for Residential Education for Students in High schools in Targeted Areas (SHRESTHA).
- SHRESTHA provides level playing field and **high quality free residential education** to **poor and meritorious scheduled caste** (SC) students from **class 9th to class 12th.**
  o Students (approximately 3,000) in states / UTs are selected through **National Entrance Test for SHRESHTA (NETS) conducted by National Testing Agency (NTA).**
  o Selected students are admitted in Best Private Residential Schools, affiliated by CBSE.
- **Objective**
  o **To enhance the reach of the development initiative** of the government.
  o To **fill the gap in service-deprived SCs dominant areas** in the sector of education by collaborating with voluntary organizations.
  o To provide an **environment for socio-economic upliftment and overall development of the SCs**.
  o To provide **access to high-quality education to bright SC students** so that they can explore future opportunities.

Eligibility	
Children	**Schools**
- **Parental annual income up to Rs. 2.5 Lakhper annum** (preference if income is less than Rs. 1,00,000), - Preference to students having physical disability	- Schools is in **existence** for **at least for last 5 years.** - **Boards results** of the schools were more **than 75 % in Class 10 and 12 for the last 3 years.** - Schools have **adequate infrastructure** for admitting additional SC students in classes 9th and 11th .

- **Implementing agency**
  o Mode 1: District Administration
  o Mode 2: Voluntary organisation (VO)/ Non-Government Organisation (NGO)/ Other organisation.

6.4.2. PARAKH (PERFORMANCE ASSESSMENT, REVIEW, AND ANALYSIS OF KNOWLEDGE FOR HOLISTIC DEVELOPMENT)

- PARAKH, national assessment centre, was **launched by Ministry of Education for all** AICTE (All India Council of Technical Education) **approved institutes.**
  o PARAKH survey will help colleges to identify learning gaps so that students can be industry ready.
  o It facilitates a platform for students for **self-assessment of learning outcomes** and 21st-century life skills acquired by students.
  o It helps to **improve higher order thinking skills among students.**
- It was **introduced under National Education Policy 2020.**

6.4.3. PERFORMANCE GRADING INDEX FOR DISTRICTS (PGI-D) FOR THE YEAR 2018-19 AND 2019-20

- The **first-ever report** on the **PGI-D** for 2018-19 & 2019-20 **released by the Department of School Education and Literacy (DoSE and L)** under the Ministry of Education.
  o PGI-D objective is to help the **district to prioritize areas for intervention** in school education and thus **improve to reach the highest grade.**
- PGI-D grades the districts into **ten grades;**
  o Highest achievable grade is called **Daksh** - for districts scoring more than 90% of the total points in that category or overall.
  o Lowest grade is called **Akanshi-3** which scores up to 10% of the total points.
  o The in-between grades are '**Utkarsh' (81-90%),'AtiUttam' (71-80 %),'Uttam' (61 to 70 %),'Prachesta-1' (51 to 60 %),'Prachesta-2' (41 to 50%),** etc.
- The PGI-D structure has a **total weightage of 600 points, grouped under six categories (See info)**
  o These categories are further divided into **12 domains.**

- **Similar Initiative**
  - **National Achievement Survey** by the Ministry of Education, **gives a system-level reflection on the effectiveness of school education**.
  - School Equality Index by NITI Aayog to **evaluate the performance of States and Union Territories (UTs) in the school education sector.**
- **Highlights**
  - The **top five achievers** are Chandigarh, Gujarat, Kerala, Delhi, and Maharashtra.
  - **No district achieved the 'Daksh'** rating in both years.
  - Three Rajasthan districts i.e., Sikar, Jhunjhunu, and Jaipur have emerged as best performers.

6.4.4. PM EVIDYA

- **Use of ICT under PM eVIDYA**, particularly during the COVID-19 pandemic, **wins UNESCO's recognition** (UNESCO's King Hamad Bin Isa Al-Khalifa Prize).
- **PM eVIDYA** (by Ministry of Education) **unifies all efforts related to digital/online/on-air education** to enable multi-mode access for imparting education by using technology to minimise learning losses.
- It has been **initiated as part of Atma Nirbhar Bharat Abhiyaan.**

6.4.5. QUACQUARELLI SYMONDS (QS) WORLD UNIVERSITY RANKINGS 2023

- **Key findings**
  - **Indian Institute of Science (IISc), Bengaluru** has emerged as **topmost Indian institute**, ranking at 155th spot.

  - **Indian Institute of Technology (IIT) Bombay (172) and IIT Delhi (174)** have improved their rank from previous year.
- QS ranking is an **annual publication of university rankings** which comprises the global overall and subject rankings.
  - It is measured on basis of **academic reputation, employer reputation, faculty/ student ratio, citations per faculty and international student/ faculty ratio**.

6.4.6. 'CHILDREN IN STREET SITUATIONS (CISS)'

- National Commission for the Protection of Child Rights (NCPCR) has launched a **"CiSS application" under Baal Swaraj portal** to help in **rehabilitation process of Children in street.**
  - **Baal Swaraj** is a portal launched by NCPCR **for online tracking and digital real-time monitoring mechanism of children** in need of care and protection.
    - ✓ The portal has **two functions- COVID care and CiSS.**
  - The initiative is taken under **direction of Supreme Court**.
- CiSS application is used for **receiving data of children in street situations from all states and union territories,** tracking their rescue and rehabilitation process.
  - The standard operating procedure for care and protection of children in street situations 2.0 (SOP 2.0)categorises **any child under 'Children in Street Situation' if the child is living on the streets alone, living on the streets during the day, or living on the streets with the family.**
- The program embodies Article 51 (A) of the Constitution, as it provides a **platform** to the public **to report** any child in need of assistance and **provide any help** that they can to children in need.
- **NCPCR is a statutory body** under **Commissions for Protection of Child Rights (CPCR) Act, 2005.**
- Baal Swaraj follows six stages framework for the rehabilitation of children.
  - **Collection of the child's details** through the portal.
  - **Investigating the child's background** (Social Investigation Report) under the supervision of the District Child Protection Unit.
  - **Formulating an Individual Care Plan (ICP)** for the child.
  - The **order of the Child Welfare Committee (CWC)** based on the SIR.
  - **Allocating the schemes and benefits** that the beneficiary can avail of.

6.4.7. 'MIGRATION IN INDIA 2020-2021' REPORT

- The report (released by Ministry of Statistics and Programme Implementation) is based on **first-time collection of additional data during the annual round of Periodic Labour Force Survey (PLFS)** for July 2020-June 2021 on migration aspects.
  - It separates the **categories of 'temporary visitors' and 'migrants'**.
- **Key findings**
  - **All-India migration rate was 28.9%**, with **26.5% and 34.9% migration rate in rural and urban areas respectively.**
  - **Females recorded a higher share of migration rate** (47.9%) as compared to males**.**
    - ✓ Among females, the **highest level of migration rate was seen at 86.8% for marriage**.
  - 48.9% of 'temporary visitors' moved to meet family/relatives/friends.
  - **Reverse migration during the pandemic led to higher rates of unemployment** agglomeration in rural areas, which caused rural distress.

Conceptual Framework defined in report	
Usual Place of Residence (UPR)	It is the place (village/town) where the person has been **staying continuously for at least six months**; or found staying there during the survey with intention to stay there continuously for six months or more.
Migrant	A household member whose last **usual place of residence, any time in the past, was different from the present place of enumeration** was considered as migrant member in a household.
Migration Rate	Migration rate for any category of person (say, for rural or urban, male or female), is the **percentage of migrants belonging to that category of persons**
Temporary Visitors	Persons who **arrived after March 2020 and stayed in the household continuously** for a period of 15 days or more but less than 6 months

6.4.8. 'GLOBAL TRENDS: FORCED DISPLACEMENT IN 2021'

- This annual report was **released by UNHCR.**
- It presents key statistical trends and the **latest numbers of refugees, asylum seekers, internally displaced and stateless persons** worldwide as well as **numbers of people who have returned** to their countries or areas of origin.

- **Key findings**
  - By the end of 2021, those **displaced by war, violence, persecution, and human rights abuses stood at 89.3 million, up 8% on a year earlier.**
  - **Nearly 5 million people in India were internally displaced** (people displaced inside their own countries) due to climate change and disasters in 2021.
    - ✓ The largest displacements in the context of disasters in 2021 occurred in China (6.0 million)
  - The **US was the world's largest recipient** of new individual applications followed by Germany.
  - **69% of all refugees** came from just **five countries:** Syrian Arab Republic (6.8 million), Venezuela (4.6 million), Afghanistan (2.7 million), South Sudan (2.4 million), and Myanmar (1.2 million).
  - **Children** account for 30% of the world's population, but **41% of all forcibly displaced people.**
  - **5.7 million displaced people returned** to their areas or countries of origin in 2021, including 5.3 million internally displaced people and 429,300 refugees.
- **United Nations High Commissioner for Refugees (UNHCR)**
  - A global organization **dedicated to saving lives, protecting rights and building a better future for refugees**, forcibly displaced communities and stateless people.
  - **Created in 1950**, during the aftermath of the Second World War.

6.4.9. ACTION AGENDA ON INTERNAL DISPLACEMENT

- United Nation (UN) Secretary-General launched Action Agenda on Internal Displacement.
- Action Agenda **sets out commitments by UN system to** better resolve, prevent and **address internal displacement crises.**
- Internally displaced persons (IDPs) **are people who are forced to flee their homes** due to armed conflict, generalized violence, violations of human rights, or natural or human-made disasters, climate change impacts **but who remain within their own country.**
  - Number of IDPs has reached more than **59 million people (2021). India also saw 4.9 million internal displacements in 2021.**
  - **Challenges face by IDPs:** High risk of physical attack, sexual assault and abduction, deprived of adequate shelter, food and health services etc.
- **Action Agenda sets out UN's commitments to realize three goals:**

- o Help IDPs find a **durable solution** to their displacement.
  - o **Better prevent new displacement crises** from emerging.
  - o Ensure those facing displacement receive **effective protection and assistance**.
- **In India, IDPs broadly fit into following categories**: Displacements due to **natural disasters**, **development activities**, and **instances of violence and conflict.**
  - o **Land Acquisition Act, 2013, and Disaster Management Act, 2005** address first two categories.
  - o Also, there is an **umbrella scheme of Relief and Rehabilitation of Migrants and Repatriates** to provide financial assistance and other facilities.

6.4.10. NORMS TO PROTECT KIDS WORKING IN OTT PLATFORMS

- National Commission for the Protection of Child Rights (NCPCR) has **published draft guidelines to safeguard children** in movies, TV shows, social media, OTT platforms etc. **from physical and psychological stress.**
- **Key provisions**
  - o Producers must get a **district magistrate's approval before including a child** in a shoot.
  - o Production facilities must **make sure that the workplace is secure** and that kids aren't exposed to hazardous lighting, irritating chemicals, or tainted cosmetics.
  - o **A minimum of 20% of child's earnings** from the event must be **promptly put into a fixed deposit account** in child's name.

6.4.11. WHO RELEASES WORLD MENTAL HEALTH REPORT

Key findings

- **Almost a billion people,** 14% of whom were adolescents, were **living with some form of mental health issues in 2019.**
- Globally, **71% of psychosis patients don't receive treatment.**
- **Progress towards Comprehensive Mental Health Action Plan (CMHAP) 2013–2030 has been slow.**
  - o Adopted by all the 194 members, **CMHAP aims to promote mental well-being, prevent mental disorders, etc.**
- **3 key ways to achieve CMHAP**
  - o Focussed **investment** in mental health
  - o Reshaping **environments** such as homes, communities, schools, workplaces and health care services

- o Strengthening the **quality of mental health care** by diversifying it

6.4.12. GOING ONLINE AS LEADERS (GOAL) PROGRAMME

- Recently**, Ministry of Tribal Affairs** launched the 2nd phase of the GOAL programme.
- **GOAL programme** is joint initiative of **Facebook India with Ministry of Tribal affairs** to provide mentorship to tribal youth through digital mode.
- **It aims to digitally upskill** 10 lakh **youth from tribal communities** and **open up opportunities** for them using **digital technology.**
- It **will create a platform** for **Self-Help Groups** and families associated with **TRIFED(Tribal Co-operative Marketing Development Federation of India)** to take their products global.

6.4.13. NATIONAL TRIBAL RESEARCH INSTITUTE (NTRI)

- The Home Minister inaugurated the **NTRI** in **New Delhi**.
  - o It will work as a **premier national level institute** and nerve-centre of tribal concerns, issues and matters in academic, executive and legislative fields.
  - o It will provide **policy inputs** to the **Ministry of Tribal Affairs** and State Welfare Departments with studies and programs to **showcase tribal cultural heritage** under one umbrella.
  - o It will **collaborate and network** with other institutions and **monitor projects** of Tribal Research Institutes (TRIs), Centres of Excellence (CoEs), etc.

6.4.14. NATIONAL AIR SPORTS POLICY (NASP) 2022

- Ministry of Civil Aviation (MCA) recently launched National Air Sports Policy (NASP) 2022.
- NASP is aimed at **providing a safe, affordable and sustainable air sports ecosystem** in the country.
  - o Its vision is to **include India among the top air sporting nations by 2030**.
  - o **Eleven air sports** including Aerobatics, aero modelling and rocketry, ballooning, parachuting, paragliding and para-motoring etc. will be promoted.
- **Objective of NASP, 2022**
  - o **Enable adoption of international good practices** in safety including but **not limited to**, air sports infrastructure, equipment, operations, maintenance and training.

- o **Enhance participation and success of Indian sportspersons** in global air sports events.
- o **Promote design, development and manufacturing of air sports** equipment in India in line with the Atmanirbhar Bharat Abhiyan.
- **Governance structure**
  - o NASP 2022 covers **11 different air sports** and provides a **four-tier governance structure (refer infographic)** with **Air Sports Federation of India (AFSI)** as the **apex governing body.**
  - o ASFI shall be an **autonomous body under MCA**.
    - ✓ It represents **India at FédérationAéronautiqueInternationale (FAI), headquartered in Lausanne, Switzerland** and other global platforms related to air sports.
    - ✓ FAI is world governing body for air sports.

- **Key findings of Report**:
  - o Around **284 million people aged 15-64 used drugs worldwide** in 2020, a **26% increase** over previous decade.
    - ✓ Though women are in minority in terms of global drug use, the **rate of increase in drug consumption is more rapid in women** than men.
  - o **Continued growth in drug production and trafficking**
  - o **Illicit drug economies can flourish in situations of conflict** and where rule of law is weak, and can prolong/ fuel conflict.
    - ✓ Conflict situations in the Middle East and South-East Asia act as a magnet for synthetic drugs manufacturing.
  - o **Environmental impacts**: **Deforestation** associated with illicit coca cultivation, **hugewaste generation** during synthetic drug manufacturing etc.
    - ✓ Dumping of waste can **affect soil, water and air directly**, and **organisms, animals and food chains indirectly**.
- As per the report, **India is one of the world's single-largest opiate markets in terms of users** and **likely vulnerable to increased supply**.
  - o There are **signs of intensification in trafficking of opiates originating in Afghanistan**.
  - o This can **trigger increased levels of trafficking and associated organised crimes.**

About UNODC (HQ: Vienna)

- It was founded **in 1997 to fight against illicit drugs and international crime.**

- It was **formed by merging the United Nations Drug Control Programme and the Centre for International Crime Prevention.**

6.4.16. SWACHH BHARAT MISSION-URBAN 2.0 (SBM-U 2.0) LAUNCHES REVISED SWACHH CERTIFICATION PROTOCOLS TO SUSTAIN ODF STATUS

- **SBM-U 2.0** has launched the revised Swachh Certification Protocols for **Open Defecation Free (ODF), ODF+, ODF++, and Water+ certifications**.
  - o In October 2021, SBM-U 2.0 (2021-22 to 2025-26) was launched with focus on **sustaining sanitation and solid waste management outcomes achieved during SBM.**
    - ✓ **SBM-U was launched in 2014** in all Urban Local Bodies, **to achieve 100% ODF status** through construction of Individual Household Latrines (IHHLs) and Community/ Public Toilets (CT/PTs).

Key interventions against each certification
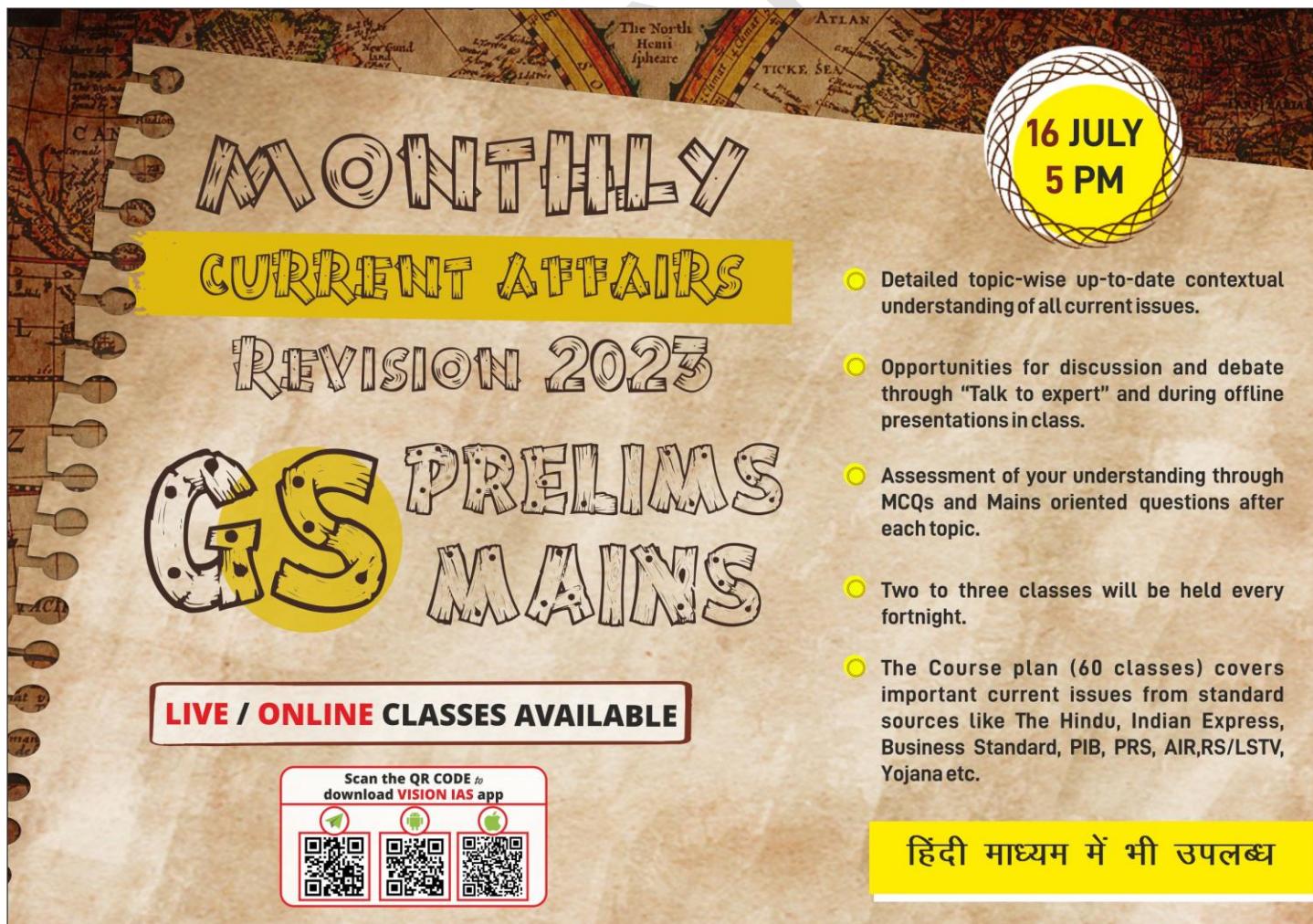
Status	When Declared?	Intervention
ODF	• If **not a single person is found defecating in open.**	• Robust monitoring mechanism ensured by **increasing the number of survey sample size and location** types.
ODF+	• **ODF status conditions and** all community and public **toilets are functional and well maintained.**	• Focus on **functionality of CT/PT.** • **Innovative Operation & Maintenance business model** for sustainability in long run.
ODF++	• **ODF+ status conditions** and Toilets with **sludge and septage management.**	• **Mechanized cleaning** of septic tanks and sewers. • **Safe collection & treatment** of used water as well as **safe management** of faecal sludge.
Water+	• All **wastewater released is treated** to a satisfactory level (as per CPCB norms), before releasing to environment.	• **Collection, transportation, treatment, and reuse** of both **used water and faecal sludge**.

6.4.17. HABITUS

- Habitus refers to a **collective entity by and into which dominant social and cultural conditions of a society are established and reproduced**.
  - What one considers, **'natural', 'taboo', 'neutral' and 'good' or 'bad' is constructed by one's habitus.**
  - It was popularised by **French sociologist Pierre Bourdieu** in his book **Outline of a Theory of Practice** (1977).
- It helps **instill a sense of the world in individuals** by attributing cultural value to material or immaterial objects.
- It **explains how inequality is reproduced through the dominant social and cultural conditions** that an individual is accustomed to.

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

7. SCIENCE AND TECHNOLOGY

7.1. PRIVATE SECTOR IN SPACE PROGRAME OF INDIA

Why in news?

Prime Minister recently called for higher participation of the private sector in the space programme at inauguration event of the **headquarters of Indian National Space Promotion and Authorisation Centre (IN-SPACe) in Ahmedabad**.

More about news

- With formation of **IN-SPACE, space sector has now been opened up for private sector and has received close to 40 proposals from the private sector and academia** for activities ranging from manufacturing of launch vehicles and satellites to earth observation applications.
- It also noted that **five private satellites have been tested at ISRO facilities**, and four student satellites were launched aboard the PSLV C-51.
  - **Hyderabad's Dhruva Space Pvt Ltd** and **Bengaluru's Digantara research & technologies** Pvt Ltd were authorised by IN-SPACe for launch of payloads onboard PSLV Orbital Experimental Module (POEM) of PSLV-C53.
  - **Tata Play signed a MoU with NSIL** for utilizing the capacity on board the communication satellite GSAT-24, built by ISRO and launched by Arianespace.
- This helps in **creating an ecosystem** that will help India to take a huge leap in the field of space and space industry **to become a huge contributor to our economy**.
  - Currently, **India accounts for only about two per cent of the global space economy**, which is about USD 447 billion and expected to touch $1 trillion by 2040.

> **Indian National Space Promotion and Authorisation Centre (IN-SPACe)**
> - IN-SPACe is an autonomous, single window nodal agency; formed **to promote, authorise, monitor and supervise the space activities of Non-Governmental Private Entities (NGPEs) in India**.
> - **Mandate and Functions**
>   - **Sharing of space infrastructure** and premises under the control of ISRO.
>   - **Establishment of temporary facilities** within premises under ISRO.
>   - **Establishment of new space infrastructure and facilities, by NGPEs**.
> - The decision of IN-SPACe shall be final and binding on all stakeholders including ISRO. NGPEs will not be required to seek separate permission from ISRO.
> - **Composition**: IN-SPACe will have a chairman, technical experts for space activities, Safety expert, experts from Academia and Industries, members from Prime Minister's Office and Ministry of External Affairs.

Advantages of private sector in space programme

- **Reduction in cost**: Participation of private sector and start-ups in space sector have an advantage in terms of low-cost operations.
  - **For eg. Agnikul and Skyroot from Chennai and Hyderabad** are developing launch vehicles and it is believed that through this, the cost of space launching will come down significantly.
- **Technology and innovation**: Participation of private sector will give rise to new innovations and technology.
  - Eg. **Hyderabad-based startup Dhruva Space is working on high-technology solar panels** for **satellites** and Digantara, another space startup that is trying to map waste in space.
- **Investment and capacity development**: Private sector facilitates investments in technology development and acquisition, capacity-building and space exploration, including planetary exploration.

Role of private players in space sector

Upstream opportunities
- Core research and development of orbital systems, launch vehicles, satellite propulsion and create the infrastructure to sustain the downstream players.
- Key players in this are Bellatrix Aerospace – satellite propulsion systems, Agnikul Cosmos – 3D printed launch vehicles and Skyroot Aerospace – small satellite launch systems.

Downstream opportunities
- Terrestrial value creation, such as weather and climate monitoring, satellite communication, broadcasting, selected GIS enabled services, earth imaging, defence, etc
- Key Players in this are Pixxel – Earth observation, Kawa space – Satellite imaging and weather observation and GalaxEye – capture and provide insights from satellite imagery.

- **Harvesting talent pool:** India has huge talent pool and searching for opportunities. So, participation of private entities in space sector helps to harvest sizeable talent pool available outside ISRO.
- **Transparency and accountability:** Expanding the number of stakeholders with participation of private entities will ensure more transparency and better accountability and regulatory practices.
- **Competitiveness:** With low cost, innovation and better talent pool in India's space will make more competitive with respect to globally reputed, private space industry.
  - On private entrepreneurs' involvement India will emerge as a big player in '**space tourism' and 'space diplomacy'.**
- **Fill communication infrastructure deficit:** The vast amount of potential and resources available with the private sector will help the space industry to grow and fill in the communication infrastructure deficit by looking beyond the traditional modes of internet delivery and look for space-based solutions.

> **Other reforms to promote private players in space sector**
> - **New Space India Limited (NSIL)**
>   - It is **country's first public sector undertaking** in the space sector and **commercial arm of ISRO** aimed at production and marketing of space-based services, also empowered to own the operational launch vehicles and space assets of ISRO.
>   - It enables **better collaboration with start-ups and private sector** players without the hassle of government intervention
> - **Draft Spacecom Policy 2020**
>   - It **aims at meeting the growing demands of space-based communication requirements** of the nation and advancements in the relevant technologies for self-sustenance in areas of commercial, secured and societal communications.

Concerns over participation of private entities in space sector

- **Monopolisation:** Space technology is expensive and needs heavy investment and only few rich corporates are there to avail requirement. Thus, it can lead to monopolisation of the space sector by few rich corporates.
- **Profit interest:** Private companies will have more profitable interests than developing solutions that cater to the immediate socio-economic needs of the country.
- **Intellectual property issue**: The private sector is particularly concerned about issues such as sharing intellectual property for products developed by them. But currently such intellectual property centric policy in space sector does not exist.
- **National security:** There are concerns that private players may leak critical national security information that could create disaster than progress.
- **Policy bottlenecks**: India lacks the policy and space law for private sector that can give openness and clarity about working framework.

Way forward

- **Incubator and Grant Programs**: Research and development of space technology is a long and costly process. Hence, setting up incubators and grant programs that support the sector during this initial R&D phase will greatly improve entrepreneurship and investor participation, as well as increase the success rate of these start-ups.
- **Space Qualification**: Space qualification refers to the testing and proof of concept demonstration of technologies while in space. But due to higher costs most start-ups cannot afford. So, with ISRO's help in launching payload, more start-ups may be able to afford space qualification tests multiple times.
- **Intellectual Property centric policy**: There is need to create reforms where local industry can invest in building their own IP and/or products that can match global standards.
- **Legislative framework**: India needs to develop a robust legislative framework for space to ensure sustainable and inclusive growth.

There are areas of space utilization that will be best fulfilled by the private sector and there are areas that are and will continue to be best fulfilled by the public sector. Thus, the relationship between the two is symbiotic, not parasitic.

Space Exploration: Changing dynamics & pathway to the future	Space exploration has played an important role for countries with regard to their economies and security. With the sector experiencing substantial growth, the need for collaboration in the sector has also increased. India being an emerging power in the sector can play a vital role in creating and enabling space collaboration.	

7.2. GREEN HYDROGEN
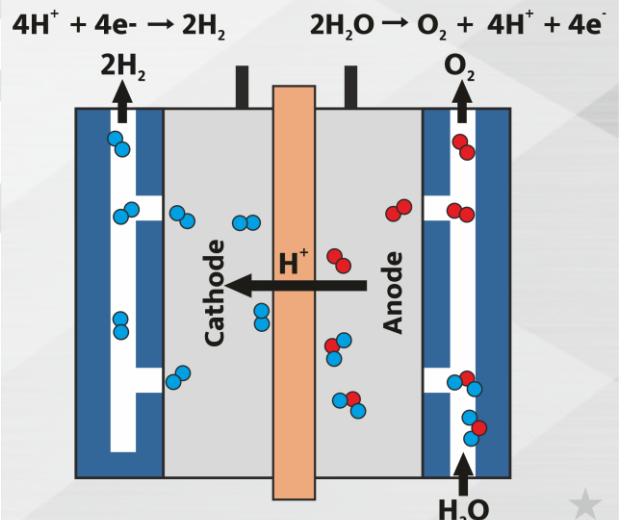
Why in news?

Recently, a report **'Green Hydrogen: Opportunities for Deep Decarbonisation in India' was released by NITI Aayog** that highlights green hydrogen is critical to India's net-zero ambitions by 2070.

Green hydrogen

Schematic of electrolysis of water

$$4H^+ + 4e^- \rightarrow 2H_2 \qquad 2H_2O \rightarrow O_2 + 4H^+ + 4e^-$$

- Green hydrogen is produced by **renewable energy through electrolysis of water**. **Electrolyser technology** is central to the green hydrogen production process.
- **Alkaline, polymer electrolyte membrane (PEM) and Solid Oxide Electrolysers** are commercially available technologies for green hydrogen production.
  - **Alkaline Electrolyzers:** Alkaline electrolyzers operate via transport of hydroxide ions (OH^-) through the electrolyte from the cathode to the anode with hydrogen being generated on the cathode side.
  - **Polymer Electrolyte Membrane Electrolysers:** In a polymer electrolyte membrane (PEM) electrolyser, the electrolyte is a solid specialty plastic material.
  - **Solid Oxide Electrolyzers:** It uses a solid ceramic material as the electrolyte that selectively conducts negatively charged oxygen ions (O^{2-}) at elevated temperatures (700°–800°C) to generate hydrogen.
- **Applications**: Green hydrogen can be consumed through either direct combustion, electricity generation through fuel cells and industrial processes like ammonia, steel manufacturing and petroleum refinery to be used as chemical feedstock.

Significance of green hydrogen energy and potential of India

- **Reduce carbon emmissions**: It can help abate 3.6 gigatons of cumulative CO2 emissions by 2050.
- **Enabler of energy security:** and reducing energy import. Because green hydrogen can potentially provide a replacement of fossil fuels in industrial processes.
- **Cost effective**: While hydrogen can be produced from multiple sources, India's distinct advantage in low-cost renewable electricity means that green hydrogen will emerge as the most cost-effective form.

- **Demand**: It is expected that Hydrogen demand in India could grow more than fourfold by 2050, representing almost 10% of global demand of which majority of this demand could be met with green hydrogen.
- **Global manufacturing hub**: The Quadrilateral Security Dialogue (Quad) group eyes India as a global manufacturing hub for green hydrogen outside the influence of China.
  - A global green hydrogen market in India will be an apt alternative to maintain balance in the Indo-Pacific region.
  - It is possible because of India's economical labour force and land for manufacturing, is an ideal location.
- **Joint interests:** Countries such as the US and Japan ready to invest in India and countries including Germany and Japan, have evinced interest in importing green hydrogen from India.

Concerns of green hydrogen

- **Transportation and Storage:** Storage and transportation of hydrogen have traditionally been difficult due to the unique characteristics of the gas flammability, low density, ease of dispersion, and embrittlement.
- **High cost**: The cost of green hydrogen production is much higher than what is produced from fossil fuels, due to high prices of renewables and rare earth material used as electrodes.
- **High energy consumption**: The production of green hydrogen particular requires more energy than other fuels. Also, availability of renewable energy is not at par demand.
- **Safety issues**: Hydrogen is a highly volatile and flammable element and extensive safety measures are therefore required to prevent leakage and explosions.

What needs to be done?

- **State level actions**: Encourage state-level action and policy making related to Green Hydrogen to complement efforts at the national-level.
- **Capacity building and skill:** Encourage capacity building and skill development across the ecosystem including government, industry, and academia addressing technologies.
- **Financial mechanism** Adequate financial mechanisms such viability gap funding, production-linked incentive (PLI) schemes, reduction or exemption of tax and duties like the GST and custom duties to be encouraged to promote production of green hydrogen energy.

Various initiatives by India in green hydrogen

- **National Hydrogen Mission:** National Hydrogen Mission launched on India's 75th Independence Day.
  - The Mission aims to aid the government in meeting its climate targets and making India a green hydrogen hub to meet the target of production of 5 million tonnes of green hydrogen by 2030.
- **India's Green Hydrogen Policy:** Government of India have framed the policy on Green Hydrogen which provides the following:
  - Green Hydrogen shall be defined as Hydrogen produced by way of electrolysis of water using Renewable Energy.
  - The **waiver of inter-state transmission charges shall be granted for a period of 25 years** to the producer of Green Hydrogen.
  - Green Hydrogen can be manufactured by a developer by using **Renewable Energy from a co-located Renewable Energy plant**, or sourced from a remotely located Renewable Energy plants.
  - Land in Renewable Energy Parks can be allotted for the manufacture of Green Hydrogen.
  - The Government of India proposes to set up **Manufacturing Zones and Green Hydrogen production plant** can be set up in any of the Manufacturing Zones.
  - Renewable Energy consumed for the production of Green Hydrogen **shall count towards Renewable Purchase Obligation (RPO)** compliance of the consuming entity.

Types of Hydrogen

GREEN
Hydrogen produced by electrolysis of water, using electricity from renewable sources like hydropower, wind, and solar. Zero carbon emissions are produced.

TURQUOISE
Hydrogen produced by the thermal splitting of methane (methane pyrolysis). Instead of CO2, solid carbon is produced.

YELLOW
Hydrogen produced by electrolysis using grid electricity.

BLUE
Grey or brown hydrogen with its CO2 sequestered or repurporsed.

PINK/PURPLE/RED
Hydrogen produced by electrolysis using nuclear power.

BLACK/GRAY
Hydrogen extracted from natural gas using steam-methane reforming.

WHITE
Hydrogen produced as a byproduct of industrial processes.

BROWN
Hydrogen extracted from fossil fuels, usually cool, using gasification.

- **Encouraging Electrolyser Manufacturing:** Identify and invest in research, development, and commercialisation of low-cost electrolyser technologies that require minimum rare earth metals.
- **Research and Development**: Early-stage R&D to enable technologies that reduces the cost of costs of manufacturing electrolyser components, using advanced techniques such as additive manufacturing.
- **Near-term and medium-term targets**: This helps to bring down the current costs of green hydrogen to make it competitive with the existing form of hydrogen.

7.3. FOOD SAFETY

Why in news?
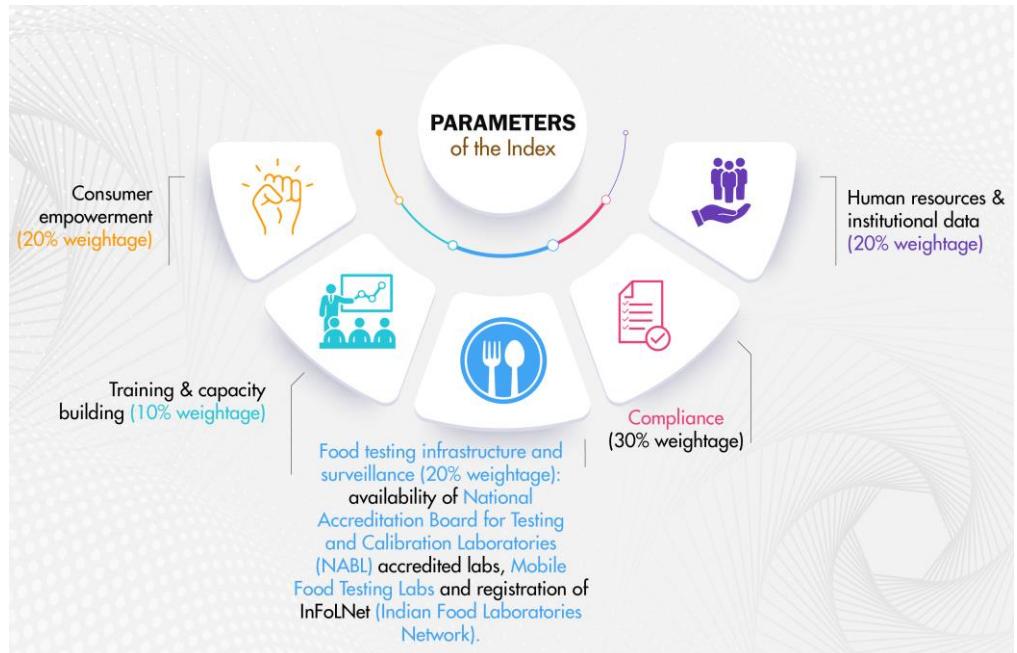
Food Safety and Standards Authority of India (FSSAI) released the **State Food Safety Index (SFSI) 2021-22.**

About State Food Safety Index (SFSI)

- The SFSI is **released annually** and this is the fourth edition since its inception in 2018-19.
- Index is aimed at **encouraging states and UTs to improve their performance and work towards establishing a proper food safety ecosystem** in their jurisdiction.
- **Findings of State Food Safety Index 2021-2022**
  - Among the **large States Tamil Nadu** is the top-ranking state, followed by **Gujarat and Maharashtra.**
  - Among the **small states Goa** is the top-ranking state followed by **Manipur and Sikkim**.
  - Among **UTs, Jammu & Kashmir** is the top-ranking UT followed by **Delhi and Chandigarh**.
  - **Uttarakhand, Tripura and Ladakh** has significantly **improved their ranking** than last year in Large, Small and UT category respectively.

PARAMETERS of the Index

Consumer empowerment (20% weightage)

Human resources & institutional data (20% weightage)

Training & capacity building (10% weightage)

Compliance (30% weightage)

Food testing infrastructure and surveillance (20% weightage): availability of National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited labs, Mobile Food Testing Labs and registration of InFoLNet (Indian Food Laboratories Network).

Levels of food safety standards

Company Standard
These are prepared by a Company for its own use. Normally, they are copies of National Standards.

National Level
These are issued by the national standards body like Food Safety and Standards Authority of India (FSSAI)

Regional Standards
Regional groups with similar geographical, climate etc. have legislation standardisation bodies for food safety.

International Standards
The International Organisation for Standardisation (ISO), World Trade Organisation (WTO) and Codex Alimentarius Commission (CAC) publish international standards

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Food Safety and Standards Authority of India (FSSAI): It has been mandated by the Food Safety Standards Act, 2006 for performing the following functions.
- **Framing of regulations** to lay down the standards and guidelines for articles of food and system of enforcing various standards.
- **Laying down mechanisms and guidelines for accreditation of certification bodies** for certification of food safety management system for food businesses and accreditation of laboratories and notification of the accredited laboratories.
- To **provide scientific advice and technical support to Central Government and State Governments** for framing the policy and rules related to food safety and nutrition.
- **Collect and collate data regarding food consumption,** incidence and prevalence of biological risk, contaminants in food, residues of various contaminants in food products, identification of emerging risks and introduction of rapid alert system.
- **Creating an information network across the country** so that the public, consumers, Panchayats, etc., receive rapid, reliable and objective information about food safety and issues of concern.
- **Contribute to the development of international technical standards** for food, sanitary and phyto-sanitary standards.

Concerns related with food safety

- **Inefficient food testing labs**: Currently, India has handful accredited labs about 28 in north, 25 in west, 24 in south and five in the eastern region, which are very less compared to food products and its demand. Also, these labs are lacking in required infrastructure and trained human resources.
- **Environmental and climate change**: Increased climate variability, increased frequency and intensity of extreme events, use of excessive fertilisers causing environmental pollution and climate change, which deteriorating the food quality and resulting to food safety issues.
- **New and emerging variants and antibiotic resistance:** Due to multiple mutations there is emergence of new variants of plant disease causing germs. Also, developed antibiotic resistance are causing threat to food safety and security.
- **Changes in consumer preferences and habits**: Lack of awareness regarding handling and storage of foods in the domestic environment and preference for processed food with additives and ready to eat food causing major issues of food safety.
- **Burden of population and food security:** Population growth is an important driver of increased food demand and security, but such increased demand directly and indirectly affecting the food safety.

Ways to maintain food safety

- **Good Manufacturing Practices (GMP)**: GMP is a good business tool that helps to refine compliance and performance by the manufacturers/producers.
  - It is necessary to ensure that manufacturers/processors take proactive steps to ensure that their products are safe by eliminating contamination and false labelling, thereby protecting the consumer.

> **DID YOU KNOW?**
>
> An estimated 420,000 people die every year as a result of eating contaminated food. Also, vicious cycle of disease and malnutrition overburdens public health services, disrupts social and economic progress and detracts from the quality of life.

> **Various initiatives in regard to food safety**
> - **Eat Right India**: It is movement to ensure safe, healthy and sustainable food for all Indians with tagline 'Sahi Bhojan Behtar Jeevan' and following initiatives;
>   - **Eat Right Research Awards and Grants**
>   - **Eat Right Creativity Challenge**
>   - **Eat Right Campus**
> - **Blissful Hygienic Offering to God (BHOG):** Encourage places of worship to adopt and maintain food safety and hygiene in preparation, serving and sale of prasad.
> - **Hygiene Rating of Restaurants**: It is a universal system recognized all over India and provides a single benchmark to rate all fresh food businesses.

- **Sanitation Standard Operating Procedure (SSOP):** SSOP are written procedures developed and implemented in a facility to prevent direct contamination or adulteration of the products.
  - The facility is required to maintain these written procedures on file, and these must be available to regulating or government bodies upon request.
- **Good Hygiene Practices (GHP):** GHP are generally called the prerequisite measures and include an exhaustive list of measures for staff personal hygiene and training. This ensures that safety practices are used and maintained in food preparation environment.
- **Good Handling Practices**: It indicate a comprehensive approach from the farm to the store or consumer, in order to identify potential sources of risk and indicates what steps and procedures are taken to minimise the risk of contamination.
- **Hazard Analysis Critical Control Point (HACCP):** HACCP is a means of providing assurance about safety of food. In this each individual step in a specific process of food chain like raw material procurement, manufacturing, distribution, usage of food products are considered in detail and evaluated for its potential to contribute to the development of pathogenic microorganisms or other food hazards.
- **Food irradiation**: It is the application of ionizing radiation to food that improves the safety and extends the shelf life of foods by reducing or eliminating microorganisms and insects.

7.4. NEWS IN SHORTS

7.4.1. 5G OPEN RADIO ACCESS NETWORK (RAN)

- Centre for Development of Telematics (C-DOT), WiSig Networks Private Limited and VVDN Technologies Private Limited have signed an **agreement for developing 5G Open RAN** and other products together.
  - o Collaboration aims **to leverage the complementary strengths of Telecom R&D and industry** to accelerate the indigenous design, development & deployment of end-to-end 5G solutions.
- RAN **provides the critical technology to connect users to the mobile network** over radio waves. It also acts as a bridge to access all the key applications on the web.
  - o Current RAN technology is **provided as an integrated platform of both hardware and software.**
  - o Therefore, it is **difficult to mix vendors for its different units**, and in most cases, they come from the same supplier.
- Idea of **Open RAN is to enable operators to mix and match components** from different vendors.
  - o Open RAN **will create a multi-supplier RAN solution** that allows for the separation between hardware and software with open interfaces.

BENEFITS OF OPEN RAN

- Intelligent and programmable networks
- Lower total cost of ownership (TCO)
- Automation and manageability
- **OPEN RAN**
- Data center economics to radio network
- Vendor diversity
- Agility of innovation
- Faster time to market

7.4.2. WEB 5.0

- Former Twitter CEO recently announced his **vision for Web 5.0** that is aimed at "**building an extra decentralized web** that puts you in **control of your data and identity".**
  - o Web 5.0 will see applications **able to interpret information on more complex levels**, emotionally as well as logically.

- World Wide Web is **the primary tool used by billions of people to share, read, and write information to interact with other people via internet**.
- **About different Web versions**
  - o **Web 1.0** is often referred to as the "read-only" Internet made of static web-pages that only **allowed for passive engagement.**
  - o **Web 2.0** (or read and write internet) made the **internet a lot more interactive.** Users were now able to communicate with servers and other users leading to the creation of the social web.
  - o **Web 3.0** (a "read-write-execute" web) , built leveraging the blockchain technology, will be driven by Artificial Intelligence (AI) and machine learning where **machines will be able to interpret information like humans.**
  - o **Web 4.0** services will be autonomous, proactive, self-learning, collaborative, and content-generating agents. Fully mature **semantic (logical) and reasoning technologies,** as well as AI are the foundation.

7.4.3. LIQUID-MIRROR TELESCOPE (LMT)

- LMT, **India's first and Asia's largest liquid-mirror telescope,** is commissioned **at the Devasthal Observatory** of Aryabhatta Research Institute of Observational Sciences (ARIES) **in Nainital (Uttarakhand).**
  - o ARIES is an autonomous institute under Department of Science and Technology.
- LMT will **observe asteroids, supernovae, space debris** and all other celestial objects.
- Built by astronomers from **India, Belgium and Canada**, LMT employs **a rotating mirror made up of a thin film of liquid mercury** (a reflective liquid) **to collect and focus light.**
  - o LMT, having a primary mirror that is liquid, **cannot be turned and pointed in any direction** and watches the sky as the Earth rotates.

7.4.4. FAST RADIO BURSTS (FRBS)

- Astronomers **have reported a FRB whose characteristics are different** from almost all other FRBs previously detected.
  - o First **FRB was discovered in 2007.**
- FRBs are **bright bursts of radio waves whose durations lie in the millisecond-scale,** because of which it is difficult to detect them and determine their position in the sky.
  - o Radio waves can be **produced by astronomical objects with changing magnetic fields.**

o **Origins of FRBs are unknown,** and their appearance is unpredictable.

7.4.5. ARTEMIS ACCORDS

- France is set to sign a **U.S.-led multilateral agreement** called the **Artemis Accords.**
  o The program **aims to return humans to the moon's surface by 2025** with the help of U.S. allies and private companies.
- The accords are built on **broader principles of the 1967 Outer Space Treaty.**
  o It includes an **array of principles designed to promote peaceful uses of space**, from establishing safety zones around future moon bases to sharing scientific data with other countries.
- The **United Kingdom, Japan, and Canada** have signed the accords, with France set to become the **7th European state.**

7.4.6. CISLUNAR AUTONOMOUS POSITIONING SYSTEM TECHNOLOGY OPERATIONS AND NAVIGATION EXPERIMENT (CAPSTONE)

- NASA launched CAPSTONE, a CubeSat that will fly in **cislunar space**, the orbital space **near and around the Moon.**
- **About CAPSTONE:**
  o It is **headed toward an orbit** intended in the future for Gateway, a **Moon-orbiting outpost (part of NASA's Artemis program).**
  o As a pathfinder for Gateway, CAPSTONE aims to help **reduce risk for future spacecraft** by validating innovative navigation technologies, and by verifying the dynamics of the halo-shaped orbit.
    ✓ The orbit is known as a **near-rectilinear halo orbit (NRHO),** located at a precise balance point in the gravities of Earth and the Moon.
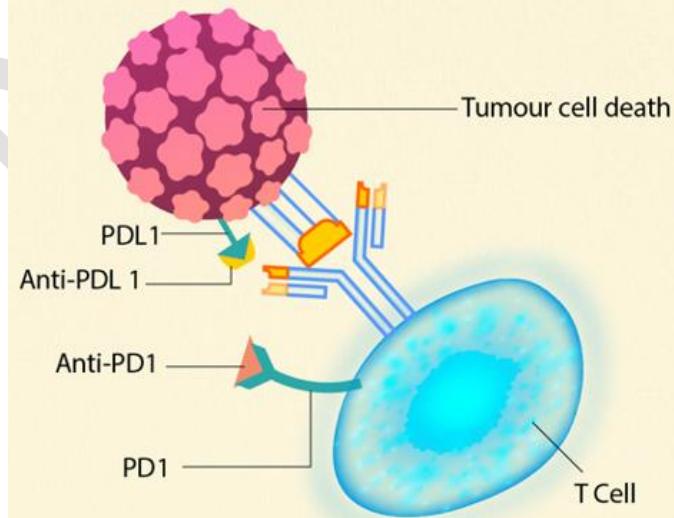
7.4.7. CANCER CURE

- The patients in USA were completely cured of a particular kind of **rectal cancer called 'mismatch repair deficient' cancer.**
  o This cancer is most common among **colorectal, gastrointestinal, and endometrial cancers.**
  o Patients suffering from this condition **lack the genes to correct typos in the DNA that occur naturally while cells make copies.**
  o The trial used a **monoclonal antibody called dostarlimab** for the treatment of stage two or three rectal cancer.

- **About the therapy**
  o The immunotherapy belongs to a category called **PD1 blockades.**
    ✓ **PD1** is a type of **protein that regulates functions of the immune system,** including **suppression of T-cell activity.**
    ✓ T-cells are **part of the immune system and** help protect the body from infections and cancers.
  o **PD1 blockade** therapy looks to **release the T-cells from this suppression** and allow the **T-cells to destroy the cancerous growth.**
  o Earlier, this therapy was used post-surgery, but the study has shown that **a surgery may not be required.**
- The trial showed that **immunotherapy alone** could completely cure such patients **without other methods to cure cancer like chemotherapy, radiotherapy, or surgery.**

HOW THE THERAPY WORKS

7.4.8. COUNTRY'S FIRST LIQUID NANO UREA PLANT

- Prime Minister (PM) recently inaugurated the country's first liquid nano urea plant at Kalol (Gujarat).
- Liquid nano Urea is a **patented chemical nitrogen fertiliser** developed by IFFCO's Nano Biotechnology Research Centre at Kalol with nano nitrogen particles (from 20-50 nm).
  o **It is world's first nano urea (liquid) plant.**
- It is **sprayed directly on the leaves** of plants and gets **absorbed by the stomata**- pores found on the epidermis of leaves.

- **Benefits of Nano urea**
  - **Improved agricultural produce** with **reduced urea consumption** as the efficiency of liquid nano urea is as high as 85-90% in comparison to 25% of conventional urea.
  - **Significant reduction in urea imports,** government subsidies and logistics cost.
  - **Reduced soil, water and air pollution** from urea, improving quality of underground water and reduction in global warming.
  - **Higher shelf life** as no issue of caking on coming into contact with moisture.
- **Other Potential Nanotechnology Opportunities in Agriculture**
  - **Use of Nanoformulations** of herbicides, pesticides and other fertilizers.
  - **Use of Nanosensors** to identify diseases and residues of agrochemicals.
  - **For genetic improvement** of plants to increase productivity, nutritional value or shelf life.

7.4.9. STEEL SLAG

- Union Minister of Steel inaugurated the **first six lane highway road made by using Steel Slag** at **Surat, Gujarat**.
- **About Steel slag:**
  - It is a **by-product of steel making**, produced during the **separation of the molten steel from impurities** in steel-making furnaces.
  - Steel slags is **also used in the agricultural sector** due to its ability to correct soil acidity.
  - It contains some nutrients for the plants and **also as silicate fertilizer that is capable of providing silicon to the plants.**
  - **Other Applications:** Transportation industry, construction, cement production, waste water and water treatment etc.

7.4.10. NIXTAMALISATION

- A study has thrown light on how Maya people **fortified their maize with chemical process known as 'nixtamalisation.**
- Nixtamalisation is a **method by which the ancient peoples of Mesoamerica (a term used to describe Mexico and Central America) like the Maya** used to soak and cook their maize in an alkaline solution and make it more palatable, nutritious and non-toxic.
  - Process ensures that maize **contains amino acids, calcium and Vitamin B2, which can be utilised by the human body.**
  - It also **eliminates certain mycotoxins present in maize**.

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8. CULTURE

8.1. SANT TUKARAM

Why in news?

Prime Minister inaugurated **the Sant Tukaram Shila (rock) Mandir** in the temple town of Dehu in Maharashtra.

About Sant Tukaram (1608 – 1650)

- He was one of the saints of the **Bhakti movement in Maharashtra** and one of the **greatest poets in the Marathi language.**
- **He was also known as Tukoba, Tukaram Bolhoba Ambile etc.**
- **Literary works:**
  - He composed a Marathi genre of literature **called Abhanga poetry** which fused **folk stories with spiritual themes.** Abhangs had themes on **ecology, equality, brotherhood and love of God**.
  - His kirtans aka spiritual songs were **devoted to Vithoba or Vitthala,** an avatar of Hindu god Vishnu.
  - Between 1632 and 1650, he composed '**Tukaram Gatha,'** a Marathi language compilation of his works. Also popular as **'Abhanga Gatha,'** it is said to include about 4,500 abhangas.
- **Social reforms & other contribution**
  - He **denied caste hierarchy** and opposed rituals.
  - Tukaram accepted devotees and disciples without **discriminating on the basis of gender**.
  - Tukaram composed literary works that helped extend the **Varkari tradition to pan-Indian Bhakti literature.**
  - He is credited with **starting the Wari pilgrimage**.
  - His work is central to the **Warkari sect** spread across Maharashtra.
  - **Shivaji, the great Maharashtrian warrior king**, was a great admirer of the saint.
  - He contributed in bringing the **Marathas under one roof** and enabled them to stand against the Mughals.
  - In the early 20th century, **Mahatma Gandhi read and translated his poetry** while in Yerwada Central Jail.

About Varkari
- Varkari can be referred to an **individual or group** who undertakes a **pilgrimage to the temple of Lord Vithoba or Vitthala in the town of Pandharpur** in the western Indian state of Maharashtra
- The journey to Pandharpur commences **from various cities and towns** in Maharashtra, each retracing the path embarked upon by **important poet saints of the medieval period** who were staunch devotees of Lord Vitthala.
- The towns and cities include **Jalgaon, Paithan, Daulatabad, Alandi, Dehu**, and many more.
  - Each city or town is associated with one or more saints of the bhakti movement in Maharashtra such as **Muktabai, Eknath, Janardanswami, Jnanesvar, and Tukaram.**

About Sant Tukaram Maharaj - Gatha Temple
- Gatha temple (Mandir) is situated in a village named Dehu which is **around 30 Kms from Pune**.
- It is made up of **white marbles** and located on the **bank of Indrayani river** near old temple of the Sant Tukaram Maharaj.

8.2. NEWS IN SHORTS

8.2.1. CHAPEKAR BROTHERS CASE

- **On 22 June 1897 (125 years ago),** the brothers Chapekar brothers assassinated British official W. C. Rand and his military escort Lieutenant Ayerst at Pune, Maharashtra.
  - Chapekar Brothers, **Damodar Hari Chapekar, Balkrishna Hari Chapekar and Vasudeo Hari Chapekar** were Indian revolutionaries involved in **assassinating W. C. Rand** in **late 19th century**.
    - ✓ **Mahadev Vinayak Ranade** was also **an accomplice** in the assassination.
  - This was the **first case of militant nationalism in India after the 1857 Revolt.**

- During 1896-97, **bubonic plague was spread in Pune (Poona),** also called Poona plague.
  - In 1897, Government set up a **Special Plague Committeeto handle the menace and control the spread of the disease** under **Charles Walter Rand (W.C Rand)**.
  - Commission appointed more than 800 officers and soldiers on duty in Pune rather than employing doctors.
  - **People were denied permission to conduct funerals** of their loved ones, harassment of localsetc. by British soldiers started emerging.
  - Regular harassments of Rand commission **had prompted Chapekar brothers and other members**

of revolutionary **"Chapekar Club" to take action against Rand.**

✓ Chapekar brothers organized an association called **"Chapekar Club" for physical and military training.**

8.2.2. MUMBAI SAMACHAR

- Prime Minister participated in **Dwishatabdi Mahotsav** of Mumbai Samachar in Mumbai and released a **postal stamp** to commemorate the occasion.
- **About Mumbai samachar(Formerly called Bombay Samachar):**
  - The **Gujarati newspaper** (office located in **Mumbai's Fort** area) was first published in **1822.**
  - It was founded by a Parsi scholar **Fardoonji Murazban.**
  - started as a **weekly edition**, primarily covering the **movement of goods** across the sea and **other business news.**
  - The newspaper has been published **continuously for 200 years**.

8.2.3. KODAVAS

- **Kodavas**, also known as the **people of Coorg**, is a **small community** mainly living in **Kodagu (Coorg) district in Karnataka.**
- They are a **warlike tribe** with three main groups as- **Kodava Mophlas or Kodava Mappilas, Kodagu Gowdas and The Bearys.**
- They have **unique customs and rituals** such as **no dowry system**, **no role of priest in marriage** etc.
- **Language: Kodava Takke**, an **endangered language** (by UNESCO) belonging to Dravidian Group of Language.

- **Festivals: Kaveramme** (worshipping Kaveri), **Kalipodh** (festival of Weapons), **Puttari** (harvest Festival) etc.

8.2.4. BHARAT GAURAV TRAIN

- Maiden Service of **Bharat Gaurav Train** commenced under **Bharat Gaurav Scheme** from Coimbatore North to Sainagar Shirdi.
- Bharat Gaurav Trains are **theme-based trains** launched by Indian Railways in **November 2021**.
- **Objective:** To showcase **India's rich cultural heritage** and **magnificent historical places** to the people of India and the world.
- **Aim:** Leverage the **core strengths of the professionals** of the tourism sector to run theme-based trains to **tap India's vast tourist potential**.
- Bharat Gaurav Scheme guidelines apply to already running tourist circuit trains by IRCTC as well such as **Buddhist Circuit Tourist Train**.

8.2.5. RASHTRIYA PURUSKAR PORTAL LAUNCHED

- A common Rashtriya Puruskar Portal has been launched under the Ministry of Home Affair to **bring together all the Awards of the various Ministries/Departments/Agencies** of the Government of India under one digital platform to ensure transparency and public partnership.
- This Portal aims to **facilitate citizens to nominate individuals/organizations for various Awards** instituted by the Government of India including **Padma Awards, Sardar Patel National Unity Award,** Tenzing Norgay National Adventure Award, JeevanRakshaPadak series of Awards.

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9. ETHICS

9.1. ETHICS OF ARTIFICIAL INTELLIGENCE

Introduction

Elon's car was caught on camera ramming into another car. But he pleaded not guilty. His argument was that his car was on autonomous mode, so the responsibility of the accident lies with the car manufacturer. Is Elon guilty or not guilty? Assimilation of Artificial Intelligence (AI) in various parts of our life has been creating innumerable such dilemmas. In this context, UNESCO has been deliberating on how AI should be used by governments and tech companies.

Ethics in Artificial Intelligence (AI)

The notion of **"artificial intelligence" (AI)** is understood broadly as any kind of artificial computational system that shows intelligent behaviour, i.e., complex behaviour that is conducive to reaching goals.

Striving to achieve goals requires AI systems to **make decisions** which impact human lives. E.g., autonomous cars. Taking such decisions requires rational as well as emotional understanding of how humans think and what are the values, they base their decision on.

AI ethics is a system of moral principles and techniques intended to help this system take informed decisions ethically acceptable along with being logically optimal.

What are the ethical issues associated with AI?

- **Automation and unemployment:** AI promises to automate a large section of the job market. Some experts suggest that large scale advent of AI will generate newer kinds of jobs, but how much will it be able to compensate remains to be seen.
- **Privacy & Surveillance:** The advent of AI amplifies the known issues of Data Surveillance, theft, profiling among other. For example, face recognition in photos and videos using AI-based image processing will aid profiling and searching for individuals.
- **Manipulation of Behaviour**: Given users' intense interaction with data systems and the deep knowledge about individuals in the AI database, users are vulnerable to "nudges", manipulation, and deception.
  - For instance, many advertisers use AI- identified psychological effects to maximise profit, including exploitation of behavioural biases, deception, and addiction generation.
- **Opacity of AI Systems:** The decisions taken by the AI system are not transparent. This opacity fuels absence of accountability, probity and most importantly fuels distrust among people.
- **Bias in Decision Systems:** Many AI systems rely on machine learning techniques in (simulated) neural networks that will extract patterns from a given dataset, these patterns mimic human biases such gender-bias, race-bias etc.
  - For example, the trial applications developed by predictive policing tend to profile people from certain communities as potential threats (i.e., racist or casteist robots).
- **Human-Robot Interaction:** Interaction with intelligent robots pose several questions on like- how do we treat robots who emulate human emotions? How do we protect ourselves or the vulnerable section from getting physically or psychologically harmed? And How do we protect our privacy when interacting with social robots.
- **Singularity:** The idea of singularity is that if the trajectory of artificial intelligence reaches up to systems that have a human level of intelligence, then these systems would themselves have the ability to develop AI systems that surpass the human level of intelligence, i.e., they are "superintelligent"

Some examples of how these are affecting us

The issues created by adoption of AI have a sense of universality i.e., they tend to be present in multiple spheres of life. Some of such examples have been illustrated below-

	Biased AI
	Type "greatest leaders of all time" in your favourite search engine and you will probably see a list of the world's prominent male personalities. How many women do you count? (Example of **gender bias in artificial intelligence, originating from stereotypical representations deeply rooted in our societies**.)

Autonomous Car

Imagine an autonomous car with broken brakes going at full speed towards a grand-mother and a child. By deviating a little, one can be saved. Whom would you choose? (Example of **ethical dilemma involved in creating such decision systems**)

AI creates Art

Who will be designated as the author? The company which orchestrated the project, the engineers, the algorithm, or...we all as a collective race? (Example of **absence of responsibility and accountability norms for machines and robots**)

AI in the court of law

The use of AI in judicial systems around the world is increasing, creating more ethical questions to explore. AI could presumably evaluate cases and apply justice in a better, faster, and more efficient way than a judge. But will it be neutral, will it uphold human rights and fundamental values? (Example of an **efficient but unpredictable use of AI)**

What can we do create an ethical AI ecosystem?

Every day, new use cases of AI are emerging, it would be impossible to potentially foresee every possibility. To overcome this issue, 193 countries at UNESCO have collectively finalized following design principles for ethical use of AI-

- **Proportionality and Do No Harm:** The choice to use AI systems and which AI method to use should be proportional to achieve a given legitimate aim, should not infringe upon the human rights and should be based on rigorous scientific foundations.
- **Fairness and non-discrimination:** AI actors should promote social justice and safeguard fairness and non-discrimination of any kind in compliance with international law.
- **Sustainability:** The continuous assessment of the human, social, cultural, economic and environmental impact of AI technologies should be carried out.
- **Right to Privacy, and Data Protection:** Algorithmic systems require adequate privacy impact assessments, include societal and ethical considerations of their use and an innovative use of the policy by design principle.
- **Human oversight and determination:** Ensure that it is always possible to attribute ethical and legal responsibility for any stage of the life cycle of AI systems, as well as in cases of remedy related to AI systems, to physical persons or to existing legal entities.
- **Transparency and explainability:** This opens up the AI system for clearer understanding of its processes. This will ensure that people fully appreciate the decision-making process and the associated consequences.
  - Transparency and explainability relate closely to adequate responsibility and accountability measures, as well as to the trustworthiness of AI systems.
- **Multi-stakeholder and adaptive governance and collaboration:** Participation of different stakeholders throughout the AI system life cycle is necessary for inclusive approaches to AI governance, enabling the benefits to be shared by all, and to contribute to its sustainable development.

Conclusion

Some ethical questions are about mitigating suffering, some about risking negative outcomes. While we consider these risks, we should also keep in mind that, on the whole, this technological progress means better lives for everyone. Artificial intelligence has vast potential, and its responsible implementation is up to us. We need a human-centred AI.
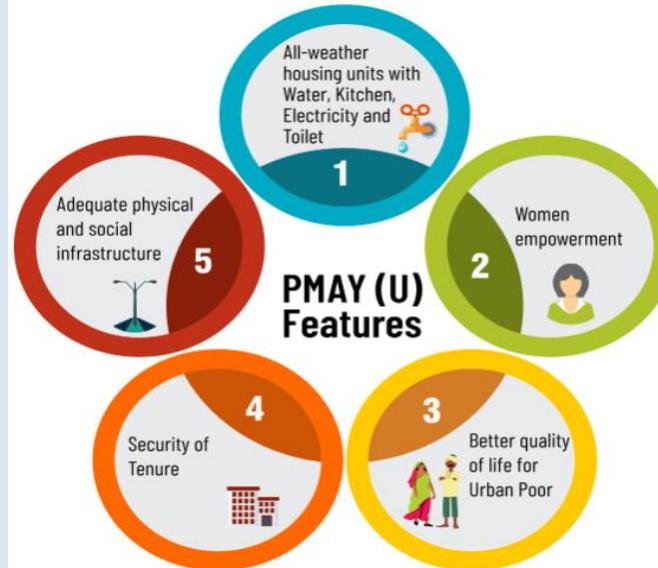
10. SCHEMES IN NEWS

10.1. PRADHAN MANTRI AWAS YOJANA – URBAN
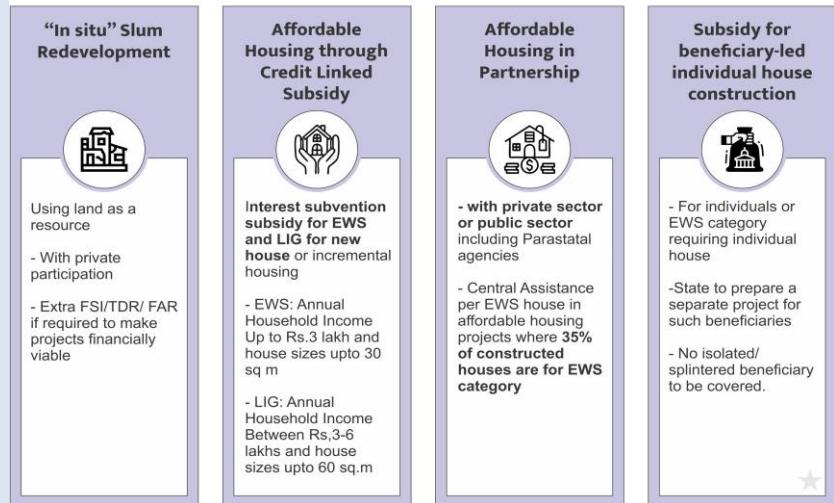
Why in news?

Recently, Government organised a virtual event to celebrate 7 years of Pradhan Mantri Awas Yojana-Urban (PMAY-U)

Objective	Salient Features

• The Mission addresses **urban housing shortage among the EWS/LIG and MIG categories** including the slum dwellers by ensuring a pucca house to all eligible urban households by the year 2022.
• It **ensures dignified living** along with sense of security and pride of ownership to the beneficiaries.
	• It is a flagship mission of Government of India being implemented **by Ministry of Housing and Urban Affairs (MoHUA)** and **launched in 2015 under Ministry of Labour and Employment.**
	• **Coverage:** The Mission **covers the entire urban area** consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation which is entrusted with the functions of urban planning and regulations.
	• **Exclusion:** The **beneficiary family should not own a pucca house** either in his/her name or in the name of any member of his/her family in any part of India.
	• **Women Empowerment:** The Mission **promotes women empowerment by providing the ownership of houses in name of female member or in joint name**. Preference is also given to differently abled persons, senior citizens, SCs, STs, OBCs, Minority, single women, transgender and other weaker & vulnerable sections of the society.
	  o The houses constructed/acquired with central assistance under the mission should be in the **name of the female head of the household or in the joint name of the male head of the household and his wife**, and only in cases when there is no adult female member in the family, the house can be in the name of male member of the household.
	• **Cafeteria Approach:** PMAY(U) adopts a cafeteria approach to suit the needs of individuals based on the geographical conditions, topography, economic conditions, availability of land, infrastructure etc.
	  o **A basket of options is adopted** to ensure a greater number of people depending on their income, finance, and availability of land through four options (See infographics).

PMAY (U) Features

1. All-weather housing units with Water, Kitchen, Electricity and Toilet
2. Women empowerment
3. Better quality of life for Urban Poor
4. Security of Tenure
5. Adequate physical and social infrastructure

Implementation methodology

"In situ" Slum Redevelopment	Affordable Housing through Credit Linked Subsidy	Affordable Housing in Partnership	Subsidy for beneficiary-led individual house construction
Using land as a resource - With private participation - Extra FSI/TDR/ FAR if required to make projects financially viable	Interest subvention subsidy for EWS and LIG for new **house** or incremental housing - EWS: Annual Household Income Up to Rs.3 lakh and house sizes upto 30 sq m - LIG: Annual Household Income Between Rs,3-6 lakhs and house sizes upto 60 sq.m	- with private sector or public sector including Parastatal agencies - Central Assistance per EWS house in affordable housing projects where **35% of constructed houses are for EWS category**	- For individuals or EWS category requiring individual house -State to prepare a separate project for such beneficiaries - No isolated/ splintered beneficiary to be covered.

- **Financial Assistance:** It provides **central assistance to Urban Local Bodies** (ULBs) and other implementing agencies through States/UTs.
  - **National Housing Bank (NHB), Housing and Urban Development Corporation (HUDCO) and State Bank of India (SBI)** have been identified as Central Nodal Agencies (CNAs) to channelize this subsidy to the lending institutions and for monitoring the progress of this component.
  - **Only Credit linked subsidy component is a Central Sector Scheme while** other three components will be implemented as Centrally Sponsored Scheme (CSS).
  - **EWS category of beneficiaries is eligible for assistance in all four verticals** of the Missions whereas LIG and MIG categories are eligible under only CLSS component.
  - Beneficiaries can take advantage under one component only.
- **Incentives:** Central government will provide concessional project finance under Affordable Housing Fund (AHF) and Priority Sector Lending (PSL), Exemption in Income Tax and GST and Technology Innovation Grant for promotion of innovative technologies in ARHCs.
  - Government has also sanctioned '**infrastructure status'** for the affordable housing sector, giving a boost to PMAY.
  - **Central grant of Rs. one lakh per house**, on an average, will be available under the **slum rehabilitation programme.**
- **Geo-tagging for monitoring** the progress of construction of houses, Public Financial Management System (PFMS) to ensure electronic fund flow and Technology Sub-Mission to implement new construction technologies, have been introduced.
- **Affordable Rental Housing Complexes (ARHCs):** MoHUA has also launched **ARHCs,** a sub-scheme under PMAY-U for urban migrants/poor.
  - ARHCs aims at providing ease of living to urban migrants/ poor to get access to dignified affordable rental housing close to their workplace.
  - **The ARHC scheme will be implemented through two models:**
    - ✓ Utilizing existing Government funded vacant houses to convert into ARHCs through Public Private Partnership or by Public Agencies
    - ✓ Construction, Operation and Maintenance of ARHCs by Public/ Private Entities on their own available vacant land.
- **Capacity Building Under PMAY(U):** A total of 5% of allocation under the scheme is earmarked for Capacity Building, Information Education & Communication (IEC) and Administrative & Other Expenses (A&OE) under PMAY (U).
- **ANGIKAAR- A campaign for change management':** Launched in 2019**,** campaign focuses on adopting best practices such as water & energy conservation, waste management, health, sanitation and hygiene for PMAY(U) beneficiaries through community mobilization and IEC activities.
  - PMAY(U) had **converged with various Urban Missions of MoHUA** and schemes of other Central Ministries like Health & Family Welfare, Jal Shakti, Environment Forest & Climate Change, New & Renewable Energy, Petroleum & Natural Gas, Power, Youth Affairs & Sports and Women & Child Development.
- **Global Housing Technology Challenge – India:** MoHUA has initiated the Global Housing Technology Challenge - India (GHTC-India) which **aims to identify and mainstream a basket of innovative construction technologies from across the globe for housing construction sector that are sustainable, eco-friendly and disaster-resilient.**
- **CLSS Awas Portal (CLAP):** A web-based monitoring system, CLAP is a common platform where all stakeholders i.e. MoHUA, Central Nodal Agencies, Primary Lending Institutions, Beneficiaries and Citizens are integrated in real time environment.
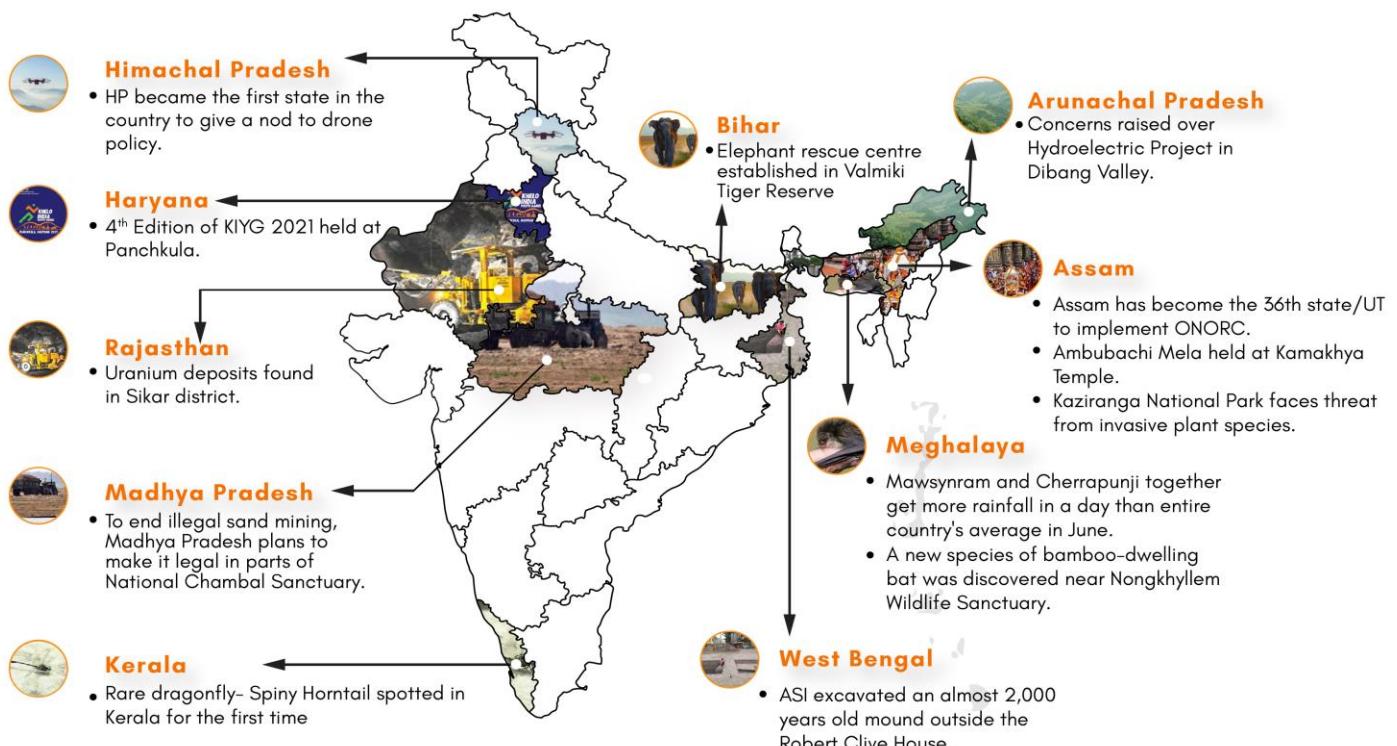
# 10.2. EMPLOYEE STATE INSURANCE SCHEME

Why in news?
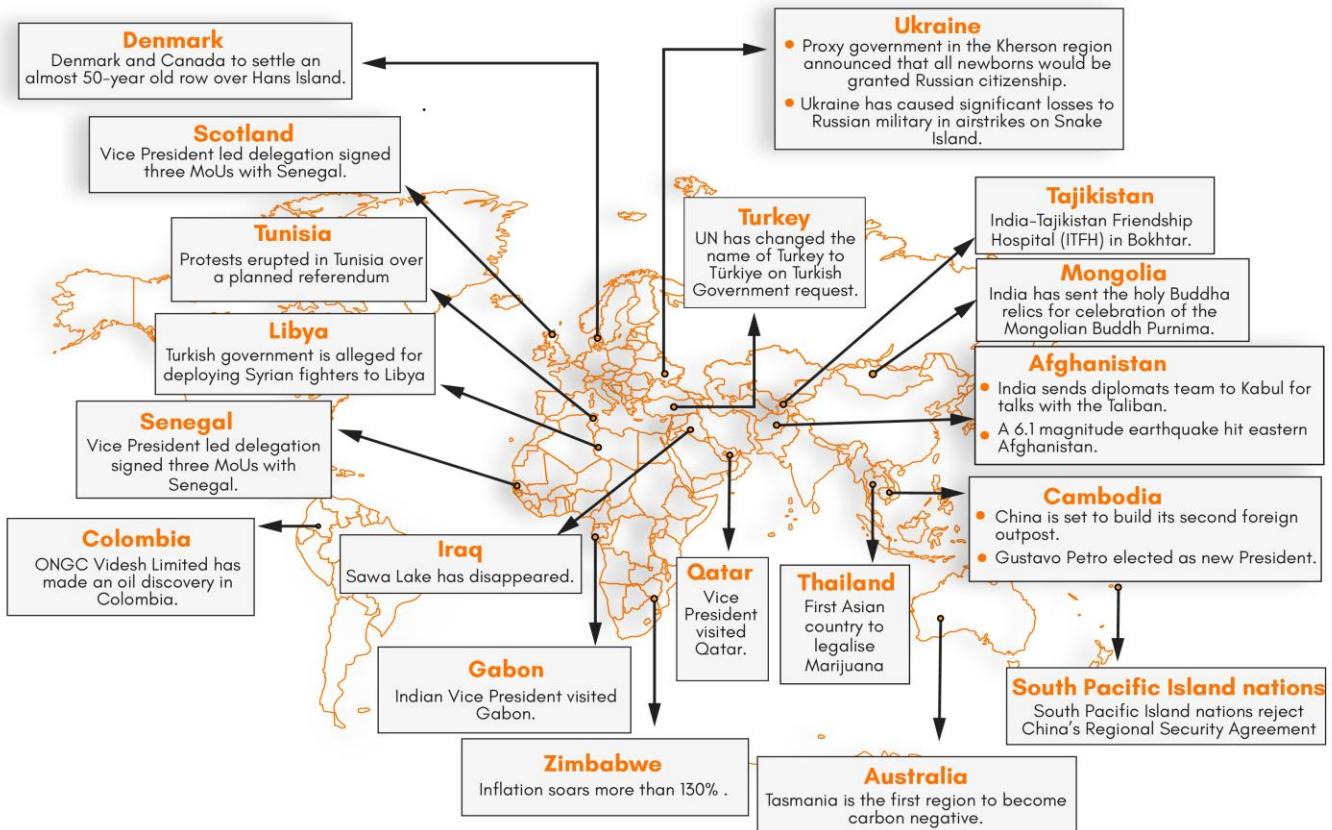
Recently, the Government has decided to implement Employee State Insurance (ESI) Scheme in the entire country by the end of 2022.

Objective	Salient features

• It aims to **protect 'employees'** as defined in **the Employee's' State Insurance Act, 1948,** in case of sickness, maternity and employment injury and to make provision for certain others matters incidental thereto.
 	
 • ESI Scheme **contributions are related to the paying capacity as a fixed percentage of the workers' wages,** whereas they are provided **social security benefits according to individual needs** without distinction.
	• The Employee State Insurance Scheme is an **integrated measure of Social Insurance embodied in the Employees' State Insurance Act,1948.**
	    o Presently, ESI Scheme is **fully implemented in 443 districts and partially implemented in 153 districts, whereas 148 districts are not covered under ESI Scheme.**
	 • ESI Act is mostly executed through the ESI Corporation, the Central Government takes control of most of the proceedings.
	    o This control by the Central Government largely contributes to the constitutionality of the Act because **Insurance, be it public or private, is listed in the Seventh Schedule of the Indian Constitution as a Union List subject** i.e., it can only be legislated by the Central Government.
	 • **Entitlement:** All the establishments covered under the ESI Act and all factories **that employ more than 10 employees and pay wages below Rs.21,000 per month** (Rs.25,000 for employees with disability) must register with the ESIC and contribute towards the ESI scheme.
	    o In **some States threshold limit for coverage of establishments is still 20.**
	    o The Act is **applicable to non-seasonal factories** employing 10 or more persons.
	    o ESI Corporation has extended the benefits of the ESI Scheme to the **workers deployed on the construction sites located in the implemented areas** under ESI Scheme.
	 • **Contribution:** Contributions are raised from covered employees and their employers as a fixed percentage of wages.
	    o As of now, **covered employees contribute 0.75% of the wages**, whereas the **employers contribute 3.25% of the wages**, payable to their employees.
	    o **Employees earning upto Rs.176/- a day are exempted** from payment of their share of contribution.
	    o The State Governments **contribute 1/8th of the expenditure of medical benefit within a per capita ceiling of Rs. 1500/-** per Insured Person per annum.
	 • **Benefits**
	    o **Medical Benefit:** Full medical care is provided to an Insured person and his family members from the day he enters insurable employment. There is no ceiling on expenditure on the treatment of an Insured Person or his family member.
	      ✓ Medical care is also provided to retired and permanently disabled insured persons and their spouses on payment of a token annual premium of Rs.120/-.
	    o **Sickness Benefit (SB): I**n the form of **cash compensation at the rate of 70% of wage**s is payable to insured workers during the periods of certified sickness for a **maximum of 91 days in a year**.
	    o **Maternity Benefit (MB):** Maternity Benefit for confinement/pregnancy is **payable for Twenty-Six (26) weeks**, which is extendable by further one month on medical advice at the rate of full wage subject to contribution for 70 days in the preceding Two Contribution Periods.
	    o **Disablement Benefit:** In case of temporary disablement of the worker, they are eligible for a monthly wage of 90% until they recover. In the case of permanent disability, 90% of the monthly wage can be availed for the entire life.
	    o **Dependents Benefit (DB)** paid at the rate of 90% of wage in the form of monthly payment to the dependents of a deceased Insured person in cases where death occurs due to employment injury or occupational hazards.
	 • **Other Benefits:**
	    o **Funeral Expenses:** An amount of Rs.15,000/- is payable to the dependents or to the person who performs last rites from day one of entering insurable employment.
	    o **Confinement Expenses:** An Insured Women or an I.P. in respect of his wife in case confinement occurs at a place where necessary medical facilities under ESI Scheme are not available.
	 • **Unemployment (Rajiv Gandhi Shramik Kalyan Yojana):** For a period of 24 months, the scheme offers a maximum of 50% of the average monthly wage in the case of involuntary loss of non-employment or due to permanent invalidity due to injury.
	 • **Incentive to employers in the Private Sector for providing regular employment to the persons with disability:**
	    o Minimum wage limit for Physically Disabled Persons for availing ESIC Benefits is 25,000/-.
	    o Employers' contribution is paid by the Central Government for 3 years.

Places in News: India

Himachal Pradesh
- HP became the first state in the country to give a nod to drone policy.

Haryana
- 4th Edition of KIYG 2021 held at Panchkula.

Rajasthan
- Uranium deposits found in Sikar district.

Madhya Pradesh
- To end illegal sand mining, Madhya Pradesh plans to make it legal in parts of National Chambal Sanctuary.

Kerala
- Rare dragonfly- Spiny Horntail spotted in Kerala for the first time

Bihar
- Elephant rescue centre established in Valmiki Tiger Reserve

Arunachal Pradesh
- Concerns raised over Hydroelectric Project in Dibang Valley.

Assam
- Assam has become the 36th state/UT to implement ONORC.
- Ambubachi Mela held at Kamakhya Temple.
- Kaziranga National Park faces threat from invasive plant species.

Meghalaya
- Mawsynram and Cherrapunji together get more rainfall in a day than entire country's average in June.
- A new species of bamboo-dwelling bat was discovered near Nongkhyllem Wildlife Sanctuary.

West Bengal
- ASI excavated an almost 2,000 years old mound outside the Robert Clive House.

Places in News: World

Denmark
Denmark and Canada to settle an almost 50-year old row over Hans Island.

Scotland
Vice President led delegation signed three MoUs with Senegal.

Tunisia
Protests erupted in Tunisia over a planned referendum

Libya
Turkish government is alleged for deploying Syrian fighters to Libya

Senegal
Vice President led delegation signed three MoUs with Senegal.

Colombia
ONGC Videsh Limited has made an oil discovery in Colombia.

Iraq
Sawa Lake has disappeared.

Gabon
Indian Vice President visited Gabon.

Zimbabwe
Inflation soars more than 130% .

Ukraine
- Proxy government in the Kherson region announced that all newborns would be granted Russian citizenship.
- Ukraine has caused significant losses to Russian military in airstrikes on Snake Island.

Turkey
UN has changed the name of Turkey to Türkiye on Turkish Government request.

Tajikistan
India-Tajikistan Friendship Hospital (ITFH) in Bokhtar.

Mongolia
India has sent the holy Buddha relics for celebration of the Mongolian Buddh Purnima.

Afghanistan
- India sends diplomats team to Kabul for talks with the Taliban.
- A 6.1 magnitude earthquake hit eastern Afghanistan.

Cambodia
- China is set to build its second foreign outpost.
- Gustavo Petro elected as new President.

Qatar
Vice President visited Qatar.

Thailand
First Asian country to legalise Marijuana

South Pacific Island nations
South Pacific Island nations reject China's Regional Security Agreement

Australia
Tasmania is the first region to become carbon negative.

Personalities in News

| Personality	About	Ethical Values Exhibited by the personality

Kabir	• President inaugurated Sant Kabir Academy and Research Centre at Sant Kabir Nagar in Uttar Pradesh (UP).
	  □ He was born in Varanasi, UP.
	• **Contributions**
	  □ He believed in the Vedantic concepts of atman. He always advocated the **Impersonal Aspect of God (Nirguna) and therefore, was against idol worship.**
	  □ His writings had a **great influence on the Bhakti movement and include titles like Kabir Granthawali, Anurag Sagar, Bijak, and Sakhi Granth.**
	  □ Holy **Guru Granth Sahib contains over 500 verses by great saint Kabir.**
		• **Social critique and dissent**
		  ▷ His work mainly consists of verses critiquing the social customs and existing values particularly caste and religious dogmatism.
		  ▷ His poems highlighted the role of dissent as having political and ethical value which can lead to refinement of values in social life.

Sant Tukaram	• He was a 17th-century Marathi poet and Hindu sant.
	  □ He was a **devotee of God Vitthala or Vithoba, a form of Krishna.**
	• **Contributions-**
	  □ His work is central to **Warkari sect spread across Maharashtra.**
	  □ His message about **casteless society and his denial of rituals had led to a social movement.**
	  □ He was credited with starting the **Wari pilgrimage.**
	  □ He was **contemporary of Shivaji.**
	  □ Famous for his devotional poetry known as **abhang and spiritual songs known as kirtan.**
		• **Egalitarianism and spirituality**
		  ▷ Being devotee of God, he in his entire life, spread the message of casteless society.
		  ▷ He penned down devotional poetry through literature.

Banda Singh Bahadur	• National Monuments Authority observed the **Martyrdom Day of the great warrior Baba Banda Singh Bahadur** at Red Fort in New Delhi.
	• Born in a Rajput family doing farming in village Rajouri, **district Punch, State of Kashmir.**
	• **Contributions:**
	  □ A great Sikh warrior and a commander of Khalsa army who **defeated the Mughals** and **established the Khalsa rule** in Punjab.
	  □ Abolished the **Zamindari system and granted property rights** to the tillers of the land.
		• **Valour and Commitment**
		  ▷ He was the first Sikh military leader to wage an offensive war against the Mughal rulers of India and extended the Sikh territory.
		  ▷ He fought for the righteousness and justice of the common people.

Prasanta Chandra Mahalanobis	• June 29 is celebrated as **the National Statistics Day in recognition of his invaluable contribution in establishing the National Statistical System.**
	• **Contributions:**
	  □ **Founded the Indian Statistical Institute**
	  □ **Established the National Sample Survey (1950)** and set up Central Statistical Organisation to coordinate statistical activities.
	  □ **Shaped India's second Five year Plan (1956–61),** also called the Mahalanobis Plan focused on the development of public sector and rapid industrialisation.
	  □ **Gave Mahalanobis distance, a statistical measure.**
	• Awarded **Padma Vibhushan.**
	• **Mahalanobis International Award,** constituted under his name, recognises an individual for lifetime achievements in statistics in a developing country or region.
	  □ It is **sponsored by the Ministry of Statistics and Programme Implementation.**
		• **Institution builder and Scholarship**
		  ▷ Due to his efforts and dedication, Indian Statistical Institute (ISI) was established and nurtured by him in the service of the nation.
		  ▷ He was a brilliant statistician and a scientist whose scholarly contribution led to development of large scale surveys undertaken for policy making in India.

Shyama Prasad Mukherjee	• June 23rd marked the 69th death anniversary of Shyama Prasad Mukherjee.
	• **Contributions**
	  □ In 1929, Mukherjee became a member of the **Bengal Legislative Council.**
	  □ **At the age of 33,** She became the **youngest ever vice-chancellor of Calcutta University in 1934.**
	  □ Mukherjee **joined the Hindu Mahasabha and in 1944,** he became its president.
	  □ He was Independent India's **first Minister of Industry and Supply.**
	  □ In 1951, he founded the **Bharatiya Jana Sanghand** co-founded Janata Party in the year 1977-1979. .
	  □ **He strongly opposed Article 370** (autonomous status to Jammu & Kashmir).
		• **Patriotism and Courage of conviction**
		  ▷ His vision and deeds turned the national consciousness towards building a unified India in the truest sense.
		  ▷ He was the first Industries minister of India and, in a sense, he laid a strong foundation for India's industrial development.

Venkataraman Krishnamurthy	• Considered as the **'Father of PSUs in India'** and **'Turnaround Man',** Krishnamurthy recently passed away.
	• **Contributions**
	  □ **In-charge of power projects** as part of the Planning Commission in 1954.
	  □ As the **founding Chairman of Maruti Udyog,** he ushered in the modern era of India's automobile industry with the introduction of Maruti 800.
	  □ As **Head of Bharat Heavy Electricals Limited (BHEL)** and later **Steel Authority of India Limited (SAIL),** he revived the company's fortune.
	• Conferred with **Padma Vibhushan, Padma Bhushan, and Padma Shri awards.**
		• **Leadership and pioneer**
		  ▷ He is known for his leadership and successful contribution in turning around PSU's into the most profit making industry in India.
		  ▷ He ushered in the modern era of India's automobile industry with the introduction of the Maruti 800.

WEEKLY FOCUS

Holistic coverage of an issue every week

ISSUE	DESCRIPTION	LEARN MORE
Sports in India- Olympics and beyond	In the past few years, the Indian sports culture has moved beyond the game of cricket which resulted in the growth of viewers, participation and changed the outlook towards fitness. The document analyses the pertinent problems faced by the sports sector in India, gives details of the measures taken by the government to overcome them and suggest measures to revive our ancient sports culture and achieve excellence in our performance.	
Sustainable Agriculture Part 1_Understanding the concept and practices	Advances in science and technology, shifting consumption patterns, continuing population growth, trade globalization, and the impacts of local and global environmental change converge and lead to new and serious risks to agricultural production systems and producers. In light of these changes, sustainability of the agri-food system and farming as a multi-functional enterprise is of increasing importance. This document is an effort to identify the ideas, practices and policies that constitute concept of sustainable agriculture and highlights the emerging need to tweak the existing agricultural practices.	
Sustainable Agriculture Part II_Transforming India's Food Systems	There is growing consensus in India among agri-scientists, policymakers and farmers that the Green Revolution has reached its limits and raised several issues of environmental sustainability. While millions of farmers in India have rejected chemical pesticides as part of a growing movement that favors natural alternatives, sustainable agriculture is still far from mainstream in India. This document provides an overview of the current state of sustainable agriculture practices and systems (SAPSs) in India and hurdles in the path of their wider application.	
Quantum Technology in India: Exploring the possibilities ahead	We are at the dawn of a new era, the age of quantum technology. A new generation of quantum technologies will cut across most of the emerging technologies we know today, empowering many of them while threatening the security of others. This document explains different aspects of quantum technologies, including the way they work, their inevitable impact at both the technological and social level, the actions governments and technology firms are taking to incorporate them into their programs and infrastructure and its prospects for India.	

8 IN TOP 10 SELECTIONS IN CSE 2021

from various programs of **Vision Ias**

2 AIR

ANKITA AGARWAL

CIVIL SERVICES EXAMINATION 2020

1 AIR

SHUBHAM KUMAR

3 AIR
GAMINI SINGLA

4 AIR
AISHWARYA VERMA

5 AIR
UTKARSH DWIVEDI

6 AIR
YAKSH CHAUDHARY

7 AIR
SAMYAK S JAIN

8 AIR
ISHITA RATHI

9 AIR
PREETAM KUMAR

YOU CAN BE NEXT

HEAD OFFICE Apsara Arcade, 1/8-B, 1st Floor, Near Gate 6, Karol Bagh Metro Station
+91 8468022022, +91 9019066066
Mukherjee Nagar Centre
635, Opp. Signature View Apartments, Banda Bahadur Marg, Mukherjee Nagar
DELHI

JAIPUR
9001949244

HYDERABAD
9000104133

PUNE
8007500096
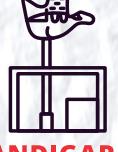
AHMEDABAD
9909447040

LUCKNOW
8468022022

CHANDIGARH
8468022022

GUWAHATI
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