VISION IAS
INSPIRING INNOVATION

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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. PANCHAYATS (EXTENSION TO THE SCHEDULED AREAS) ACT, 1996

Why in news?
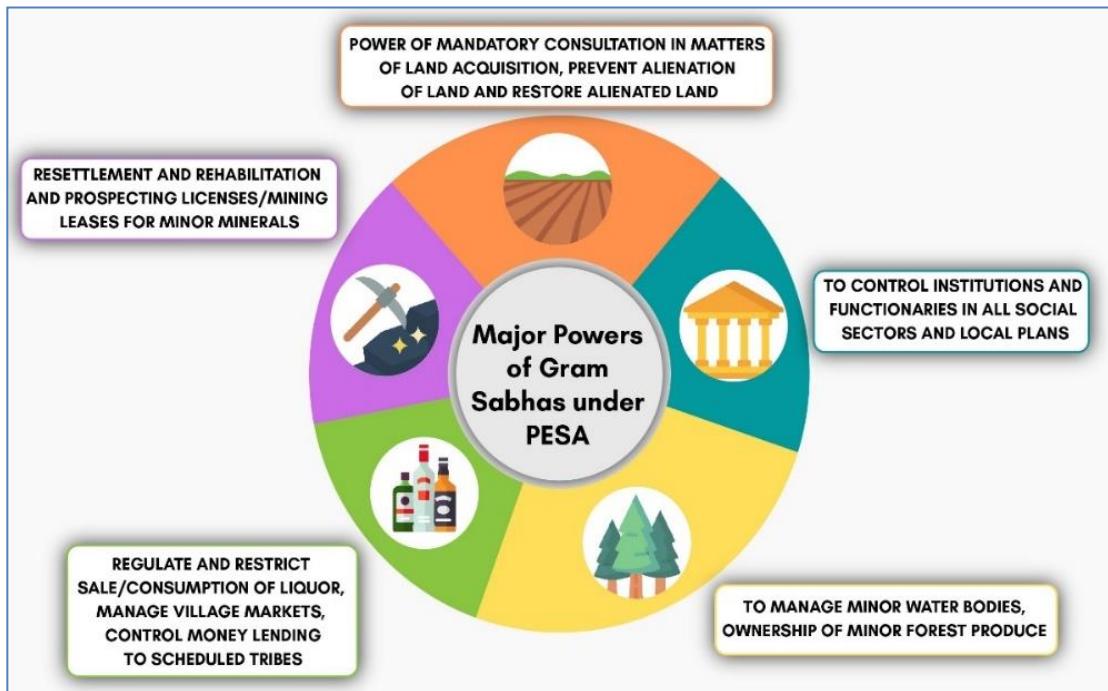
Recently, Chhattisgarh notified the **rules for implementation of the Panchayats (Extension to the Scheduled Areas) (PESA) Act, 1996** on the occasion of World Tribal Day.

More on news

- With PESA rules being notified, **Chhattisgarh became the seventh state in the country to frame rules and implement PESA** after Andhra Pradesh, Gujarat, Himachal Pradesh, Maharashtra, Rajasthan and Telangana.

About PESA Act, 1996

- Based on the recommendations of **Dileep Singh Bhuria Committee**, PESA Act was **enacted in 1996** for tribal empowerment and to bring them into the mainstream.
- **Ministry of Panchayati Raj is the nodal Ministry** for implementation of the provisions of PESA in the States.
- PESA Act is called a '**Constitution within the Constitution**' as it **provides for the extension of the provisions of Part IX of the Constitution** relating to the Panchayats to the Scheduled Areas of **10 States** under **Article 244(1) read with Schedule 5,** with certain modifications and exceptions.
  - o Ten states are Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana.
  - o After the PESA Act was enacted, the Union government circulated model PESA Rules. So far, **seven states have notified these Rules.**
- **Objectives of PESA Act:**
  - o **Ensure self-governance through Gram Sabhas** for people living in the Scheduled Areas.
  - o Gives special powers to the Gram Sabhas especially for the **management of natural resources.**
  - o **Recognises the right of tribal communities and protects tribal people** from money lenders, land alienation and **provides them ownership on Minor Forest Produce (MFP),** minor water bodies and community assets.

Challenges in implementation of PESA Act, 1996

- **Lack of awareness**: Although PESA had come into existence in 1996, it is observed that the local tribal community of Fifth Schedule areas has very limited understanding of the law and powers extended to them under PESA.
- **Limited autonomy**: In many cases, it is observed that the Gram Sabhas are influenced by non- tribal individuals. At lower level, **Gram Sabha and Panchayats have not been granted enough powers for revenue generation**. As a result, they only have limited functional autonomy.
- **Violation of provisions under PESA:** Gram Sabhas have **not been empowered and strengthened to ensure greater people's participation and transparency** in functioning of Panchayats as envisaged.
  - For example, in Korba district of Chhattisgarh, local community is protesting the government decision of acquiring land using Coal Bearing Act of 1957, that is illegal and against the spirit of PESA.
- **Implementation:** There exist **gaps in adoption of PESA and its implementation in letter and spirit.** For instance, laws not formulated by the respective state governments.
  - Despite having a 26% Adivasi population, Jharkhand has failed to formulate rules for the implementation of PESA.
- **Expertise:** Functionaries overseeing the implementation of the Act may not have proper understanding of tribal culture.
- **Inadequate Institutional mechanisms:** Lack of institutional mechanisms and enabling ecosystem such as adequate capacity, proper access to information etc. for empowering Gram Sabhas as centres of self-governance.
- **Lack of clarity:** With respect to land acquisition in Scheduled Areas, the PESA Act states that the **Gram Sabhas be consulted before the acquisition is made**.
  - The **inclusion of the word 'consultation' has been misconstrued repeatedly** to imply that their approval is not needed for land acquisition, which forms an important part of projects affecting scheduled areas' populace.
- **Overlapping functions:** Gram Sabhas to be conducted under PESA, often see low turnout and participation, due to presence of parallel customary forums and other committees.

> **Other features of the PESA Act, 1996**
> - **State Legislation on Panchayats shall be in conformity with the customary law**, social and religious practices and traditional management practices of community resources.
> - **Every village shall have a Gram Sabha** consisting of persons whose names are included in the electoral rolls for the Panchayat at the village level.
> - Every Gram Sabha to **safeguard and preserve the traditions and customs of people**, their cultural identity, community resources and the customary mode of dispute resolution.
> - **Gram Sabhas has roles and responsibilities in approving all development works** in the village, identify beneficiaries, issue certificates of utilization of funds; powers to control institutions and functionaries in all social sectors and local plans.
> - Every panchayat to have **reservation of seats** in proportion to the community population (**minimum of 50 percent**) with **Chairperson of Panchayats** at all level to be **reserved for STs.**

Way forward

- **Awareness:** The efforts towards creation of awareness and publicity for the meetings of Gram Sabha need to be improved.
- **Funding:** Panchayat finances should be **decentralised towards creation of independent accounts for each Gram Sabha.**
  - Gram Sabhas should be given with full financial autonomy for their operations including control over the revenues generated out of giving licenses for the exploitation of the minor water bodies and minor minerals.
- **Women participation**: As traditional tribal councils are dominated by male in all respective states, **appropriate measure should be taken to ensure at least one third participation of women** in all meetings at the Gram Sabha level.
- **Community ownership:** The concept of community ownership of resources in PESA areas should be **integrated into the provisions of the Centrally Sponsored Schemes**. All community resource- based schemes should involve Gram Sabhas in planning and implementation.
- **Uniformity of laws**: There is an **urgent need to amend the Indian Forest Act, Land Acquisition Act**, **and other related Acts** so that the ownership of minor forest produce, water bodies and land resources are explicitly handed over to the Gram Sabhas of the PESA areas.

Conclusion

PESA recognises the traditional system of the decision-making process and stands for the peoples' self-governance. If it is implemented in letter and spirit, it will rejuvenate the dying self-governance system in the tribal areas.

1.2. SPORTS GOVERNANCE

Why in News?
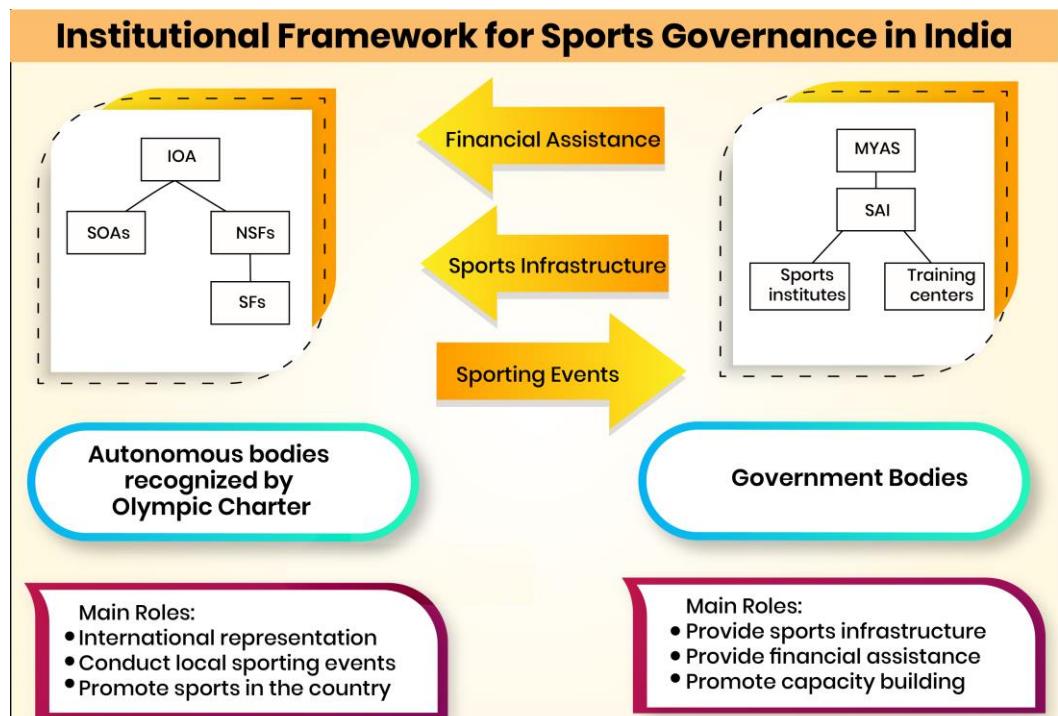
After the dissolution of the **Committee of Administrators (CoA)** by the **Supreme Court (SC)**, the **Bureau of FIFA Council** has lifted the suspension on **All India Football Federation (AIFF)**.

More on News

- The CoA was appointed by the SC to manage the **AIFF affairs** and **adoption of its constitution** in line with the **National Sports Code and Model Guidelines**.
- **Dissolution of CoA** was a necessary condition from FIFA to lift the **AIFF suspension** as it gives AIFF full control on its daily affairs.
  - Earlier, FIFA suspended the AIFF due to '**undue influence from third parties**'- a **serious violation under the FIFA Statutes**.
- It will also help India to **hold FIFA U-17 Women's World Cup 2022** (scheduled to take place in India in October 2022).

Sports Governance and Administration in India

- Sports governance is defined as **the system by which sports organisations are governed**. This includes defining of the **strategic objectives** and the **framework**, i.e.
  - The process of **oversight** (**rules and policies**).
  - The **direction** (**mission, objectives and strategies**), based on which decisions are made and implemented in a sports organisation.
- In India, this oversight and direction is broadly divided under **two wings** (see **image**) as:
  - The **Ministry of Youth Affairs and Sports** (MYAS) and its subordinate organisations (e.g. **Sports Authority of India (SAI**); and

Institutional Framework for Sports Governance in India

IOA — SOAs, NSFs — SFs

Financial Assistance / Sports Infrastructure / Sporting Events

MYAS — SAI — Sports institutes, Training centers

Autonomous bodies recognized by Olympic Charter

Government Bodies

Main Roles:
- International representation
- Conduct local sporting events
- Promote sports in the country

Main Roles:
- Provide sports infrastructure
- Provide financial assistance
- Promote capacity building

  - **Sports Organisations** under **Olympic Charter**, i.e. **Indian Olympic Association (IOA)**, **State Olympic Association (SOA)**, **National Sports Federation (NSF)** etc.
  - **For non-Olympic sports** such as Cricket, the organisations (**Board of Control for Cricket in India**) have direct affiliation from respective **international federations**.
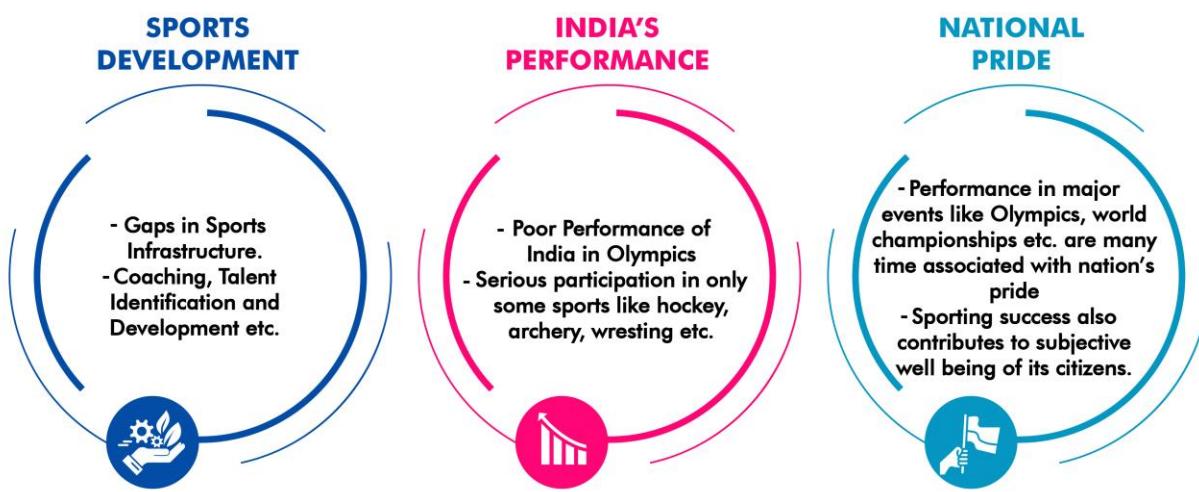
Issues in Sports Organisations and its impact

Though good governance is central to development and success of sports ecosystem/culture, the sports organisations in India face **multiple issues** such as:

Administrative Issues	• **Unclear roles and responsibilities**: Multiple organisations at various levels (national, state and district) lead to issues of **confusion, duplication of services and gaps in the sports ecosystem**. • **Lack of Professionalism:** Because of the stronghold of **politicians, retired bureaucrats and businessmen over sports** organisations the issues of **fiefdom, factionalism, nepotism, and irregular elections** are common. ○ E.g. The AIFF President continued despite completion of three terms and 12 years as AIFF president, the maximum permitted to a national sports federation (NSF) chief under the Sports Code. • **Poor Differentiation in Governance and Management** leading to unwanted compromise on one aspect. • **Inadequate Representation of Athlete's in the electoral colleges, i**.e., lack of voice of sportspersons in sports administration. • **Other Issues:** Sports organisations also face issues of **discrimination** (based on sex or region), **prevalence of unethical practices** such as **doping** and **unauthorized betting** in sports.
Financial Issues	• **Limited Funds:** The **size of sports media and sponsorship industry** in India was around **$95 billion** in FY20. But **majority of it is centered around cricket.** • **Limited Union Government funding**, as **sports is a state subject** (Entry 33 of the State List) and **Financial Irregularities** further multiplies financial issues.
Cooperation and Coordination Issues	• **Governance Structure:** Except some sports like cricket, hockey, badminton, kabaddi etc., India does not have a clear and functional architecture of sporting federations and events. ○ E.g., **Delhi High Court** appointed a CoA for day-to-day affairs for Table Tennis as there was no one to manage Table Tennis Federation of India. • **Multiple Actors:** The involvement of state governments, local and district bodies, private businesses (through CSR or through sports leagues) etc. in sports management makes ground level cooperation and coordination difficult.
Transparency Issues	• **Poor Accountability and Transparency:** Sports organisations enjoy large discretionary powers leading to issues of **Opaque Decision Making, corruption,** etc.

All these issues lead to **ineffective or poor sports governance** with **lack of leadership, integrity,** and **sound policy**. It impacts not just the **development of sports** in India but **hurts India's performance and pride** at international-level as well (see **image**).

IMPACT OF POOR SPORTS GOVERNANCE

SPORTS DEVELOPMENT
- Gaps in Sports Infrastructure.
- Coaching, Talent Identification and Development etc.

INDIA'S PERFORMANCE
- Poor Performance of India in Olympics
- Serious participation in only some sports like hockey, archery, wresting etc.

NATIONAL PRIDE
- Performance in major events like Olympics, world championships etc. are many time associated with nation's pride
- Sporting success also contributes to subjective well being of its citizens.

Government Initiatives to Address issues in Sports Governance

- **Direct or indirect financial assistance** to **sports federations**. E.g., tax benefits.
- **Sports facilities** for hosting events to National Sports Federations.
- **National Sports Development Code of India, 2011**: Also known as the **Sports Code**- assembling various government notifications issued since **1975** and important court orders.

> **Private Sector Entry in Sports**
> - Although new to Indian sports, it has helped in increasing money flow, professionalism, and talent identification opportunities.
> - At the same time, it is leading to issues of **profit as sole motivation**, **conflict of interests**, **illegal betting** etc. impacting integrity of sports and players.
>   - E.g., Chennai Super Kings and Rajasthan Royals owners' involvement in illegal betting in confluence with players.

  - It provides the **minimum standards** to be complied by the **sports body** to retain the sports ministry's annual recognition and enjoy the privileges such as fielding national teams, using national symbols, and receiving government funding (see **image**).
  - It is recognized by **Delhi High Court** as **binding administrative directions** to be complied by **federations for recognition**.

SPORTS CODE KEY REQUIREMENTS FOR NATIONAL SPORTS FEDERATION

1. **Legal Status:** It must be voluntary registered body rather than proprietary concern of partnership firm
2. **Status & Recognition:** Must be the apex body for relevant sports and recognition from relevant International or Asian Federation and IOA
3. **Internal Requirements:** Must have a written constitution, more than 3 years of existence and affilated units in at least 2/3rd states/ UTs
4. **Elections:** Must conduct fair, transparent and democratic elections
5. **Age and Tenure Limit:** Comply with age and tenure limit of 70 years for all office bearers with tenure regulation. E.g. 12 years for President with or without break.
6. **Sportsperson Representation:** Include prominent sportspersons as members in the organization
7. **Office and Accounts:** It must have an office in Delhi and maintain proper accounts of all annual financial statements
8. **Others:** Impartial and transparent selection process, regular doping tests of all players, prevent age frauds, comply with RTI etc

Way Forward

- **Framing well-defined sports legislation** to separate governance and management with proper checks and balances with optimized role of every stakeholder in sports governance.
- **Professional Sports Governance and Administration** to curb the abuse of power. E.g. Qualifications on selection and retention of the members in these bodies.
- **Develop Educational Resources on Governance** and promote collaboration to optimize resources use and services to meet the needs of sport.
  - E.g., **Governance Principles** for a **values-driven culture, gameplan and measures** to ensure **integrity, accountability, and transparency**.
- **Introduce and Enforce Accountability and Transparency Requirements** such as mandatory Public Disclosures for administrative decisions, regular issuing of statements etc.

- **Adopt Bottom-up approach** to reconstitute and reform district and state bodies which ultimately leads to the national sports governance pyramid. Better governance and administration at district and state level will influence national sports bodies as well.

To know more about India's Sports Ecosystem, please refer to our following Weekly Focus Document.

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.	

1.3. PERSONAL DATA PROTECTION (PDP) BILL

Why in News?

Recently, **Central government withdrew the Personal Data Protection (PDP) Bill** that it had tabled in the Lok Sabha in 2019.

Background

- **In Justice K.S. Puttaswamy (Retd) vs Union of India case** (2017), Supreme Court (SC) ordered that the right to privacy is an intrinsic part of the right to life and personal freedom guaranteed by the Indian constitution.
- In the light of this judgment, and the abounding concerns around how large tech platforms were handling the personal data of its Indian users, the **Centre in 2017 set up an expert committee chaired by retired Supreme Court Justice B.N. Srikrishna** to formulate a regulatory framework for data protection.
- **In 2018 Srikrishna committee submitted its report** and a draft for the Data Protection Bill to the Ministry of Electronics and Information Technology.
- **In 2019, Bill was tabled in Parliament** which was later **sent to a Joint Parliamentary Committee (JPC).** JPC submitted its report in November, 2021.
- Government now stated that **bill will soon be replaced by a comprehensive framework of Global standard laws** including Digital Privacy laws for contemporary & future challenges.

Why the need for withdrawing the bill was felt?

- **Radical overhaul suggested by JPC:** In the face of significant number of amendments, recommendations, and corrections suggested by the JPC, government view was that it is better to bring in a new Bill.
- **High compliance cost:** Tech industry — specifically Indian start-ups — have raised the issue that the infrastructure needed to comply with the localisation rules in PDP Bill will be a huge drain on their resources.
- **Balancing data protection and privacy:** As per experts, many provisions of the Bill, such as data localisation, hardware authenticity clauses, and so on, went beyond data protection, and into the realm of privacy.
- **Concerns raised by opposition:** It was alleged that the law gave sweeping powers to the government to access personal data of individuals under opaque conditions, citing national security and other reasons.
- **Not aligned with changing technology landscape:** This has brought to the fore several other issues (such as ethics and AI, ransomware becoming more sophisticated, crypto and NFT's adding a commercial dimension to blockchain technology) that need to be legislated upon.

- **Concerns raised by civil liberties organisations:** Such as the bill allowed for non-consensual processing of personal data by the State for providing service or benefit, lacked accountability measures for Data Protection Authority etc.

Way Forward

- New data protection legislation **should take into consideration the criticisms** that have been raised by civil society as well as the private sector.
- **Best provisions/practices from global experiences** such as GDPR (General Data Protection Regulation) of EU and Singapore Personal Data Protection Act (PDPA) should be considered.
- There is a **need to engage in greater stakeholder consultations** and seek expert inputs to formulate robust legislation which ensures adequate accountability and transparency from all data processors.
- New bill should give a **level playing field to small Indian start-ups** and content creators vis-a-vis the giants who are dominating the space at the moment.

To know more about Data Privacy and Innovation, please refer to our following Weekly Focus Document.

Data-Driven Innovations and Privacy

Data is the new oil and data-driven innovations are the new sources of growth. However, the story is incomplete without talking about the privacy of data generators. This document explains various types of data, their usage and the inter-relationships that exist between innovation and privacy. Further, it also provides an insight into how a middle path can be identified that can protect data privacy while promoting the culture of data-driven innovations.

1.4. SOCIAL MEDIA-CENSORSHIP AND REGULATION
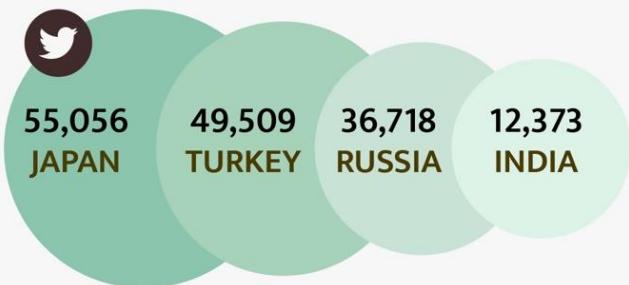
Why in news?

According to **Twitter's global transparency** report, there has been a rise in **legal demands being made by India** to remove content from Twitter between 2014 and 2020.

Key highlights of the report

- India is in **the fourth spot to issue blocking orders between 2014 and 2020**, after Japan, Turkey, and Russia.
- Between 2014 and 2020, the government ordered Google to take down numerous pieces of content from services like Search, YouTube, Gmail, and Bloggr.
  - Reasons being **criticism of the government, defamation, adult content, and impersonation among others.**

TOP 4 COUNTRIES TO ORDER REMOVAL OF CONTENT TO TWITTER BETWEEN 2014-2022

| 55,056 JAPAN | 49,509 TURKEY | 36,718 RUSSIA | 12,373 INDIA |

Need for social media regulation:

- **Checking disruption in the society**: The diversity of Indian society can be **hampered due to growing polarization on social media**. For example, hate crimes against Northeastern citizens in Delhi.
- **Curtailing fake news:** A plethora of fake news on social media has **led to violence, radicalization, and fearmongering.**
  - For instance, false claims about widespread child trafficking and harvesting of organs circulated widely through WhatsApp resulted in mob violence and more than three dozen deadly lynchings in 2017 and 2018.

- **Minimizing case of cyberstalking:** The primary advantage of **cyber stalkers is that they depend on the anonymity** offered by social media which allows them to keep a track of their victim's activities without the fear of anybody detecting their identity.
- **Preserving democracy:** The world witnessed the worst example of the impact **digital platforms can have on society with the debacle at the U.S. Capitol** in 2021.

Evolution of regulation via. Information Technology Act 2020.
- This Act applies **to the whole of India,** and **its provisions also apply to any offense or contravention, committed even outside the territorial jurisdiction of the Republic of India, by any person irrespective of his nationality.**
- The Act gives legal validity to **electronic contracts and recognition of electronic signatures.** This is modern legislation that makes acts **like hacking, data theft, spreading of viruses, identity theft, defamation (sending offensive messages) pornography, child pornography, and cyber terrorism, a criminal offense.**
- The 2008 amendment introduced the controversial **Section 66A into the Act**. Section 66A gave authorities the power **to arrest anyone accused of posting content on social media that could be deemed 'offensive'.**
  - The Supreme Court, however, in 2015, **struck down this section** of the IT Act saying it was unconstitutional as it **violated Article 19(1)(a) of the Constitution (Shreya Singhal v. Union of India 2013).**
- The **data privacy rules** introduced in the Act in 2011. The rules require firms to **obtain written permission from customers before collecting and using their personal data.**
- The Government of India in 2021 Notified **Information Technology (Intermediatary Guidelines and Digital Media Ethics Code) Rules 2021.**

Proposed draft amendment to the IT rules 2021

- **Obligation of intermediaries:** The 2021 Rules require the **intermediary to "publish" rules and regulations, privacy policy, and user agreement for access or usage of its services.**
  - They specify restrictions on the types of content that users are allowed to create, upload, or share. They also require intermediaries to inform users about these restrictions.
- **Expeditious removal of prohibited content:** The 2021 Rules require intermediaries to acknowledge complaints regarding violation of Rules within 24 hours and dispose of complaints within 15 days.
- **Appeal mechanism against decisions of grievance officers:** The 2021 Rules require intermediaries to **designate a grievance officer to address complaints regarding violations of the Rules**.
- **A Grievance Appellate Committee** will be formed by the central government to **hear appeals against the decisions of grievance officers.**

Implementation Challenges in effecting censorship

- **Subjectivity**: Censorship has no objective boundaries. It is wholly reliant on the viewer's sense of morality, with dynamic standards of decency, obscenity, etc.
- **Potential for misuse, overregulation, and abuse:** Censorship provides the state motivated by political gains, an opportunity and means to control the ideas and expression of citizens, especially under influential constituencies.
  - Further, a weak criminal justice system, vague language of legislations, and lack of clarity in jurisprudence can make it easier to suppress free speech.
- **Ineffective in certain cases:** Censored material has the tendency to find its way into society through underground channels. In some cases, censoring content has also led to the generation of widespread curiosity about the censored material, hence defeating the purpose of censorship.

Grounds for restricting online content are broad and may affect **freedom of speech.**

The issues with the draft amendment

To enable the identification of the first originator of information may **affect the privacy of individuals.**

There are no procedural safeguards for requests for information **under the possession of intermediaries.**

Way forward

- **Encouraging self-regulation:** It can be set up both in-house and/or industry-wide depending on the function that it is supposed to serve.
- **Codification of all media laws**: Codification leads to the certainty of governing laws. This certainty will help allay the fears of citizens and creators and enhance creative and intellectual freedom.
- **Limiting the extent of censoring power of the state**: To prevent abuse and overuse of power, any regulatory body should be allowed to take the decisions independently, while the government can act as a facilitator by forwarding its suggestions/recommendations.
- **Adopting proactive or non-punitive steps to address hate speech**: Such steps may involve public education, encouraging diversity, openly combating libelous or incendiary misinformation, and improving protection to protect a community at risk.
- **Promoting professional education in the media:** Ethical standards that respect privacy, dignity, and freedom of speech and expression of citizens can be developed and inculcated in course curriculums to train in various media to minimize external control.

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

Indian media in the present times is straddling between saving freedoms at one end, and censoring harmful content at the other end. Examining the need and issues related to content censorship in the country, the document discusses the best way forward to balance media censorship with our fundamental right of speech and expression.
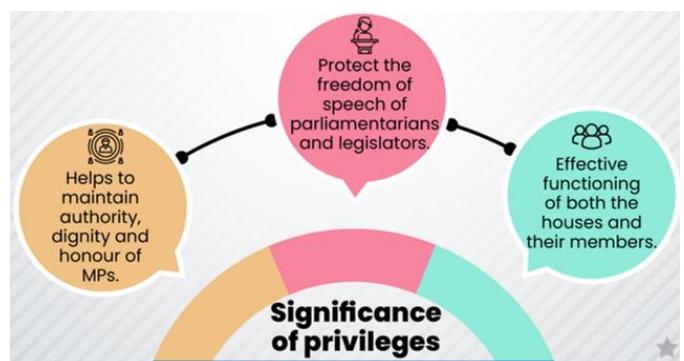
1.5. NEWS IN SHORTS

1.5.1. PARLIAMENTARY PRIVILEGES

- On privileges enjoyed by MPs, RS chairman stated that **MPs do not enjoy any immunity from arrest in criminal cases when House is in session** and cannot avoid summons issued by law enforcement agencies.
- Parliamentary privileges are **certain rights and immunities enjoyed by MPs, individually and collectively,** so that they can "effectively discharge their functions".
  - These rights are **also given to those individuals who speak and participate in any committee of the Parliament,** which includes the Attorney General of India and the Union Ministers**.**
  - When any of these rights and immunities are disregarded, **offence is called a breach of privilege and is punishable under law of Parliament.**
- Special privileges are enshrined under **Article 105 (for Parliament) and Article 194 (for state legislature)** of Constitution.
  - One of the privileges is that a member of Parliament cannot be arrested **in a civil case 40**

days before the commencement of the session or committee meeting **and 40 days thereafter**.
  - Parliament, till now, **has not made any special law** to exhaustively codify all the privileges.

1.5.2. 14TH VICE-PRESIDENT (VP) OF INDIA

- Jagdeep Dhankhar has been elected as the 14th VP of India.
- VP is the **second-highest constitutional post,** provided under Article 63 of the constitution**.**

- **He is elected by**, method of indirect election, members of an **electoral college consisting of the members of both Houses** of Parliament.
- He **holds office for a term of five years** but can resign and can be removed before completion of 5 years.
- He acts as the **ex-officio Chairman of Rajya Sabha.**

1.5.3. ELECTORAL BONDS (EB)

- Data from State bank of India **shows that since 2018, political parties have collected more than Rs 10000 cr. from EBs**.
- Union Budget 2017-18 introduced **EBs** as **interest-free bearer instruments** to **cleanse the system of political funding in the country.**
  - **Rationale:** To limit the use of cash in political funding, eliminate fraudulent political parties, protecting donor from political victimization, curb black money etc.
- Electoral bonds (valid for 15 days from the date of issue) can be purchased by **a citizen of India or entities incorporated or established in India.**
  - **Sold in multiples** of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore. **SBI is the only bank authorised** to sell them.
- **Eligibility:** Registered political parties that secured **at least one percent of votes polled** in the most recent General or Assembly elections.
  - **Buyers of bonds have to submit full KYC details** at the time of buying. But the **beneficiary political party is not required to reveal the identity** of the entity that has given it the bond(s).

CONCERNS RAISED AGAINST ELECTORAL BONDS

- Anonymous donation may compromise with the **principle of free and fair election.**
- Allowed possibility of corporate misuse as it removes limits on Company donations to Political Parties.
- Lack of level playing field in terms of political funding as it restricts the benefits of electoral bonds only to a few political parties.

1.5.4. JAMMU AND KASHMIR (J&K) ELECTORAL ROLL

- J&K Chief Electoral Officer (CEO) announced that anyone "**who is living ordinarily in J&K**" can avail the opportunity to get enlisted as a voter in J&K in accordance with **provisions of Representation of People Act, 1951 (RPA).**
  - **Electoral roll was last revised in 2019** under **J&K RPA, 1957** which became **null and void** after abrogation of Article 370.
  - **Under J&K RPA, 1957**, only 'permanent residents' were eligible to vote.
  - **RPA 1951, now determines the conduct of elections** in J&K.
  - With Article 370 scrapped, there will be a **single electoral roll now for assembly and parliamentary polls.**
- Ordinarily resident is **determined by electoral registration officer of a constituency.**
  - Such a person may be from another part of country but **living in J&K for purpose of work, business or other reasons,** provided the **person gets their name deleted from electoral roll of their native constituency.**
- When Article 370 was in force, those **'ordinarily residing' in J&K were eligible to vote only in parliamentary polls** (categorised as **non-permanent resident** (NPR)).
  - NPR includes **West Pakistan refugees living in J&K since 1947.**
- **Revision of electoral rolls in J&K**
  - **Election Commission of India is working on fresh electoral rolls** in J&K after **J&K Delimitation Commission carved out seven new Assembly constituencies** (six to Jammu division and one to Kashmir) under J&K Reorganisation Act, 2019.
  - Fresh electoral rolls are essential to prepare the ground for any announcement of elections in J&K (last held in 2014).

1.5.5. RECOGNISING MINORITIES AT DISTRICT LEVEL

- Supreme Court, while hearing a petition to identify minorities district wise, stated that **it cannot entertain such a prayer as it is contrary to the precedents** which hold that such identification must be carried out at State level.
  - **In Re: Kerala Education Bill case (1958)**, SC had **rejected the argument that minorities** should be **identified at block or district level**.
  - **Also, in TMA Pai Case (2002),** SC held that **linguistic and religious minority are determined**

by taking **state as a unit** and not by taking into consideration population of country as a whole.

- **Minority status in India**
  - **Constitution does not define the word Minority** and only refers to Minorities. Rights of minorities have been spelt out under Article 29 and 30.
    - ✓ Also, Article 350B mentions about **special officer for linguistic minorities.**
  - However, Centre, using **National Commission for Minorities (NCM) Act, 1992**, has **declared Muslims, Christians, Sikhs, Buddhists, Jains and Zoroastrians** as 'minority'.
  - **National Commission for Minority Educational Institutions (NCMEI) Act, 2004** has been enacted to safeguard educational rights of minorities.

1.5.6. CONSTITUTION BENCH

- Recently, CJI assured **that there will be at least one Constitution Bench functioning throughout the year** in the SC.
  - Presently, a total of **492 Constitution bench matters, involving 53 main cases involving key questions of law and constitutional interpretations,** remains pending in the SC.
- A Constitution Bench is a **bench of the SC having 5 or more judges on it**.
  - Presently, they are **set up by the CJI on an ad-hoc basis** as and when the need arises.
- Constitution Benches are **set up only if one or more of the following circumstances exist:**
  - **Article 143**: Case involves a **substantial question of law pertaining to the interpretation of the Constitution.**
  - **Article 145(3): President of India has sought the SC's opinion** on a question of fact or law under Article 143.
  - Two or more three-judge benches of SC have **delivered conflicting judgments** on the same point of law, thus **warranting a definitive pronouncement by a larger bench.**
  - A later three-judge bench **doubts the correctness of a judgment delivered by a previous three-judge bench of SC**, and decides to refer to a larger bench for a reconsideration of earlier judgment.

- In a related development, **for the first time the SC livestreamed its proceeding.**
- **Significance of live streaming**:
  - **Ensure right of access to justice,** guaranteed under Article 21.
  - **Imbue greater transparency, inclusivity and foster access** to justice.
- Currently, **6 of 25 High Courts (Gujarat, Orissa, Karnataka, Jharkhand, Patna, and Madhya Pradesh) live-stream proceedings.**

1.5.7. BENAMI TRANSACTIONS (PROHIBITION) ACT OF 1988

- Supreme Court (SC) recently struck down certain provisions of Benami Transactions (Prohibition) Act of 1988.
- 1988 act was **introduced to prohibit benami transactions** and to **recover property held as benami.** However, **rules, regulations, and procedures** for implementation of law **could not be framed,** which made it ineffective.
  - Benami transaction means **any transaction in which property is transferred to one person for a consideration paid or provided by another person.**
  - Benami transactions are used to **disguise real ownership for reasons, including tax avoidance, maintain secrecy,** parking unaccounted money etc.
- 2016 amendment **expanded scope and punishment** for benami transactions and also **added a provision for confiscation of the property** obtained as result of benami transaction.
- **Key highlights of the verdict**
  - **Section 3(2) of 1988 Act** (accordingly of 2016 act also) **is unconstitutional for being arbitrary** and **violative of Article 20(1)** of Constitution (prohibits retrospective punishment for a crime).
  - **Punitive provisions** of 2016 amendments under section 5 **shall not be applied retrospectively.**
    - ✓ Section 5 of the 2016 Amendment Act **allows confiscation of any property** which is subject matter of a benami transaction.
  - **Prosecutions or confiscation proceedings** (for transactions between 1988 and 2016) **shall stand quashed.**

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

2. INTERNATIONAL RELATIONS

2.1. INDIAN DIASPORA

Why in news?

Recently, a Parliamentary committee released a comprehensive report on Indian Diaspora.
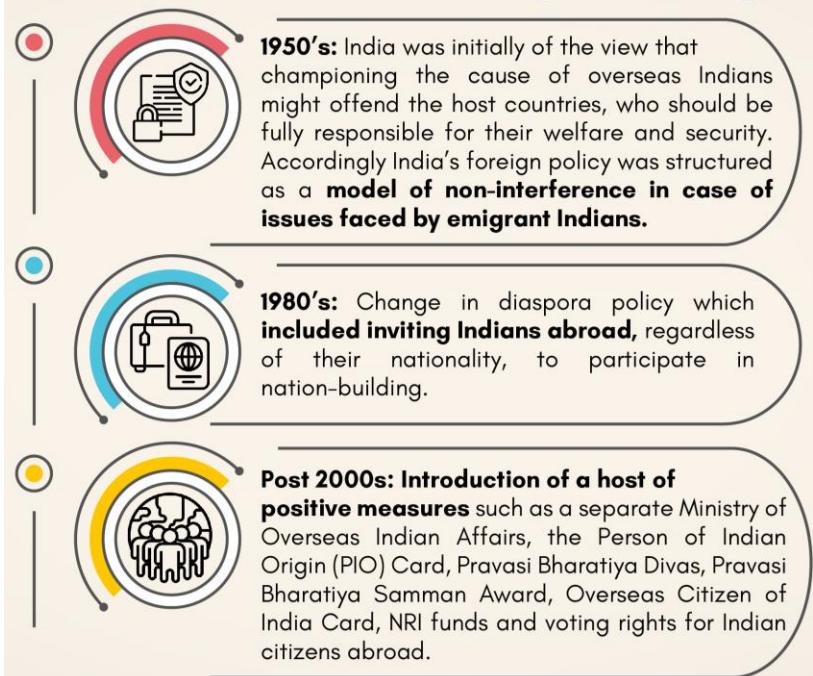
About Indian Diaspora

- Indian Diaspora is the **group of people who are currently living outside India** (temporary or permanent) and those who **can trace their origin to India**.
- It is commonly understood to **include Non-Resident Indians (NRIs), who are citizens of India and Overseas Citizens of India (OCI)** including Persons of Indian Origins (PIOs), who are foreign nationals.
  - o PIO and OCI card holders have been merged under one category OCI in 2015.
- India has one of the **largest diaspora in the world** with over **31 million** including over 13 million NRIs and 18 million PIOs spread across the globe.
- The **composition of the Indian diaspora is diverse**, consisting of labourers/workers, traders, political leaders, professionals as well as students and **spread across the world** with major concentration in U.S, Canada, UK, Australia, Gulf, E.U., South & West Africa and Girmitiya countries.
  - o **Girmitiya countries** are the countries where Indians were taken as indentured labourers during British India to work on plantations in British colonies.
  - o Girmitiya countries includes countries like- **Fiji, Mauritius, Jamaica, South Africa, Guyana, Suriname** etc.
- India with **US $ 87 billions of remittances** sent by diaspora is the **largest recipient country of the world** in 2021 and it is expected to grow by 2.6% in 2022 (World Bank report).
- India's engagement with its diaspora is characterized under the rubric of **4Cs - Care, Connect, Celebrate & Contribute.**

Major lacunae identified by the committee in effective engagement with Diaspora

- **Lack of authentic database:** Since registration by the diaspora is voluntary, the entire diaspora does not register with the Indian Embassies/Posts abroad and the data also varies because of the mobility of the diaspora.

Evolution of India's Diaspora Policy

1950's: India was initially of the view that championing the cause of overseas Indians might offend the host countries, who should be fully responsible for their welfare and security. Accordingly India's foreign policy was structured as a **model of non-interference in case of issues faced by emigrant Indians.**

1980's: Change in diaspora policy which **included inviting Indians abroad,** regardless of their nationality, to participate in nation-building.

Post 2000s: Introduction of a host of positive measures such as a separate Ministry of Overseas Indian Affairs, the Person of Indian Origin (PIO) Card, Pravasi Bharatiya Divas, Pravasi Bharatiya Samman Award, Overseas Citizen of India Card, NRI funds and voting rights for Indian citizens abroad.

Tangible Benefits of Indian Diaspora

- Serve as ambassadors of India's interests abroad
- Work as bridges between Indian Government and their host countries
- Driving force in getting foreign remittances and investments from abroad to India
- Plays a very important role in social and economic development of India
- They are the Indian voice in various multilateral fora
- Presents opportunity for the promotion of India's soft power and cultural diplomacy abroad
- Play an important role for track II diplomacy

- **Exclusion of a large population:** Low/semi-skilled and blue collar workers may not find place or feel comfortable to participate in the PBD celebrations as the general profile of participants is seen to be of very high level.
- **No clear policy:** The policy of the Government evolves based on the feedback which it gets from the diaspora from time to time.
- **High number of unresolved grievances** in the various Embassies, Consulates and offices of the Protector of Emigrants.
- **No specific scheme exists for the rehabilitation of the workers** who lost their jobs including the huge population of Gulf returnees, in the wake of the COVID-19 Pandemic.
- **Insufficient evaluation of programs and schemes** for the welfare of diaspora population.
- **Challenges in crisis situation:** For instance, thousands of Indian students pursuing medical and other courses in Ukraine and China have been left in a quandary as they are neither being able to return to these countries and also could not re-join their courses physically or complete their internship or training in India.

Recommendations of the committee

- **Bring out a policy document** on diaspora to serve as a guiding principle for deeper and wider engagement with the diaspora community.
- **Maintenance of data:** Concerted efforts may be made to collate an authentic database of the Indian diaspora at Ministry level and use it appropriately in preparing and implementing welfare scheme for diaspora community.
- **Review of Pravasi Bharatiya Divas Events:** The participation and involvement should be more broad-based accommodating the vulnerable sections of the diaspora community too.
- **Paradiplomacy:** Stepping up efforts of coordination and closer interaction with the State Governments for successful implementation of programmes and schemes.
- **Qualitative and quantitative improvements in the grievance redressal system** so that all the pending cases are resolved within a specified timeframe.
- **Cultural Diplomacy:** Deepening engagement through organisation of

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Major challenges faced by Indian Diaspora

- **West Asia specific:**
  - Low oil prices owing to Shale gas boom, slower global growth and fierce competition from skilled labour from the Philippines resulting in **job cuts for Indians.**
  - **Rising conflicts and instability** due to the Shia-Sunni conflicts and the radical Islamism affecting security of Indians.
  - **Exploitative Kafala labour system** (a sponsorship system that binds workers through contract to a kafeel (sponsor), who controls their immigration status).
  - **Nitaqat Law which** aims to replace a large section of overseas workers with locals in Saudi Arabia.
- **US, Canada & UK**
  - Discriminative practices, Protectionism and Stricter H-1B visa norms in US
  - Revision of visa norms in UK post-Brexit.
  - Demands for Dual Citizenship
- **General Economic Issues:** violation of contractual terms, adverse working conditions, wage related issues, medical & insurance related problems etc.

Steps taken for enhancing engagement with diaspora population

- **Merger of The Ministry of Overseas Indian Affairs (MOIA) with the Ministry of External Affairs (MEA)** in 2015 which led to re-integration bringing in a more holistic approach towards dealing with the issues of the Indian diaspora.
- **Revamping of organization of Pravasi Bharatiya Divas (PBD)** with much greater participation of diaspora.
  - Programmes/schemes initiated under it are Know India Programme (KIP), Scholarship Programme for Diaspora Children (SPDC), Bharat Ko Janiye Quiz, Videsh Sampark Series and PIO Parliamentarian Conference etc.
- **Institutional framework for support and welfare of Indian nationals abroad** includes MADAD portal, e-Migrate, Indian Community Welfare Fund (ICWF), Pravasi Bharatiya Sahayata Kendras (PBSK), Indian Worker Resource Centres among others.
- **Robust system of grievance redressal** which includes bringing such issues through e-mails, twitter and through Centralised Public Grievance Redress and Monitoring System (CPGRAMS) portal has been maintained.
- **State Outreach Programme** under the banner 'Videsh Sampark' which is an in-depth dialogue between MEA and State Governments with the objective of seeking cooperation in addressing issues pertaining to welfare and protection of NRIs living abroad.
- **Facilitating the diaspora community to contribute or give back to the country** through programmes like VAJRA Faculty Scheme, PRABHASS (Pravasi Bharatiya Academic and Scientific Sampark) and VAIBHAV (Vaishwik Bharatiya Vaigyanik).
- **Schemes for Rehabilitation** such as SWADES (Skilled Workers Arrival Database for Employment Support), has been launched for citizens returning under the Vande Bharat Mission with the aim of creating a database of returning citizens based on their skill sets and experience.

cultural events at Missions/Consulates showcasing the rich historical and cultural heritage of India for cultural diplomacy and soft power projection abroad.

- **Impact assessment of the existing Migration and Mobility Agreements** to ensure that the issues of interest of the migrant workers including their grievances are actually addressed through the said MoUs/ Agreements.
- **Comprehensive rehabilitation scheme** must be worked in for those workers who lost their jobs due to pandemics or other disasters.

2.2. INDIAN ANTARCTIC ACT, 2022

Why in news?

Recently, the **Indian Antarctic Act, 2022** was enacted.

About Indian Antarctic Act, 2022

- This act aims to provide national measures for protecting the Antarctic environment and dependent and associated ecosystems and **to give effect to the Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources and to the Protocol on Environmental Protection to the Antarctic Treaty.**
- **Key Objectives of the Act**
    - **Prohibit Indian expedition to Antarctica or carrying of certain activities** in Antarctica **without a permit;**
    - **Eliminating mining or illegal activities**.
    - **Fulfilling India's obligations under Antarctic Treaty and related conventions**.
    - **Facilitating India's interest and pro-active involvement** in the management of growing Antarctic tourism and sustainable development of fisheries resources in Antarctic waters.
    - **Increasing international visibility, credibility of India in Polar governance** leading to international collaboration and cooperation in scientific and logistics fields.
    - Building a well-established legal mechanism for **efficient and elective operations of Indian Antarctic Programme**.
- **Key Provisions of the Act**
    - **Applicability**: Provisions applicable to **any, Indian or foreign Citizens**; entities incorporated, established or registered under any law in force in India; vessel or aircraft registered in India or involved in any Indian expedition to Antarctica.
    - **Establishment of a Committee on Antarctic Governance and Environmental Protection** to be chaired by the **Secretary of the Ministry of Earth Sciences**. Various functions of the Committee include:
        - ✓ **Grant, suspension or cancellation of permits** for various activities;
        - ✓ **Monitoring, implementing and ensuring compliance** of relevant international laws, emission standards and rules for protection of Antarctic environment;
        - ✓ **Negotiating fees/charges with other parties** for activities in Antarctica;
        - ✓ Establishment of **waste classification system and waste management plans** etc.
    - **Permit system:** A permit by the Committee or written authorisation from another party to the Protocol (other than India) will be required for various activities such as**:**

> **About Antarctic Treaty**
> - This treaty came into force in 1961 after ratification by 12 original members**:** Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, USSR (now Russia) the UK, and the US.
> - **Parties**: Currently 54 countries have acceded it.
>   - **India signed the treaty** in 1983 and is **one of the 29 Consultative Parties to the treaty**.
> - **Objectives of the treaty**
>   - **Demilitarize Antarctica**, making it free of nuclear tests and the disposal of radioactive waste.
>   - **Establish it as a zone for peaceful research activities**.
>   - **Set aside disputes over territorial sovereignty.**
> - It **covers the area south of 60°S latitude**.
> - The Treaty parties have also negotiated three international agreements which govern activities in Antarctica, collectively known as the **Antarctic Treaty System**-
>   - **Convention for the Conservation of Antarctic Seals, 1972**
>   - **Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), 1980** (ratified by India in 1985)
>   - **Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol), 1991** (signed by India in 1998).

- ✓ **Entering and staying in Antarctica,**
- ✓ **Mineral resource activities,**
- ✓ **Introduction of non-native animals and plants or microscopic organisms,**
- ✓ **Removal of biological specimen,**
- ✓ **Entering into Antarctic Specially Protected Area or Marine Protected Area,**
- ✓ **Waste disposal** etc.

- o **Constitution of the Antarctic fund** to be applied towards the welfare of Antarctic research work and protection of Antarctic environment.
- o **Stringent penalties for contravention of its provisions:** E.g., Conducting a **nuclear explosion** in Antarctica could lead to **imprisonment of 20 years** etc.
- o **Designated court to try punishable offences:** The central government may notify one or more Sessions Courts to be the Designated Court. It can also specify its territorial jurisdiction to try offences punishable under the Act.
- o **Grant of Special permit for commercial fishing in Antarctica**.
- o **Provision for inspection in India** by an officer designated by the Central Government as an Inspector and to constitute an inspection team to carry out inspections in Antarctica.
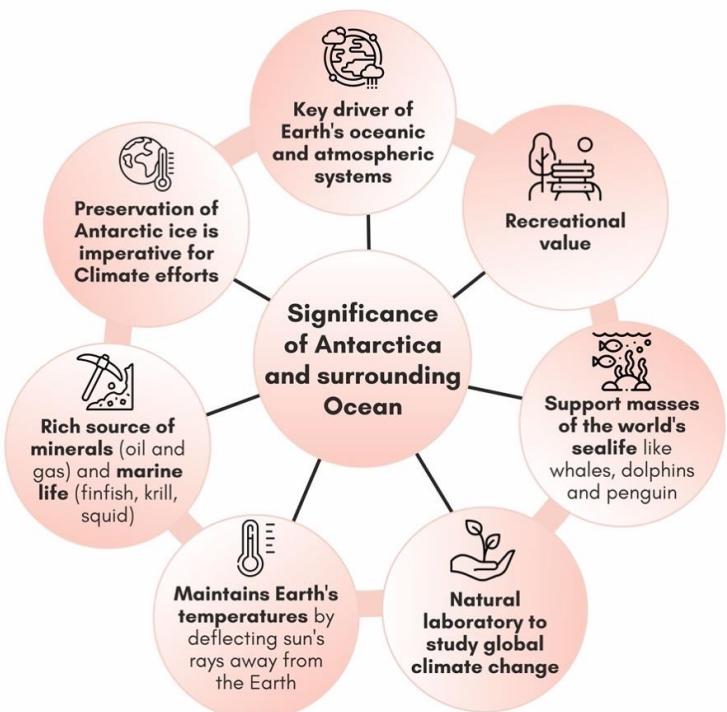
Prohibited activities under the Act
- ☒ Nuclear explosion, disposal of radioactive wastes.
- ☒ Introduction of non-sterile soil.
- ☒ Introduction of specified substances and products.
- ☒ Discharge of garbage, plastic, or other substance harmful to marine environment in Antarctica.
- ☒ Damage, destroy or remove any historic site or monument.
- ☒ Possession, sale or offering for sale, trading, transporting, transferring or sending anything that has been obtained by violating provisions of the act.

About Antarctica

- It is world's 5th largest, southernmost and the **driest, windiest, coldest, and iciest** continent.
- It is not a country and **has no government and no indigenous population**. Instead, the entire continent is set aside as a scientific preserve.
- **Just 2% of this continent is free of ice**, allowing a small toe-hold for hardy animals and plants.
- **It holds 90% of the Earth's total ice volume** and **70% of its fresh water.**
- **India and Antarctica**
  - o There was **no specific legislation for Antarctica** since India's Antarctic expeditions began in 1981.
  - o India is also **a member of-**
    - ✓ **Council of Managers of National Antarctic Programme (COMNAP)**: It comprises the heads of each of the national Antarctic operating agencies.
    - ✓ **Scientific Committee of Antarctica Research (SCAR)**: It coordinates Antarctic research programs and encourages scientific cooperation.
  - o **India's Research stations: Maitri** at Schirmacher Hills, **Bharati** at Larsemann Hills (Dakshin Gangotri was the first Indian base established in 1984).

- **Indian Antarctic program managed by National Centre for Polar and Ocean Research (NCPOR), Goa:** Under it, India has successfully launched 40 annual scientific expeditions to Antarctica till date.

2.3. SUPPLY OF CRITICAL MINERALS

Why in news?

There is a growing concern over India not finding a place in the US-led Minerals Security Partnership (MSP).

About Minerals Security Partnership (MSP)

- It is an ambitious US-led partnership of 11 countries **to secure and strengthen supply chains of critical minerals** such as Cobalt, Nickel, Lithium, and other rare earth minerals.
  - Members include US, Australia, Canada, Finland, France, Germany, Japan, Republic of Korea, Sweden, United Kingdom, and the European Commission.
- The alliance is **aimed at catalysing investment** from governments and the private sector to ensure that countries realise the full economic development benefit of their geological endowments.
- It **comes in the backdrop of recorded demand for critical minerals and dominance of China** in supply chain of these minerals particularly the processing stage of production.
  - The **Democratic Republic of the Congo (DRC) and People's Republic of China (China) were responsible for some 70% and 60% of global production** of cobalt and rare earth elements respectively in 2019.

About Critical Minerals and their Significance

- **Definition:** It refers to mineral resources, both primary and processed, which are:
  - **Essential** inputs in the functioning of **modern technologies, economies** and **national sec urity**, and
  - Faces **supply chain disruption risk** on account of non-availability and price volatility.
- **Elements included**: It includes **metallic** and **non-metallic element** such as Antimony, Beryllium, Cobalt, Germanium, Graphite, Indium, Lithium, Niobium, 17 Rare earths (heavy and light), Rhenium, Tantalum, Silicon, Strontium, Vanadium, Zirconium etc.
- **Significance:** They are **critical** as their associated **impact on the economy** is (relatively) **higher** than the other raw materials and they have **limited substitutes**.

Innovation
Lack of Innovation to unlock new supplies from low-grade ores, recycling, finding alternatives etc.

Domestic Reserves
Unexplored Domestic Reserves of all Critical Minerals due to Limited capacity and issues of inter-agency coordination

INDIA'S DOMESTIC CHALLENGES

Funds
Highly Capital Intensive production with limited private investment due to bad experiences. E.g. delays in environmental clearances

Production
Government Companies Monopoly over rare earth minerals with outdated technologies leading to greater environmental impact

Why India's exclusion from MSP is a concern?

Commonly used in the **production of advanced technologies and low-emission technologies** such as semiconductors, hybrid cars, wind turbines, batteries, defence equipment etc., they are vital in India's **digital economy transition** and achieve-

- **Self-reliance (AtmaNirbhar Bharat)** in multiple sectors by building a domestic manufacturing capacity in semiconductors, batteries etc.

- **Promotion of Energy efficiency** through advanced electricity networks, energy efficient lighting and battery storages.
- **Faster adoption and manufacturing** of hybrid and electric vehicles to cater requirements of **e-mobility**. E.g. Electric cars have six times more critical minerals than conventional cars.
- **Decarbonization of energy system** through clean energy technologies which need a higher amount of critical minerals. E.g., an **offshore wind plant** requires **13 times more** critical minerals when compared with gas-plant of same size.

> **Khanij Bidesh India Ltd. (KABIL)**
> - It is a **joint venture** of **3 Central Public Sector Enterprises** namely, **National Aluminium Company Ltd**. (NALCO), **Hindustan Copper Ltd**. (HCL) and **Mineral Exploration Company Ltd**. (MECL).
> - It is mandated **to identify and acquire overseas mineral assets of critical and strategic nature** such as lithium, cobalt, nickel, Copper, Neodymium, other rare earths etc.
> - Currently, it is **engaged with countries like Australia, Argentina, Bolivia and Chile** to tap critical and strategic minerals.

Challenges in Critical Minerals Supply

- **High Import Dependency of most countries** due to high geographical concentration of critical minerals extraction and processing.
  - E.g. Chinese Dominance across the value chain of rare earth minerals.
- **Long project development lead times** to move mining projects from discovery to first production; leading to a prolonged period of **market tightness** and **price volatility** on deficit.
- **Declining ore quality** and **reduced investments** from resource rich countries due to pandemic, increasing the market tightness with increased environmental impact.
- **Higher exposure to political instability and geostrategic risks** due to their significance and complex processing value chain under rising conflicts.
- **Increased sustainability and responsible production pressure on mining activities** due to mine accidents, environmental and social performance scrutiny etc.
- **India's Domestic Challenges** further limit India's abilities to tap critical minerals (see **image**).

Way Forward

Government has set up **KhanijBidesh India Ltd. (KABIL)** to identify and acquire overseas critical and strategic mineral assets, and signed bilateral agreements such as **Australia-India Critical Minerals Investment Partnership** for mutual benefits. Further, it should:

- **Set up an intelligence centre on critical minerals** to study the future demand and supply, identify potential weaknesses, evaluate potential impacts, and devise necessary actions.
- **Focus on Domestic Exploration** through capacity enhancement of Indian Bureau of Mines for better inter-agency coordination and enhanced exploration of critical minerals.
- **Promote expenditure on research and innovation** to study their formation, improved mining and mineral processing technologies, reducing material intensity and finding a substitute material.
  - It can help India in mining of critical minerals from **Polymetallic Nodules, Seafloor Massive Sulphides or Polymetallic Sulphides** and **Cobalt-rich Ferromanganese Crusts** from Indian Ocean Region (IOR) with rich critical minerals resources; and
- **Enhance supply chain resilience** through supply diversification or **strategic stockpiling** of critical minerals to **weather short-term supply disruptions**.
- **Scale up recycling** to relieve pressure on primary supply and encourage public participation in it by raising public awareness.
- **Strengthen international collaboration** for strategic acquisition of overseas mines and signing of agreements to carry out joint research projects; including increased efforts to join MSP.

2.4. COMMON SECURITY

Why in news?

Recently, Palme International Center, International Peace Bureau (IPB) and International Trade Union Confederation (ITUC) released a report on Common Security 2022.

What is the concept of Common security?
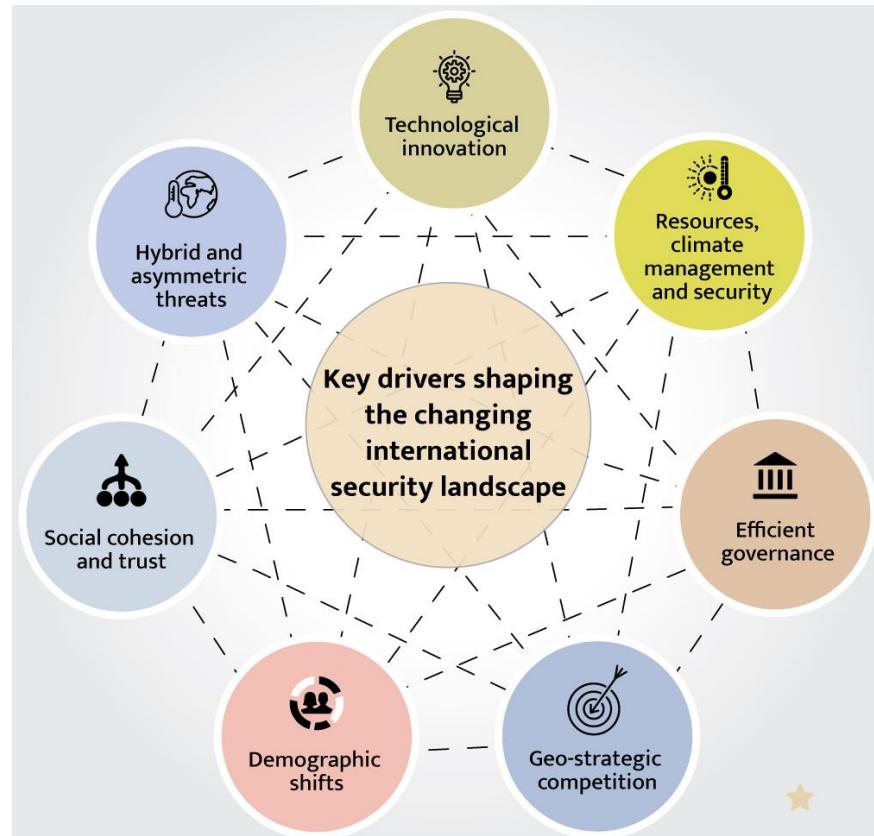
- Common security is **a notion based on the assumption that no nation, community or individual can be secure without other nations, communities and individuals enjoying the same level of security**.

- o Any conflict in one part of the world has cascading effects on the people of another.
- o The effect can be seen in the Ukraine or Afghanistan conflict on other developing countries, particularly, on the supply of food grains, fertiliser and fuel.
- The common concepts of security go beyond the narrow traditional and realist approach to security.
  - o The **traditional idea of security** was the protection or defence of states against external threats or attacks.
  - o The notion of **common security is about non-violent approaches** to the universal need to be secure.

Risks to common security in the current era

- **Challenges to Multilateralism in a Multipolar World:** The validity of the international rules-based system is increasingly in crisis, with the rules being ignored and violated.
  - o Respect for the core principles of international humanitarian law is increasingly under threat, as witnessed in recent conflicts such as Iraq, Palestine/Israel, Yemen, Syria, and Ukraine.
- **Militarisation:** Massive investments in faster, more lethal nuclear weapons, coupled with increasing tensions between nuclear-armed states and new technological developments, presents a severe danger to international security.
  - o This even triggers a vicious circle – spending money on arms instead of people fosters inequality and stokes fear and division, which requires yet more military resources.
  - o The **Korean peninsula** represents one area of particular concern, where nuclear tensions remain high and there is increasing militarisation.
- **Authoritarian Regimes-Shrinking Democratic Space:** The past 15 years have seen a growing democracy gap, with a consistent expansion of authoritarian rule and a decline in major democracies.
  - o Non-democratic states not only threaten regional and global peace, but also fail to provide safety or security for their own citizens.

Six Principles of common security

All people have the right to human security. freedom from fear and freedom from want.

Building trust between nations and peoples is fundamental to peaceful and sustainable human existence.

There can be no common security without nuclear disarmament, strong limitations on conventional weapons and reduced military expenditure.

Global and regional cooperation, multilateralism and the rule of law are crucial to tackling many of the world's challenges.

Dialogue, conflict prevention and confidence-building measures must replace aggression and military force as a means of resolving disputes.

Better regulation, international law and responsible governance also need to be extended to cover new military technologies, such as in the realms ofcyberspace, outer space and"artificial intelligence".

Key drivers shaping the changing international security landscape

- Technological innovation
- Resources, climate management and security
- Efficient governance
- Geo-strategic competition
- Demographic shifts
- Social cohesion and trust
- Hybrid and asymmetric threats

- **Global Warming and the Climate Crisis:** Climate change fosters inequality, increases insecurity, destabilises existing relationships, fuels forced migration, and intensifies competition for key and scarce resources.
  - There is an alarming overlap between ecological degradation and conflict.
  - Of the 15 countries facing the worst ecological threats in the world, 11 are currently in conflict.
- **Inequality:** Nearly half of the world's population survives on less than $5.50 a day.
  - Rising income inequality leads to increasingly polarised politics, and the ascendance of populism and nationalism which may spiral into violence and war.
- **Current and Future Pandemics:** Underfunded health services and social protection systems, coupled with growing health inequality, prevented vaccine equity exposed the weakness in recent pandemic preparedness, and prevention and highlights vulnerabilities for future pandemics.

Ways to achieve common security

- **Strengthen global architecture for peace**
  - **Encouraging regional bodies**, such as SAARC, the Gulf Cooperation Council, and the Association of Southeast Asian Nations (ASEAN) and the African Union to develop frameworks that incorporate the principles of common security.
  - **Immediate resumption of strategic stability talks between the USA and Russia** and the resumption of strategic dialogue between the USA and China, with a view to the final elimination of all weapons of mass destruction.
  - **Integrating climate-related security risks into United Nations** conflict-prevention strategies.
- **Linking disarmament with development:** Finding innovative ways to utilise nuclear equipment and expertise for peaceful purposes and to support the transition of military personnel to non-military professions – the idea of "transforming weapons into windfarms". This entails:
  - **Reduction in military spending to generate a 'global peace dividend'** to fund the UN Sustainable Development Goals, UN peacebuilding, and a just transition to climate friendly jobs.
  - **Reduce spending on military personnel** by creating civil service options as an alternative to military service.
- **Revitalised Nuclear Arms Control and Disarmament**
  - **Reinstate arms control treaties**, particularly regarding nuclear weapons and their delivery systems, for example the Intermediate-Range Nuclear Forces Treaty (INF)
  - **States that carried out nuclear testing must provide immediate victim assistance and environmental remediation**, particularly to indigenous communities.
- **Regulation of New Military Technologies and Outer Space Weapons**
  - **Ban cyber-attacks on nuclear command and control systems,** accompanied by a disentanglement of conventional and nuclear weapon command and control systems.
  - **Prohibit autonomous weapons systems**, to ensure that humans keep control over weapons and armed conflict.
  - **Strengthen the Outer Space Treaty** and establish a new culture of responsible space governance to prevent further militarisation of the domain.
- **Engage and involve civil society:** Civil society must act as a watchdog, a motivating force, and a counterweight to political posturing – with the support of the verification and trust-building measures included in existing and new treaties.
  - **NGOs must play an active role in advocacy work and raising awareness** – not just on common security, but also on militarisation, just conversion and beyond.

2.5. NUCLEAR NON-PROLIFERATION TREATY(NPT)

Why in news?
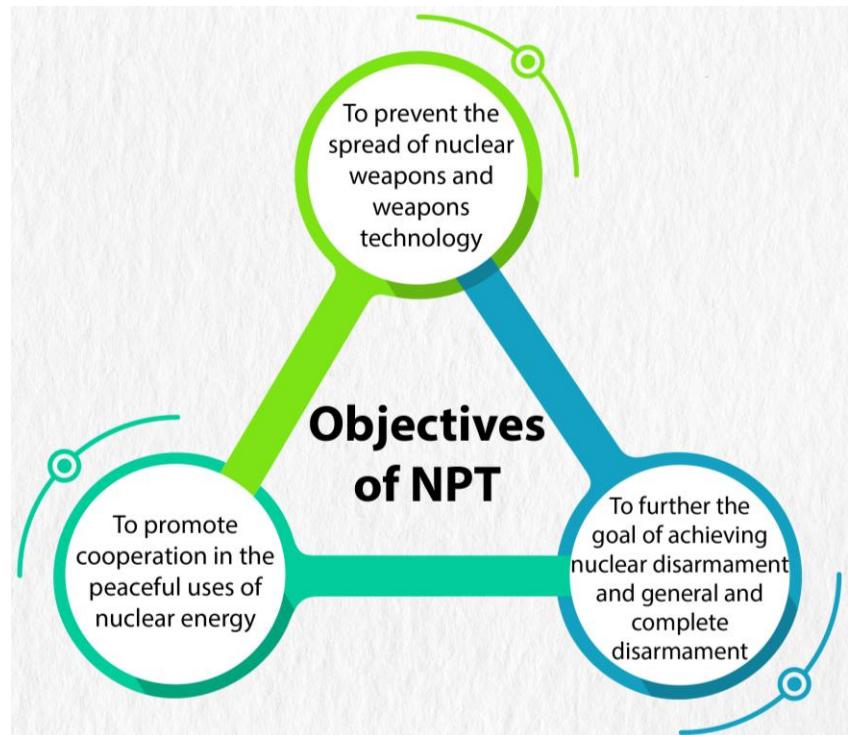
Recently, NPT's five-year review meeting took place.

More on news

- NPT completed 50 years in 2020.
- NPT's five-year review was supposed to take place in 2020 but was delayed because of the COVID-19 pandemic.

About NPT

- The treaty was signed in 1968 and entered into force in 1970.
- It is described as the "**cornerstone of global nuclear non-proliferation and disarmament**" and it is among the most widely-adhered-to global treaties.
- The Treaty represents **the only binding commitment in a multilateral treaty to the goal of disarmament** by the nuclear-weapon States.
- The treaty **defines nuclear-weapon states (NWS)** as those that have built and tested a nuclear explosive device before 1 January 1967; these are the United States, Russia, the United Kingdom, France, and China.
  - Four other states are known or believed to possess nuclear weapons: India, Pakistan, Israel and North Korea.
- **All countries of the world except South Sudan and the above four are parties to the NPT.**
- **NPT Review Conference is held every five years** to review the operation of the treaty and consider means to strengthen it.
- The International Atomic Energy Agency (**IAEA) verifies Non-NWS (NNWS) compliance with commitments under the NPT** not to acquire nuclear weapons.
  - **Article III** requires NNWS to conclude agreements with the IAEA to safeguard all nuclear materials in all peaceful nuclear activities.

Objectives of NPT

- To prevent the spread of nuclear weapons and weapons technology
- To promote cooperation in the peaceful uses of nuclear energy
- To further the goal of achieving nuclear disarmament and general and complete disarmament

About IAEA
- It was **founded in 1957 to promote nuclear cooperation** and the safe, secure and peaceful use of nuclear technologies.
- It is a **specialized agency integrated within the United Nations system** but through its own international treaty "The Statute of the IAEA".
- It has **three main roles:**
  - **furthering peaceful uses of nuclear energy** in science, especially for the critical needs of developing countries;
  - **promoting nuclear safety and security** for nuclear and radioactive materials in civilian use;
  - **verifying in more than 900 civilian facilities** that nuclear materials are not used in making nuclear weapons.

Achievements of NPT

- **Reduction in number of nuclear weapons**: From a peak of 70,300 warheads in 1986 to around 14,000 at present, with the US and Russia accounting for over 12,500.
- **Successfully prevented proliferation around the world:** Since 1970, only four countries have acquired nuclear weapons, bringing the total number of nuclear-weapon-states to nine.
- **Additional Protocol for detection:** The treaty facilitates cooperation on peaceful applications of nuclear technology under the watch of the IAEA.
  - It has helped make the nuclear inspections in the Iran nuclear deal much more effective and in years ahead with North Korea.
- **Creating nuclear weapon free zones:** Additionally, the states of many regions of the world have chosen to be part of nuclear-weapon-free zones in strong demonstration of their commitment to the objective of a world without nuclear weapons.

Challenges to effective implementation on NPT

- **Non-compliance of each nuclear-weapon state with the Treaty:** These include-
  - **Increases in arsenal sizes** (Russia, China), or raising the cap on the maximum number of warhead (UK),
  - **Fuelling a new nuclear arms race** by spending billions on nuclear weapons each year, including building new and more dangerous weapons systems (United States, Russia, China, France, UK).

- o **Failing to pursue negotiations** in good faith to end the nuclear arms race and for nuclear disarmament (United States, Russia, China, France, UK).
- **Unsettled international security environment:** may polarise nations to adopt the path of nuclear proliferation for e.g.
  - o U.S. withdrawal from the Joint Comprehensive Plan of Action (JCPOA);
  - o U.S.-North Korea negotiations at a halt.
- **Loopholes in the treaty:** NPT does not forbid a non-weapon state from possessing nuclear weapons (It forbids the acquisition, but in theory country with weapons could sign the NPT as a non-weapon state and not give up weapons already made).
  - o The treaty has **no sanctions for violators or for withdrawal from the treaty.**
- **Emergence of new technologies:** New technologies and types of weapons — including offensive cyber, counter-space, and hypersonic weapons — could further destabilize the security environment.
- **Breakdown in international diplomacy over the Ukraine invasion** is also enabling other states to move away from non-proliferation and disarmament.
- **Formation of Military groupings:** The proposal to allow Australia, a non-nuclear weapon state, to acquire nuclear submarines powered by highly enriched uranium (HEU) under the **AUKUS arrangement has a potentially negative impact on non-proliferation efforts and the control of fissile material.**

> **India's stand on NPT and other key treaties**
> India continues to attach high priority to and remains committed to universal, non-discriminatory and verifiable nuclear disarmament. Accordingly,
> - **India has not signed or joined the NPT** due to the regime's discrimination in favour of the five original nuclear weapons powers because it divides the world into nuclear haves and have nots.
> - **India also opposed Treaty on the Prohibition of Nuclear Weapons (TPNW)** on the grounds that it does not constitute or contribute to the development of customary international law; nor does it set any new standards or norms.
>   - o TPNW Prohibits participating in any nuclear weapon related activities.
> - **India also opposes Comprehensive Nuclear-Test-Ban Treaty (CTBT)** due to its discriminatory nature.
>   - o CTBT bans all nuclear explosion tests on Earth.
> - **India supports the commencement of negotiations on a comprehensive Nuclear Weapons Convention in the Conference on Disarmament**, which is the world's single multilateral disarmament negotiating forum working on the basis of consensus.
> - **India supports the proposed Fissile material cut off treaty** under it that would prohibit the production of two main components of nuclear weapons: highly enriched uranium (HEU) and plutonium.

> **Stockholm International Peace Research Institute (SIPRI), 2022 report highlights on Nuclear weapons proliferation**
> - While absolute numbers of nuclear arsenal have reduced, they are **expected to grow over the next decade.**
> - **Russia and the USA together possess over 90%** of all nuclear weapons.
> - Nine nuclear-armed states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and the Democratic People's Republic of Korea (North Korea)—continue to modernize their nuclear arsenals.

Way Ahead

- **More stakes on USA and Russia:** They could help themselves by agreeing to extend New START (Strategic Arms Reduction Treaty). It would be useful to engage China in strategic stability discussions as well.
- **Adhering to the TPNW:** It will make a strong contribution to the NPT's Article VI obligation for states-parties to pursue nuclear disarmament.
- **Encouraging peaceful uses of nuclear energy:** All NPT parties must work to ensure continued access to them in a safe and secure manner, and without increasing the risk of nuclear proliferation.
- More regions in the world (preferably comprising NWS) should enter into an arrangement of establishing **Nuclear-weapon-free zones.**

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

Nuclear Disarmament: A step towards safe and better world	So long as any country has nuclear weapons, others will want them. So long as any such weapons remain, it defies credibility that they will not be used one day, by accident, miscalculation or design. And any such use would be catastrophic! The risk factors are even more today due to the fundamental changes in international politics. The document discusses the significance and utmost need for the global nuclear disarmament, roadblocks in achieving that and India's role in promoting global peace, safety and security.	

2.6. SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC)

Why in news?

Former Prime Minister of Bhutan expressed concerns about the current status of the South Asian Association for Regional Cooperation (SAARC) and called for greater efforts to rejuvenate the organisation.

About SAARC
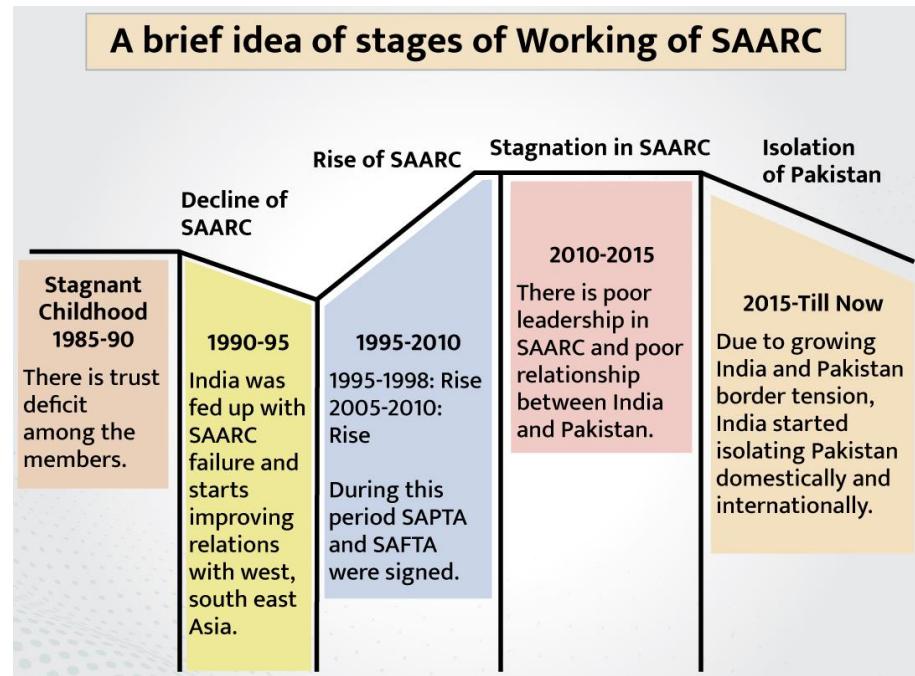
- SAARC is a **regional intergovernmental organisation** established with the signing of the SAARC Charter in Dhaka in 1985.
- SAARC **comprises of eight Member States**: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- Its **secretariat is in Kathmandu,** Nepal.
- **Objectives:** To promote the welfare of the people of South Asia and to improve their quality of life, and to accelerate economic growth, territorial integrity, mutual trust, strengthen collective self-reliance etc.

SAARC COUNTRIES

- The **last SAARC summit was held in 2014** and subsequent summits could not be held after 2016 Summit scheduled in Pakistan got cancelled in the backdrop of terrorist attacks in Pathankot and Uri.
  - o **SAARC works on the principle of consensus** and the summit cannot be held if even one member decides not to attend.
  - o In **2016,** India along with Afghanistan, Bangladesh, Bhutan, Maldives and Sri Lanka **declined from participating in the Islamabad SAARC summit.**

Need for revival of SAARC

- **Representative of the entire South Asian Region:** SAARC, as an organisation, geographically and culturally reflects the South Asian identity of the countries.

- **Dealing with common issues of the region:** South Asian countries are closely tied in their socio-political state as they face similar traditional as well as emerging issues like terrorism, energy shortage, hydro-politics, climate change among many others.
  - SAARC can be a platform for starting dialogue for timely addressal of these issues.
- **Critical for economic integration of the region:** As per world Bank report, with intra-regional trade at less than 5% of total trade, South Asia is the least integrated region in the world, dwarfed by East Asia's 35% and Europe's 60%.
- **Central pillar of India's Neighbourhood first policy:** For India to play global role, its regional role is the key pillar.
- **No real alternative:** BIMSTEC cannot replace SAARC for reasons such as lack of a common identity and history among all BIMSTEC members.
  - Moreover, BIMSTEC's focus is on the Bay of Bengal region, thus making it an inappropriate forum to engage all South Asian nations.

A brief idea of stages of Working of SAARC

Decline of SAARC

Rise of SAARC

Stagnation in SAARC

Isolation of Pakistan

Stagnant Childhood 1985-90
There is trust deficit among the members.

1990-95
India was fed up with SAARC failure and starts improving relations with west, south east Asia.

1995-2010
1995-1998: Rise
2005-2010: Rise

During this period SAPTA and SAFTA were signed.

2010-2015
There is poor leadership in SAARC and poor relationship between India and Pakistan.

2015-Till Now
Due to growing India and Pakistan border tension, India started isolating Pakistan domestically and internationally.

Failures and challenges of SAARC

- **Strained relation between India and Pakistan** escalated tensions and conflicts which severely hampers the prospects of SAARC.
  - **For instance, Pakistan's non-cooperation** has stalled some major initiatives like Motor Vehicles Agreement (MVA) and SAARC satellite project.
  - In SAARC Minister's Meeting 2019, **India and Pakistan's ministers boycotted each other's speeches.**

Achievements of SAARC
- **South Asian Free Trade Agreement (SAFTA):** Agreement was signed to reduce customs duties of all traded goods to zero by the year 2016. It is confined to goods, excluding all services like information technology.
- **South Asia Preferential Trading Agreement (SAPTA):** For promoting trade amongst the member countries came into effect in 1995.
- **SAARC Agreement on Trade in Services (SATIS):** SATIS is following the GATS-plus 'positive list' approach for trade in services liberalization.
- **SAARC university** was established in India.
- **SAARC Food Bank** was established to facilitate as an emergency source for facing a crisis in shortage or a natural disaster, floods, earthquakes, and such other issues
- **SAARC Arbitration Council** at Islamabad to provide a legal forum for the South Asian nations for solving conflicts.
- **SAARC Development Fund** was recognized by the members in 2010 to promote the welfare for the people of the South Asian region.
- **South Asian Regional Standards Organization (SARSO)** was established in Dhaka to develop harmonized standards for the region to facilitate intra-regional trade and to enhance access to the global market.

- **Lack of dispute resolution mechanism:** SAARC does not have any arrangement for resolving disputes or mediating conflicts.
- **South Asia Free Trade Agreement (SAFTA):** Given the presence of sensitive lists, **SAFTA is yet to be implemented in spirit**. Lack of transit facilities also prevent trade relations to flourish.
  - For instance, although India has road and rail links with Bangladesh and Pakistan, trade is conducted through transhipment due to lack of transit facilities.
- **Failure in reaching a common ground on issues:** Despite having similarities, the policies of the states have not shifted to take advantage of the ideas developed by exchanges.
- **Languishing for want of Political Will:** With political tensions and clashes nearby, the South Asian countries pose a query of insecurity and challenge to the creation of South Asian Union at balance with European Union.

- **Dealing with Terrorism:** Despite adopting and formulating a number of strategies and mechanisms on bilateral/ multilateral levels, the organisation has not been able to evolve a common and comprehensive approach to counterterrorism.
- **Asymmetry between India and other member countries:** They perceive India as "Big Brother" and have been reluctant to implement various agreements under SAARC.
- **Lack of resources:** SAARC faces a shortage of resources, and countries have been reluctant to increase their contributions.
- **Water Dispute**s South Asian water problems may become a source of future intra and inter-state conflict unless an effective and supportive mechanism is developed soon.

Way Forward

- **Conduct of SAARC meeting, physical or virtual is quintessential.**
- **Resolving differences among countries:** Setup a mechanism for informal discussions, formal mediation and resolution mechanisms tailored to the region's specific needs and problems.
- **Economic integration is the key to all the problems:** South Asian Region must identify economic and social element as priority rather than being marred by the security element.
- **Redefining the SAARC charter**, which includes removal of excessive safeguards, inclusion of 'SAARC Minus' concept and focus on Trade Facilitation, Energy Trade Connectivity, HADR Coordination, Visa Regimes and Cultural Exchanges.

2.7. TRANS-HIMALAYAN MULTI-DIMENSIONAL CONNECTIVITY NETWORK

Why in news?

China and Nepal agreed to build the Trans-Himalayan Multi-Dimensional Connectivity Network.

About The Trans-Himalayan Multi-Dimensional Connectivity Network

- The **Trans-Himalayan Multi-Dimensional Connectivity Network** (**THMCN)** also referred as the **Trans-Himalayan network** is an economic corridor proposed in 2019 between Nepal and China as a **part of China's Belt and Road Initiative.**
- The corridor **aims to enhance connectivity in ports, roads, railways, aviation, and communications.**
- The THMCN aims to **pave the way for more integration between China and the rest of South Asia**, solidify border controls and aid in the economic development and integration of China's TAR.

TRANS-HIMALAYAN MULTI-DIMENSIONAL CONNECTIVITY NETWORK

Concerns for India

- **Himalayan Quad:** Many experts observe that China is trying to form a **Himalayan Quad consisting of four Himalayan countries i.e. China, Pakistan, Afghanistan and Nepal,** which could have a very negative impact on India's security and strategic environment.
  - Different from the cooperation between the four Himalayan countries, the **Quad is a regional exclusive military-political alliance dominated by a Cold War mentality** both in terms of military power and international influence. **This kind of small circle will cause regional confrontations and divisions**.

Existing factors for delay in implementation of the project
- **Concerns over financing and transparency:** Nepalese government has three main concerns with China.
  - Nepal prefers grants and soft loans from China instead of commercial loans.
  - Nepal wants the interest rate and repayment time should be in line with that of multilateral funding agencies like the World Bank and Asian Development Bank.
  - BRI projects should be open for competitive biddings.
- **Apprehensions over China's debt trap diplomacy:** Sri Lanka's financial crisis has become a pretext for Nepali officials wanting to slow down Chinese financing.

- o The proposed Himalayan Quad is the culmination of a Chinese policy initiative for a geo-strategic counter against the encirclement policy of the Indo-Pacific Strategy.
- **Impact on relations with Nepal:** Landlocked Nepal has traditionally relied on India for trade and transit routes. Now, China's infrastructure diplomacy has promised growth and development, while also **providing Nepal with alternative trading routes that ameliorate its reliance on India.**
  - o China's growing influence in Nepal could be a significant challenge for India to maintain a balance between the two neighbours.
- **Challenging India's role in South Asia:** By helping create multiple access points via roads and ports, China can present an alternative to South Asian nations and cultivate the **means to challenge India's role as a South Asian power.**
- **Security concerns:** The THMCN infrastructure initiative will **pass near Lumbini, which is close to the Indian border,** and has raised concerns from Indian strategists.
- **Environmental impacts:** Infrastructure projects run through fragile alpine ecosystems, and carving up the land for roads and tunnels could exacerbate landslides and floods in the upper Himalayan states in India.
  - o The new roads will also open up access for illegal loggers and help fuel the trade in endangered species, such as parts from tigers, rhinos and elephants, which are highly prized in China.

Way ahead for India

- **Consolidate relation with Nepal**: India must introduce **new economic, developmental and infrastructure initiatives with Nepal** that will not only bring tangible benefits to Nepali citizens but also address the vulnerabilities that will emerge in Nepal as the country engages with China.
- **Address Environmental concern:** Himalayan region should come together to form a "Third Pole Council" and collectively tackle the environmental concerns plaguing the mountain range.
- **Improve connectivity in border region:** Building up its border regions as opposed to keeping them disconnected will help India facilitate the movement of goods as well as troops from other parts of the country to this region.

China's outreach in the Himalayan region
- China **foresees the Himalayas as the next frontier for global resource management and conservation** particularly in:
  - o the wake of climate change and global warming and the fact that it **serves as the Asian water tower for 4-5 billion peoples and**
  - o the yet **unknown mineral deposits in the Himalayan subregion.**
- China's outreach in the region has been characterized by **comprehensive security agreements, infrastructure-oriented aid, enhanced focus on trade, public-private partnerships, and increased economic and security cooperation during the recent COVID-19 pandemic.** Examples witnessing the same include:
  - o **The China Pakistan Economic Corridor (CPEC)** which passes through the contested Himalayan border region of Gilgit-Baltistan—is being built mainly by China with the support of both Pakistan and Afghanistan.
  - o **China has invested in Wakhan Corridor Fiber Optic Survey Project** to create cross-border fiber linkages connecting Afghanistan and China.

India's strategy in Himalayan Region
- Since independence, India has chosen to keep its Himalayan borders inaccessible and poorly connected mainly **due to concerns regarding China's invasion.** This created massive disconnect between its borders and hinterlands, especially on its Himalayan front.
- India began to formulate its own plans for regional connectivity in the Himalayas in 2013. The Indian Government proposed several "**strategic rail projects,**" including fourteen railway lines connecting its borders to foster growth in outlying regions.
  - o For instance, the **Himalayan Rail Express** aims to connect India's northern territory of Leh in Jammu and Kashmir to the eastern territory of Hawai in Arunachal Pradesh.

Limitation for India
- India-driven connectivity developments have so far been limited due to **unsettled boundary issues with Pakistan and Nepal.**
- **A lack of a strategic vision on India's part** led to slow implementation and delays.
- **Tough Himalayan terrain on the Indian side** compared to better conditions on the Tibetan Plateau.

2.8. CHINA-TAIWAN ISSUE

Why in news?

US Speaker's visit to the island of Taiwan has led to rising tensions over the status of island that China claims as its own and could further strain US-China relations.

Background of China-Taiwan conflict

- Taiwan (earlier known as Formosa) is an **island situated 100 miles from the coast of south east China** separated by the Taiwan Strait.
- Taiwan first came under full Chinese control in the 17th Century when the **Qing dynasty** began administering it. Then, in 1895, they gave up the island to Japan after losing the **first Sino Japanese war.**
- China took the island again in 1945 after Japan lost **World War II.**
- The communists won after the civil war in China in 1949 and took control in Beijing. Chiang Kai-shek and the nationalist party - known as the **Kuomintang** - fled to Taiwan, where they ruled for the next several decades.
- China points to this history to say that Taiwan was originally a Chinese province. But the Taiwanese point to the same history to argue that they were never part of the modern Chinese state that was established under Mao in 1949.
- **China exerts considerable diplomatic pressure on other countries not to recognise Taiwan**, or to do anything which implies recognition.
  - Currently, only 13 countries (plus the Vatican) recognise Taiwan as a sovereign country.

What is US policy for Taiwan?

- The island of Taiwan is part of the so-called **"first island chain"**, which includes a list of US-friendly territories that are crucial to US foreign policy.
- The US currently sticks to the **One-China policy**, which recognises only one Chinese government - in Beijing, and with which it has formal diplomatic ties.
  - US has maintained **unofficial relations with Taiwan** and supplies the island with arms and spare parts to maintain sufficient self-defense capabilities under its **Taiwan Relations Act, 1979**.
- US is by far the **largest arms dealer for Taiwan** and follows a **'strategic ambiguity' policy** meant the US has been deliberately unclear about whether or how it would defend Taiwan in the event of an attack.

What is India's stand on the Taiwan?

- **India has followed the One China policy since 1949**, that accepts Taiwan and Tibet as part of China.
- India **does not have formal diplomatic ties with Taiwan**. But since 1995, both sides have maintained representative offices in each other's capitals that function as de facto embassies.
  - As a part of India's **Act East Foreign Policy**, Government facilitates and promotes interactions with Taiwan.
    - ✓ For instance, the **India-Taipei Association (ITA)** and **Taipei Economic and Cultural Centre (TECC)** in New Delhi are examples of the exchange.
- **India uses the policy to make a diplomatic point**, i.e., if India believes in "One China" policy, China should reciprocate with "One India" policy.
  - **India stopped mentioning the policy in official statements and joint declarations after 2008**
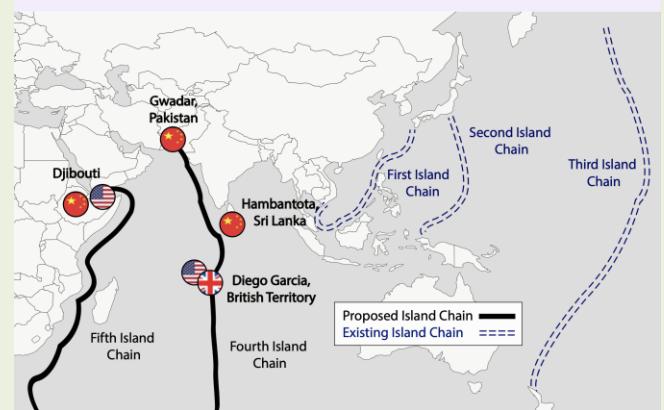
DID YOU KNOW?

- ⊕ Much of the world's everyday electronic equipment -from phones to laptops, watches and games consoles -is powered by computer chips made in Taiwan.
- ⊕ A single Taiwanese company -the Taiwan Semiconductor Manufacturing Company or TSMC -has over half of the world's market.

First Island Chain

- **First Island Chain** comprises the **Kuril Islands, the Japanese Archipelago, Ryukyu Islands, Taiwan, northwest Philippines** and **ending at Borneo.**
- This chain is the first line of defence and serves as the maritime boundaries between the **East China Sea**, **Philippine Sea**, **South China Sea** and the **Sulu Sea**.
  - In this chain are located the **Bashi Channel** and the **Miyako Strait** which are critical chokepoints for China.
- It is a part of **Island Chain Strategy** *(refer image)* **formulated by the US in 1951** to contain the erstwhile USSR and China with a string of naval bases in the western Pacific region to restrict sea access to these two countries.

ISLAND CHAIN STRATEGY

One-China Policy

- It is **a policy of acknowledging** that there is only one Chinese government as opposed to separate Chinese states.
- Further under this principle, countries also consider territories of Taiwan, **Tibet, Hong Kong and Xinjiang** to be an inseparable part of mainland China.

after China started issuing stapled visas to Indian citizens who were residents of Jammu and Kashmir and Arunachal Pradesh.

o **However, its engagement with Taiwan is still restricted.**

Related News

- Recently, China marked the 25th anniversary of Hong Kong's return and emphasised Beijing's control over Hong Kong under **One country, two systems (OCTS)**.
- **About OCTS**
  o It was **originally proposed to unify China and Taiwan**, but rejected by Taiwan.
  o The idea resurfaced when **China started talks with Britain and Portugal,** who were governing Hong Kong and Macau, respectively, as colonies.
  o Under this, **China proposed that, Hong Kong and Macau**, can **have different economic and political systems** from that of **mainland China**, **while being part of China.**
  o Both regions **became Special Administrative Regions** of China with their **own currencies, economic** and **legal systems**,
    ✓ However, **defence and foreign affairs** would be **decided by China.**
  o Also, Hong Kong has freedom of assembly and speech, and some democratic rights, which **are not available in mainland China.**
    ✓ These freedoms are protected by the Basic Law, a mini-constitution that guides relationship between Hong Kong and China.
    ✓ **Basic law is valid for 50 years, till 2047 for Hong Kong** and **2049 for Macau.** But it is **unclear** what **will happen after this term.**
- **About Hongkong and Macau**
  o British had taken control of **Hong Kong in 1842** after the **First Opium War**. In 1898, Britain and China signed Convention, which allowed the British to take **control of the islands surrounding Hong Kong on lease for 99 years**.
  o Macau, on the other side, had been ruled by the **Portuguese from 1557**.
  o In the 1980s, China initiated talks with both **Britain and Portugal for the transfer of two territories**.
  o Hong Kong returned to Chinese control **in 1997**, and Macau's sovereignty was transferred **in 1999.**

2.9. ROLE OF NORTHEAST IN REGIONAL TRADE AND DEVELOPMENT

Why in news?

The successful trial run for trans-shipment of cargo movement from **Kolkata to the Agartala via Mongla port in Bangladesh** took place recently.
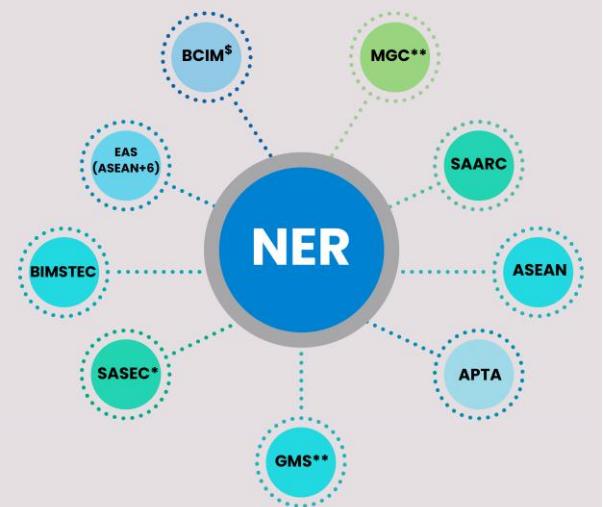
More on news

- The inter-border trans-shipment exercise is a **result of a bilateral agreement** signed between the two neighbours in 2018 agreeing to facilitate **transhipment and use of Mongla and Chittagong ports.**
- The distance between Kolkata and Agartala by road is 1650 kilometre which would be reduced to **only 620 km through the waterways.**
- India has been working strategically to **connect its north-eastern region with the rest of the country** through Bangladesh to **reduce both transit cost and time and boost trade**.
- This route will also provide ways **to boost India's regional trade with other neighbouring countries.**

NER AS INDIA'S GATEWAY TO THE EAST

BCIM$ MGC**
EAS (ASEAN+6)   SAARC
NER
BIMSTEC   ASEAN
SASEC*   APTA
GMS**

Notes:
* South Asia Sub-regional Economic Cooperation (SASEC)
** Mekong-Ganga Cooperation
***Grater Mekong Sub-region (GMS)
$ Bangladesh, China, India, Myanmar Forum on Regional Cooperation
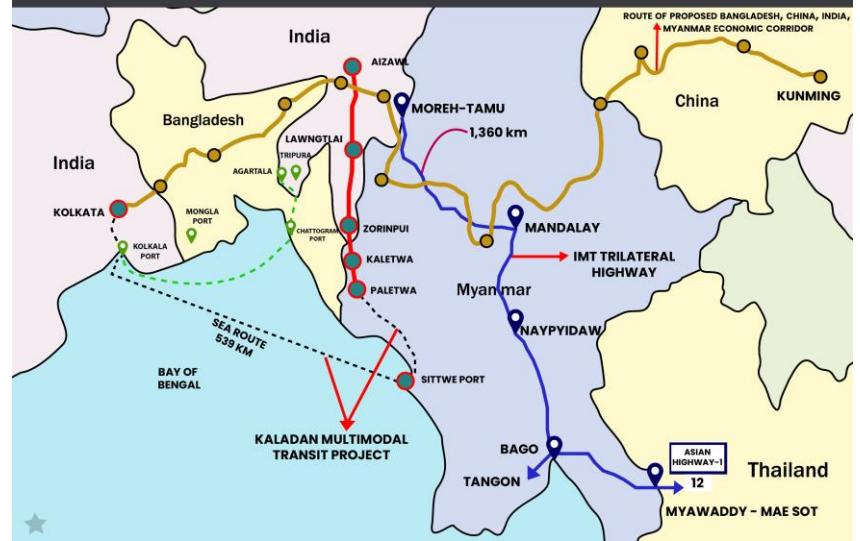
Potential of NER in Regional trade and development

- **Strategic location:** "Chicken's neck" or the **Siliguri corridor** is India's gateway to the South East and also accounts for the maximum number of international boundaries that India shares with its neighbours. It also allows India to counter the emergence of a China-centric order.

- **Potent input market catalysts:** NER is endowed with social (diversity, cultural richness), physical (potential energy supply hubs), human (inexpensive, labour) and natural (minerals, forests) capital.
- **Huge agricultural potential:** NER has huge potential in agriculture trade due to its suitable soil and other agro-climatic conditions.
- **Prerequisite for regional stability**: Connectivity of India's NER with neighbouring countries could ensure that this region emerges as regional hub and growth centre for economic development which can **reduce regional economic inequality and ensure prosperity stability**.

Challenges in harnessing potential of NER

- **Internal and External Security challenges:** The porous borders are frequently used by the extremists/outfits to escape from the Indian army. They fuel armed insurgency, demand for separate federal states and autonomous units, and ethnic conflicts.
- **Supply-chain constraints:** Despite the organic cultural ties with Southeast Asia, economic ties are unable to gain pace due to the absence of infrastructure and investment.
- **Lack of dispersed regional development:** According to NITI Aayog, 95 percent of India's trade with its East and Southeast Asian neighbours are in products originating from regions other than NER.
  o At the same time, FDI inflow into the NER is extremely low compared to other states.
- **Dominance of Cross-border informal trade:** Porous borders, supply-chain constraints at the regional level, delay in customs and immigration clearances are the underlying cause for rising informal trades.
  o Also, the linguistic and cultural homogeneity of the people makes it difficult for law-enforcement agencies to track such informal trade.

North East India 'The Gateway to East'

India's other cross border connectivity initiatives
- **The Kaladan Multi-Modal Transit Transport Facility:** The sea, river, land transport system linking Indian ports and Sittwe port in Myanmar and then through riverine transport and by road to Mizoram (India).
- **The India-Myanmar-Thailand Trilateral Highway Project:** The 1360 km cross-border transportation network would link Moreh (India) to Mae Sot (Thailand) through Bagan (Myanmar).
- **The Mekong India Economic Corridor:** The corridor proposes to connect Ho Chi Minh (Vietnam) with Dawei (Myanmar) via Bangkok (Thailand) and Phnom Penh (Cambodia) and further linking it to Chennai (India).
- **The Stilwell Road (the Ledo Road and the Burma Road):** The WW II overland road linking Ledo in Assam (India) to Kunming in Yunnan (China) through Myanmar.
- **The Delhi-Hanoi Railway Link:** It proposes to link India with Vietnam via Myanmar, Thailand, Malaysia, and Singapore.
- **The Tamu-Kalewa-Kalemyo Friendship Road:** The 160 km cross-border road from Tamu to Kalemyo in Myanmar's Sagaing Region and forms part of the India-Myanmar Thailand Trilateral Highway.
- **The Rhi-Tiddim Road in Myanmar:** The 80 km cross-border road from Rhi to Tiddim in Myanmar's Chin State.
- **The BCIM Economic Corridor:** The cross-border transportation network linking China's Kunming to India's Kolkata from Myanmar and Bangladesh.

difficult for law-enforcement agencies to track such informal trade.
- **Chinese influence:** India's trade and investment in its neighbours is negligible as compared to China's. For example, China is the largest trading partner of Bangladesh.

Way ahead to harness potential of NER in regional trade and development

- **Strengthening border security:** For example, the Israel-developed smart fencing systems and surveillance radar technology used by the Indian Border Security Force in the volatile Kashmir valley, could be useful in this part of the country as well.

- **Ensuring political stability:** Ensure transparent resolution of Naga political conflict and other interstate border disputes between Assam and other hill states.
- **Speed up the connectivity projects:** All the cross border multimodal transport systems should be complemented without any delay.
  - Also, it is important that these multimodal corridors **are connected to local and rural markets and logistics**, so that the wider benefits trickle down to local communities and businesses.
- **Production hub:** Industries like agro-processing, horticulture and textiles in which the NER has natural comparative advantage must be expanded using an employment-led strategy.
  - At the same time, possibilities of **setting up other industries like rubber goods, pharmaceuticals, petroleum products, cement, etc. must be explored.**
- **People's participation in development:** It is essential to have sensitization programmes with the local populace to understand their fears and qualms of influx that is believed to arise with increasing connectivity, such as the introduction of railways to reach interior villages, etc.
- **Strengthening human resources:** Capacity building for officials, entrepreneurs, and traders would help improve the quality and delivery services in the region.
  - **State-level trade promotion centres** assisted by the apex industry associations might be the right step for building capacities in the region.

2.10. CHABAHAR PORT

Why in news?
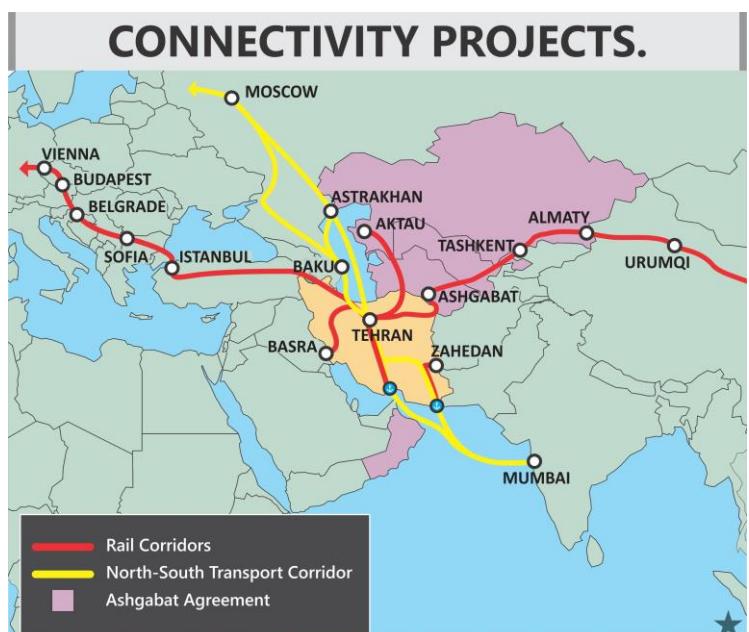
Recently, India observed 'Chabahar Day' where India and Iran reviewed the progress of **Chabahar port and the INSTC transcontinental trade route.**

More about Chabahar Port

- Chabahar Port is located in Sistan and Baluchestan province in the South-eastern part of Iran, **on the Gulf of Oman.**
- It is the **only deep-sea port in Iran with direct ocean access.**
- Its geographic proximity to countries such as Afghanistan, Pakistan, and India, as well as its status as a **key transit center on the burgeoning International North-South Transport Corridor(INSTC)**, gives it the potential to develop into one of the most important commercial hubs in the region.
- **India, Afghanistan and Iran signed a deal** to establish the **International Transport and Transit Corridor** (Chabahar Agreement) in 2016. This involved construction of a **rail line from Chabahar port to Zahedan** along the border with Afghanistan and linking it to the Zaranj-Delaram Highway**, as an alternate trade route to Afghanistan and Central Asia.**
  - Zaranj-Delaram Highway in Afghanistan is a 215 km long highway that was already built in Afghanistan through assistance provided by India.

Geopolitical significance of the Chabahar port for India:

- **Strengthen Indo-Iranian trade, diplomatic, and military ties**, which could balance out growing Sino-Pakistani cooperation.

CONNECTIVITY PROJECTS.

- Rail Corridors
- North-South Transport Corridor
- Ashgabat Agreement

PROJECT ROADMAP

TRADE CORRIDOR TO BE COMPLETED	PARTIALLY COMPLETED	COMPLETED
● Chabahar port to Zahedan 1,380km	● Zahedan to Zaranj 200km	● Zaranj to Delaram 218km

- **Development of Chabahar Port** a transit hub under the INSTC to reach out to Commonwealth of Independent States (CIS) countries.
  - **CIS countries** include Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine.
- **Establishing a sea-based trade route to Western and Central Asia** via Chabahar port would allow India to **bypass Pakistan** and establish trade networks with the countries in these regions.
  - The Shahid Beheshti port of Chabahar in Iran, built by India and since 2018, it has **played a key role in connecting India with Afghanistan**.
- **Strategic Importance:** This port is just 170 km away from Gwadar port operated by China in Pakistan, hence this port would be of strategic importance to the Indian Navy and defense establishment.
- **Humanitarian Operations:** Chabahar port could be used as a point from where humanitarian operations could be coordinated.
- **Part of Indo-Pacific Strategy:** Chabahar Port is a key element in India's Indo-Pacific strategy that also includes Eurasia's connection with the Indian Ocean Region.
  - Chabahar Port development **will supplement the Ashgabat agreement** which aims to establish an international multimodal **transport and transit corridor** between **Central Asia and the Persian Gulf.**

Challenges in execution of the Chabahar project

- **Iran's Stand:** In 2020, Iran decided to proceed with the rail line construction on its own, citing delays from the Indian side in beginning and funding the project.
- **US sanctions:**
  - India is **hesitant to deal with the construction company** which has links with the **Islamic Revolutionary Guard Corps** (IRGC) and is under the sanctions.
  - Although the project has **secured a special waiver from the USA,** it was **difficult to find equipment suppliers and partners** due to worries of being targeted by the USA.
- **Iran's closeness with China:** Proposed Comprehensive Plan for Cooperation between Iran and China' is a 25-year and USD 400 billion strategic partnership deal.
  - The deal will include Chinese involvement in Chabahar's duty-free zone, an oil refinery nearby and possibly a larger role in Chabahar port as well.

Way ahead for India

- **Keeping timelines and delivery of India's commitments** will be the key.
- India needs to play a **balancing act** between the USA and Iran and proactively protect its interest in the region.
- Recently, Uzbekistan also shown interest to jointly use the Chabahar port as a transit port. It will be important to **operationalise and jointly use the port with regional countries.**
- As an emerging power, a peaceful extended neighbourhood (Iran-Afghanistan) is not only good for trade and energy security but also plays a **vital role in India's aspirations of becoming a superpower.**

INSTC
- INSTC is a 7200 km **multi-modal transportation network**, first envisaged in 2000 by Russia, India and Iran, to promote transportation cooperation among the Member States.
  - INSTC connects **Indian Ocean to Caspian Sea via Persian Gulf onwards Russia** and Northern Europe.
  - **Currently, it has 13 members including India.**
  - Recently, INSTC began operation with the first shipment from Russia to India via Iran.
- **INSTC Significance for India**
  - **Reduce carriage cost** between India and Russia by 30% and **bring down transit time (**almost half compared to suez canal).

International North South Transport Corridor

- o Will help India to **gain smooth access into Central Asia and beyond to** Arctic, Nordic and Baltic region 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 alternative 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.
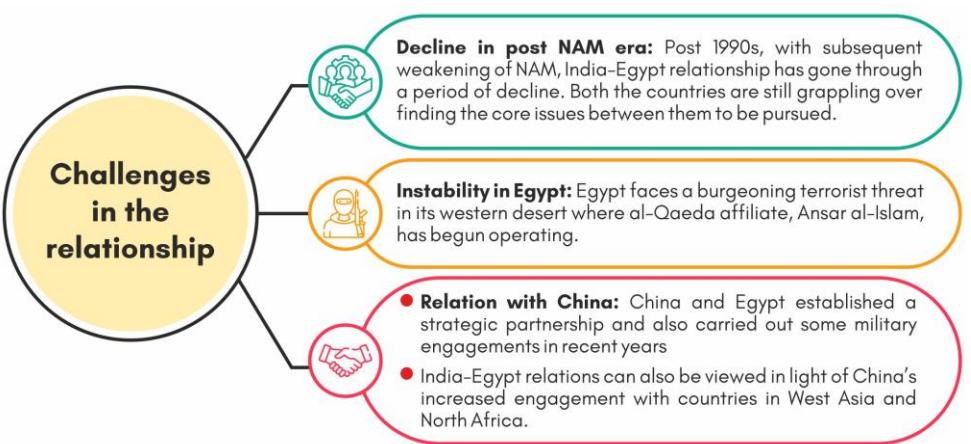
2.11. INDIA-EGYPT RELATIONS

Why in news?

Recently, Egypt released a commemorative postage stamp to celebrate 75 years of diplomatic relations between Egypt and India.

Significance of India-Egypt Relations

- **Geostrategic:** Egypt is strategically located, making it a **hub for trade routes between Europe, Africa, and Asia.**
- **Geopolitical:** Egypt hold a role of **significant partner to deepen India's tie with Arab nations as part of the renewed Indian focus on West Asia.**
  - o Egypt's **strategic location as a front-line neighbour of Israel** means its present policies are of vital relevance including India.
  - o Egypt accords **great importance to multilateral forums that comprise developing countries**, such as **Non-Aligned Movement** (**NAM**) and the G77 considering their contributions to south –south cooperation.
- **Mutual interests in terms of security:** Egypt is a key player in West Asia and North Africa where the Islamic State and other terrorist organisations have been expanding footprints.
- **Energy Security:** Egypt is an oil and gas-exporting middle-income country while India is oil and gas-importing low-income country.
- **Potential partners in Solar and other renewable energy:** India is one of the leading countries in the world in solar energy and Egypt is one of the biggest producers of solar energy in the region having one of the largest solar parks in the world. Also, Egypt is one of the major countries attracting investments in green hydrogen energy, where Indian companies are also interested.
- **Renewed dependency amid Russia-Ukraine war:** The ongoing war has exacerbated Egypt's economic woes by cutting off wheat imports from Ukraine and Russia. Within this context, India has emerged as an alternative supplier of wheat to Egypt.
  - o India recently also exempted Egypt from the wheat export ban imposed amid the brutal heat wave conditions in the country.

Way ahead

- **Increasing economic engagement:**
  - **Exploring sectors with most untapped potential** such as Tourism, food security and natural gas, green hydrogen and green ammonia pharmaceuticals, IT, new age technologies, tourism and so on.
  - **Expeditiously address all issues impeding bilateral trade**; facilitate trade promotion between the two countries; and identify bilateral focal points to further strengthen bilateral institutional cooperation.
  - Indian investment in the proposed Suez Canal Free Trade Zone, could eventually help in boosting Indian exports to Africa and Europe.
- **Pragmatic approach of dealing with the sensitive regional issues**: With its proximity to an Arab world in turmoil, an **intensification of the political and intelligence contacts** between the two countries will be mutually beneficial.
  - With Egypt's close intelligence exchanges with Israel, the possibility of a three-way interaction between Egypt, India and Israel would be advantageous to all.
- **Tapping opportunities in Africa:** Indian exporters can avail of a wide range of opportunities in the African continent by taking Egypt as a hub for Africa and benefiting from the Tripartite Free Trade Agreement.
  - The Tripartite Free Trade Agreement brought together the markets common to the Regional Economic Communities of Common Market for Eastern and Southern Africa (COMESA), the East African Commission (EAC) and the Southern African Development Community (SADC).

> **Areas of cooperation**
> - **Political Relations:** Both countries were the founding members of Non-Aligned Movement. India-Egypt concluded a **Friendship Treaty** in 1955 and have cooperated closely in multilateral fora.
> - **Economic Relations:** The India-Egypt **Bilateral Trade Agreement** has been in operation since 1978 and is **based on the Most Favoured Nation clause**.
>   - **Bilateral trade has expanded rapidly in 2021-22, amounting to 7.26 billion** registering a 75% increase compared to FY 2020-21 in favour of India.
> - **Defence Relations:** Both countries are working on strengthening their collective defence cooperation by expanding military-to-military engagements, launching joint exercises such as **Dessert Warrior,** and increasing the joint defence industry cooperation.
>   - India has offered to set up production facilities for the manufacturing of light combat aircraft (LCA) as well as helicopters, as Cairo focuses on local production and technology transfer.
> - **Counter terrorism:** National Security Councils of the two governments had entered into a Memorandum of Understanding. India and Egypt also have a **joint working group on counter-terrorism.**
> - **Cultural Relations:** The Maulana Azad Centre for Indian Culture (MACIC) has been promoting cultural cooperation between the two countries, through regular activities such as Hindi, Urdu and Yoga classes; seminars; film shows; exhibitions and participation in local cultural activities.
> - **Other areas of cooperation** such as in Space, Science, technology and agricultural research.

- **investment opportunities for Indian companies in the field of solar energy:** Egypt can become a regional electricity inter-connection hub by establishing electricity connections with neighbouring countries like Jordan, Sudan etc.

2.12. NEWS IN SHORTS

2.12.1. INDIA-MAURITIUS CECPA
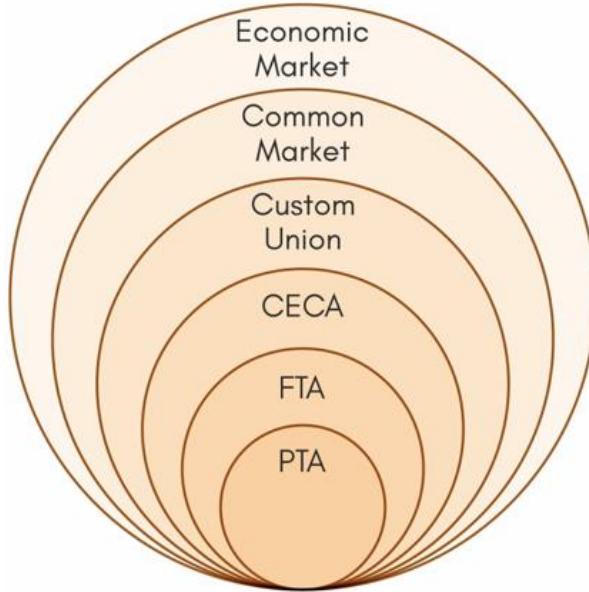
- 1st session of High-Powered Joint Trade Committee (JTC) under India-Mauritius Comprehensive Economic Cooperation and Partnership Agreement (CECPA) was recently held.
  - CECPA, which entered into force in 2021, is the **first trade Agreement signed by India with a country in Africa**.
  - It covers **Trade in Goods, Rules of Origin, Trade in Services,** Sanitary and Phytosanitary (SPS) measures, **Dispute Settlement, Movement of Natural Persons,** Telecom, Financial services etc.

- **India- Mauritius Relations**
  - **Economic:** Bilateral trade rose to USD 786.72 million in 2021-22 from USD 690.02 million in 2019-20. Mauritius was third top source of FDI in India (2020-21).
  - **Strategic:** Mauritius occupies a special place in India's vision of SAGAR (Security and Growth for All in the Region), proximity to important Sea lines of communications.
  - **People to people connect:** Indian origin people comprise nearly 70% of Mauritius's population.
  - **Defence cooperation:** including transfer of a Dornier aircraft and an Advanced Light Helicopter, Dhruv

- **Challenges for India- Mauritius relations:** China's growing presence and influence in the Indian Ocean region, round-trip of investments in India through Mauritius etc.

Trade Arrangements

2.12.2. 75 YEARS OF DIPLOMATIC TIES BETWEEN INDIA AND THAILAND

- Since 1947, India has enjoyed dynamic bilateral relations with Thailand.
  - In recent time, **India's 'Act East' policy has been complemented by Thailand's 'Act West' policy** in bringing the two countries closer
- **India-Thailand Relations**
  - **Economic:** Bilateral trade reached an all-time high of around USD 15 billion in 2021-22.
  - **Defence Cooperation:** MoU on Defence Cooperation (2012), Indo-Thai CORPAT, Exercise Maitree, since 2015, India is participating in Ex-Cobra Gold, largest Asia Pacific Military exercise etc.
  - **Bilateral institutional mechanisms:** Joint Commission Meeting, Foreign Office Consultations, Joint Task Force etc.
  - **Connectivity:** through initiatives such as India-Myanmar-Thailand Trilateral Highway, Asian Highway Network (under UNESCAP), BIMSTEC Transport Infrastructure and Logistics Study (BTILS) under BIMSTEC framework.
  - **Cultural:** Buddhism is a common thread and millions of Thai Buddhists visit Lumbini, Bodh Gaya, Sarnath, and Kushinagar.
  - **Regional cooperation:** Both sides cooperate closely in ASEAN, East Asia Summit, BIMSTEC,

Mekong Ganga Cooperation (MGC), Indian Ocean Rim Association (IORA) etc.
  - **People to people connect:** There are an estimated 250,000 people of Indian origin in Thailand.

2.12.3. RULES OF ORIGIN (ROO)

- Central Board of Indirect Taxes and Customs (CBIC) stated that **in case of conflict between** Customs (Administration of Rules of Origin under Trade Agreements) Rules, 2020 **(CAROTAR) and ROO** (under free-trade agreement (FTA)) provisions**, provision of FTA or its ROO shall prevail.**
  - **FTAs allow imports** of most of the items **at nil or concessional basic customs duty rate.**
  - **India has inked FTAs with** several countries, including **UAE, Mauritius, Japan, Singapore etc.**
- CAROTAR are **aimed at plugging duty evasion through routing exports to India** under FTAs.
  - Under CAROTAR rules, **importers need to furnish proof of 35% value addition in goods** from country of origin to claim duty concession under FTAs.
  - A **list of minimum information** which importer is required to possess **is also provided**.
- **About ROO**
  - ROO are the criteria prescribed **to determine national origin of an imported product** in a country.
  - Under this, a country that has inked an FTA with India **cannot dump goods from some third country in Indian market by just putting a label on it.**
  - It has to **undertake a prescribed value addition** in that product to export to India.

2.12.4. NEW STRATEGIC ARMS REDUCTION TREATY (NEW START) TREATY

- **Russia halted US inspections of nuclear arsenal** under New START treaty.
- New START is an **agreement** (entered into force in 2011) **for nuclear arms reduction between US and Russia,** and establishes a limit on deployed strategic warheads.
- New START **caps to 1,550 the number of nuclear warheads that can be deployed** by US and Russia.

2.12.5. INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW), 1978

- **India, Iran have signed MoU for smooth movement of seafarers** between both countries as per STCW provision.

- **STCW Convention** is a multilateral convention to **establish basic requirements on training, certification and watchkeeping for seafarers** on an **international level**.
  - It was **adopted** in **1978** and it **entered into force** in **1984**.
  - **India** notified it in **1984;** effective from **1985**.
  - Compliance and implementation to convention is looked after by **International Maritime Organization (IMO), established** in **1948** (HQ: Geneva) as a **specialized UN agency.**

2.12.6. ERRATA

- Due to a typological error in Places in News of June 2022, an entry related to Gustavo Petro, President of Columbia, was mistakenly marked under Cambodia.

3. ECONOMY

3.1. INDIA'S COMPETITIVENESS ROADMAP

Why in News?

The Economic Advisory Council to the Prime Minister (EAC-PM) has released '**The Competitiveness Roadmap for India@100**' in collaboration with the Institute for Competitiveness.

What is Competitiveness and where does India stand?
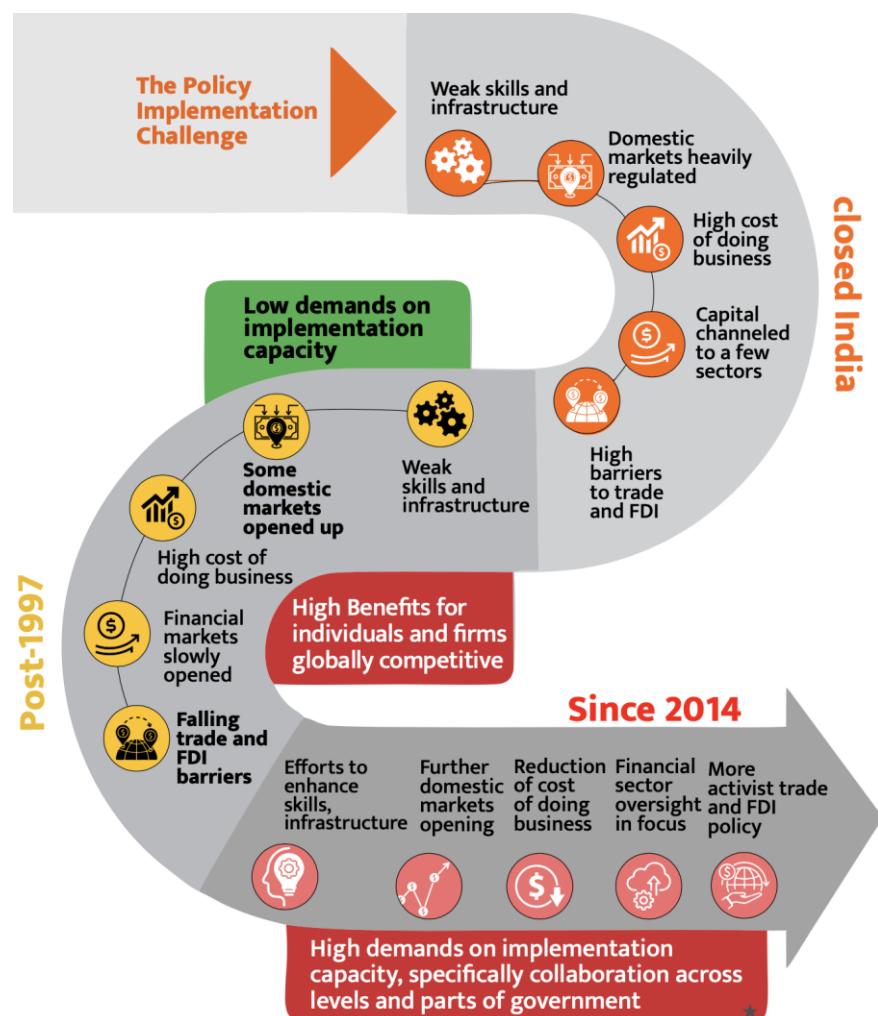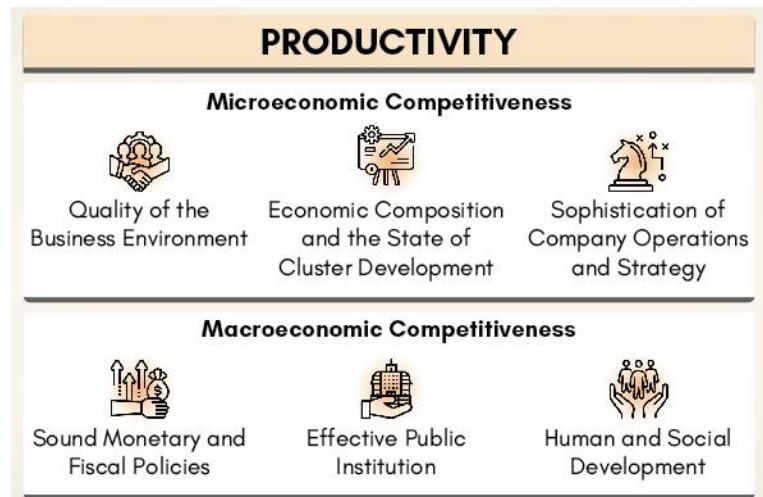
- Competitiveness means a variety of things- **a larger market share**, **a competitive exchange rate**, **exports**, **increased FDI inflows** etc. In essence, any macro-variable which can represent India's ability to compete globally can represent its competitiveness.
  - This competitiveness is **centered around country's overall productivity.** Productivity represents the **effectiveness to mobilize country's assets** and **available labour force to create value**.
  - **Higher productivity** means **higher value creation** and **ability to engage large share of available labour force into productive activities**.
- **India has seen significant productivity** rise in its journey to **5th largest economy** of the world with high growth rate since the economic reforms of 1991.
- But **sustainability of competitiveness** depends not just on **economic performance** but other factors as well, such as **government efficiency**, **human capital, innovation, resilience** etc.
  - E.g., India gained 6 positions (from 43rd to 37th rank) in **2021 World Competitiveness Index** by **Institute for Management Development (IMD)** largely due to economic performance gains.

What are the challenges to India's competitiveness?
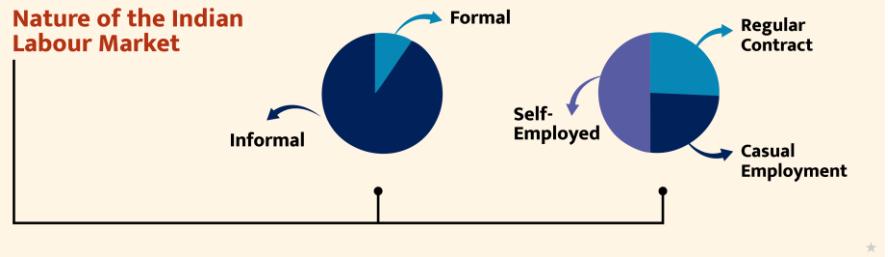
- **Shared Prosperity Challenge**, i.e., to ensure that India's social progress is in line with headline GDP growth rather than increasing inequality and overcome the lack of convergence across regions.

About Institute of Competitiveness
- Institute for Competitiveness, India is the **Indian knot in the global network of the Institute for Strategy and Competitiveness** at Harvard Business School.
- It is dedicated to enlarging and purposeful dissemination of the body of **research and knowledge on competition and strategy.**

- **Jobs Challenge:** Creating jobs for the labour force, especially women and the less skilled labour with increased formalization is critical.
- **Policy Implementation Challenge:** Despite ongoing economic reforms since the 1990s, the impact of policies towards shared prosperity, job creation and the growth of firms have fallen short of ambitions.

- **Shifting External Environment:** In last few years, the **rising geopolitical tensions and changing patterns of globalization**, climate change and policies to achieve the transition to net zero, digital transformation and other technological changes has led to multiple new challenges such as:
  - **Managing trade disruptions, energy security and GDP growth** post the pandemic, inflationary pressures, and supply chain bottlenecks.

To overcome these challenges, several measures have been taken across sectors. But these steps have not been without their obstacles.

Initiatives taken and the associated obstacles faced

Sector	Progress/Initiatives	Obstacles
Agriculture	Critical for **Food Security**, India has become a **net-exporter** from **acute shortage nation**.	• Agriculture remains the **biggest employer** (more than 40%) despite **decelerating profitability** and **restricted growth**, **vulnerability to natural shocks**, **sustainability challenge** over fertilizers use, pesticides etc.
Manufacturing	**Progressive Liberalization of Industrial Policy** since 1991 and collective **Ease of Doing Business reforms** in recent times.	• **Contribution** of manufacturing to the overall economy at **15-17% of GDP** since 1991. • **Limited growth in manufacturing** as compared to services, owing to reasons like **infrastructure constraints**, higher Logistics Cost, limited R&D etc.
Education	Over **250 million** school going students with **continuously improving gender parity.**	• **Gross Enrolment Ratio (GER)** in Higher Education at 27.1% (FY20). • Only **46.2%** of **graduates** are **employable**.
Energy	**Vibrant and diversifying sector** with **increasing renewable energy** (RE) **share**- **39.43%** of total installed capacity (as of April 2022).	• **Existing inefficiencies** in terms of **below capacity operation, high power loss**, etc. • **High dependence on imported energy**, especially oil and gas.
Healthcare	One of the largest sectors with a size of around **$350 billion**, employing **4.7 million people**.	• **Low public spending on healthcare** (only 2.1% of GDP in 2021-22). • Comparatively, **higher Maternal Mortality** and **Child Mortality Rate**, malnourishment, and rising incidence of lifestyle diseases.
Innovation and Entrepreneurship	India ranks **46th** in **Global Innovation Index**. It has the **3rd largest startup ecosystem** with over **100 unicorns** etc.	• **Fluctuations in Intellectual Property Rights** policies and **weak industry-academia linkage**. • Issues of **Poor women representation, high number of stagnant firms, dominance of few large firms** etc.
Human Capital	Over **12 million new additions** in the workforce every year and **slow but increasing urbanization**.	• Over **20%** of **the** population is **below poverty line**. Also, **Rising income inequalities**, especially in urban areas and within states. • **Low formally skilled labour** and **limited job upgradation opportunities**.
Trade and Investment	Growing share in **global exports** and **capital inflows** in FDI.	• **Flattening export growth** despite **rising global GDP share**, **reducing share of exports in GDP** (around 18%) • **Declining FDI growth rate** and high concentration to few sectors and pockets.

Way Forward

To move towards middle or high-income country by 2047 and to overcome the various challenges India needs **Integration of the social and economic development agendas**, and **Structural Transformation** based on **four Prosperity Goals** (see image).

A BROAD AMBITION FOR INDIA'S FUTURE

Social Economic growth that is matched by social progress

Solid Economic performance that is resilient in facing shocks

PROSPERITY

Sustainable Economic activities that are carbon neutral and aligned with environmental sustainablity

Shared Economic opportunities that are shared across Indian society

This requires concerted efforts from **all pillars** of our governance ecosystem for new priorities and policy actions which pave the way for resilient and holistic development.

- **Industrial and Regional Policies:**
  - **Promote competitive federalism** for healthy competition between States/UTs to identify regional inequalities and address them.
  - **Encouraging Regional Leaders** to advance a dynamic local economy.
  - **Strengthening Coordination within Government** to overcome fragmentation in policy design and implementation.
- **Business Environment Policies:**
  - **Maximizing productivity** in agriculture, manufacturing etc. through **Public-Private Collaboration**.
  - **Creating a Business environment** which fosters breakthrough innovation, rapid commercialization and technical niche which are tougher to replace and compete against.
- **Social Policies:**
  - **Creating opportunities** for low skilled workers and women.
  - **Focus on long-term energy security** for sustainable growth and prosperity.
- **Enterprise Policies:**
  - **Merging Science, Mathematics, Engineering and Technology with Creative economy**, i.e., interaction between human creativity and ideas and intellectual property, knowledge, and technology to encourage commerce and culture.
  - **Building a Global India** to improve India's position in the world in terms of **Ease of Doing Business** for open and positive attitude for India among investors.
  - **Strategic investments** in the **research, talent, and infrastructure** for **tech-based innovation**.
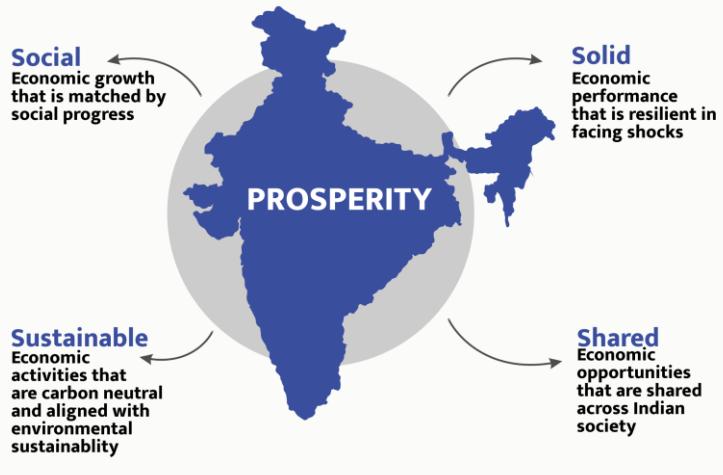
To know more about **India's Competitiveness**, please refer to our following Weekly Focus Document.

India 75 and Beyond

The 75th year of India's independence presents an occasion to look back on how much difference has been made to the life of every Indian and how much of its past glory is revived. It also provides an occasion to define future aspirations, especially when India is on the cusp of becoming the most populous nation in the world.

3.2. COMPETITION (AMENDMENT) BILL, 2022

Why in news?

The government recently introduced the Competition (Amendment) Bill, 2022 in the Lok Sabha **to amend the Competition Act, 2002.**

Background

- The Competition Act, 2002 was enacted to provide for **establishment of Competition Commission of India (CCI).** CCI aims:
  - o to prevent practices having adverse effect on competition,
  - o to promote and sustain competition in markets,
  - o to protect the interests of consumers
  - o to ensure freedom of trade carried on by other participants, in India.
- A **Competition Law Review Committee**, **chaired by Mr. Injeti Srinivas**, was formed in 2018 to review the existing Competition law framework and make recommendations to further strengthen it to meet new economy challenges.
- The **proposed amendments in the Bill are based on the report submitted by the committee** to the Ministry of Corporate Affairs in 2019.

Key Provisions of the Bill

- **Changes in certain definitions:** Like "enterprise", "relevant product market", "Group", "Control", etc., to provide clarity.
  - o For instance, the scope of what "control" means has been expanded to include the ability to exercise '**material influence'** over the management, affairs, or strategic commercial decisions.

> **Other provisions in the bill**
> - **Appeals** before the National Company Law Appellate Tribunal (NCLAT) against CCI orders **will require a 25% deposit of any penalty amount**.
> - **CCI given the power to decline to entertain cases** involving substantially the same facts and issues that it has already decided upon.
> - **Limitation period of 3 years** for filing information on anti-competitive agreements and abuse of dominant position before the CCI.
> - **Chairperson and other Members of CCI restricted for a period of 2 years** (earlier 1 year) after holding office to accept any employment in enterprise party to a proceeding before the Commission.
> - **Additional qualification for Members** in the field of technology.
> - **Broadening the scope of anti-competitive agreements** and inclusion of a party facilitating an anti-competitive horizontal agreement under such agreements.

- **Reduction of time-limit for approval of combinations:** From 210 days to 150 days and forming a prima facie opinion by the Commission within 20 days for expeditious approval of combinations.
  - o **Combination includes** acquisition, merger or amalgamation of entities.
- **Expands the definition of combinations:** This now includes transactions with a value above Rs 2,000 crore.
- **Adds the provision of 'Deal value' threshold**: Bill proposes to add a 'deal value' threshold which will be needed to notified to the CCI with a deal value in excess of ₹2,000 crore and if either of the parties has 'substantial business operations in India'.
  - o Also, the CCI shall frame **regulations to prescribe the requirements for assessing whether an enterprise has 'substantial business operations in India'.**
- **Enhanced penalties**: For instance, making false statement or omission to furnish information can attract a penalty of upto ₹5 crore as against ₹1 crore earlier.
  - o **Nature of punishment** for certain offences like failure to comply with orders of CCI and directions of DG is also **changed from imposition of fine to penalty**.
- **Appointment of the Director General** (**DG):** The Bill empowers the CCI to appoint the DG, **with prior approval of the government**.
  - o DG will have the power to **conduct investigations, including search and seizure operations (raids).**
  - o Earlier, Act empowered the central government to appoint a DG to CCI.
- **Introduction of Settlement and Commitment framework:** It will apply to anti-competitive agreements (except cartels) and abuses of dominant position.
  - o CCI's decision regarding commitment or settlement **will not be appealable after hearing all stakeholders in the case.**

- **Introduction of a "leniency plus" mechanism**: It allows the CCI to give an additional waiver of penalties to an applicant who discloses the existence of another cartel in an unrelated market.
- **Exempting open market purchases and stock market transactions** from the requirement to notify them to the Commission in advance.
- **Expanded scope of gun jumping provisions:** Penalty for gun-jumping to be 1% of the deal value as against earlier 1% of the asset or turnover.
  - If the combining parties close a notified transaction before the approval, or have consummated a reportable transaction without bringing it to the CCI's knowledge, it is seen as **gun-jumping.**

Significance of the proposed amendments

- **Strengthens CCI's review mechanism**, particularly in the digital and infrastructure space where a majority of which were not reported as per the asset or turnover thresholds.
- **Provides statutory basis to fix liability on and penalize facilitators of cartels** (such as consultants), as well as capture hub-and-spoke cartels.
  - **Hub-and-Spoke arrangement**: It is a kind of cartelisation in which vertically related players act as a hub and place horizontal restrictions on suppliers or retailers (spokes).
- **Enables expeditious approval of combinations**.
- **Leniency plus mechanism incentivises parties in an ongoing cartel investigation** to disclose information regarding other cartels.
- **Provides of relief to stakeholders involved in stock market purchases**.
- **Settlement and Commitment framework** will-
  - reduce litigations,
  - help parties to avoid the rigours of the investigative process,
  - facilitate the collection of penalties by the CCI without the risk of these orders being overturned on appeal and
  - enable correction of anti-competitive conduct through the immediate modification of behaviour.

Conclusion

Detailed regulations and guidelines, to be notified by the CCI under the provisions of the bill, can help in providing further clarity and addressing remaining concerns. The proposed amendments will help in keeping up with rapidly changing dynamics of the market changes due to technological advancements and bring the Competition Act, 2002 into sync with modern conditions.
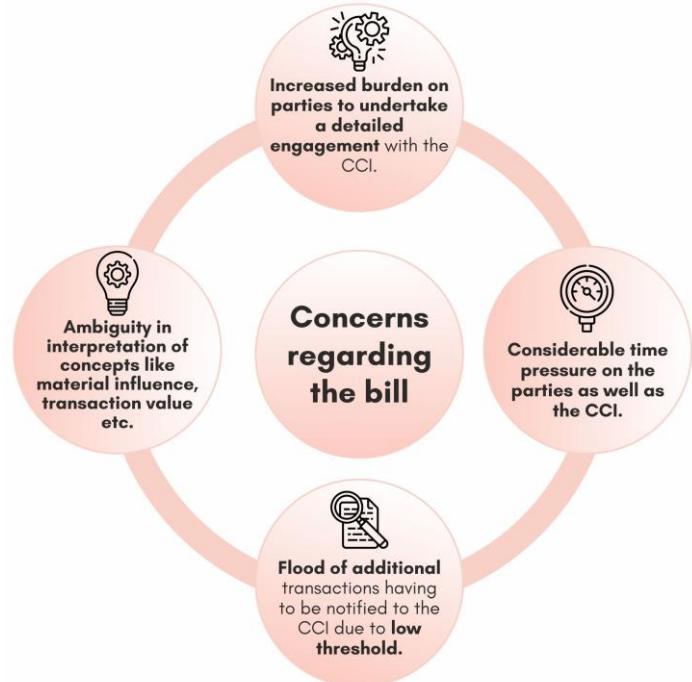
3.3. DEMOGRAPHIC DIVIDEND

Why in news?

According to the **'Youth in India 2022' report,** India's favorable demographic dividend is at an **inflection point of sorts,** with the population share of the youth starting to taper off.

More about news

- The report was released by the **Ministry of Statistics and Programme Implementation (MoSPI).**
- **Key findings:**
  - **Youth in the age group of 15-29 years comprise** 27.2% of the population for 2021, which is **expected to decrease to 22.7% by 2036.**

- o The total youth population increased from 222.7 million in 1991 to 333.4 million in 2011 and is projected to **reach 371.4 million by 2021."**
  - ✓ The more populous states **of Bihar and Uttar Pradesh**, which experienced a rise in proportion of youth population to total population till 2021, **are expected to see a decline** from hereon.
  - ✓ States such as K**erala, Tamil Nadu and Himachal Pradesh are projected to see a higher elderly population** than the youth by 2036.

INDIA'S POPULATION MAY START AGEING BY THE NEXT DECADE
Share of population by age group

About demographic dividend
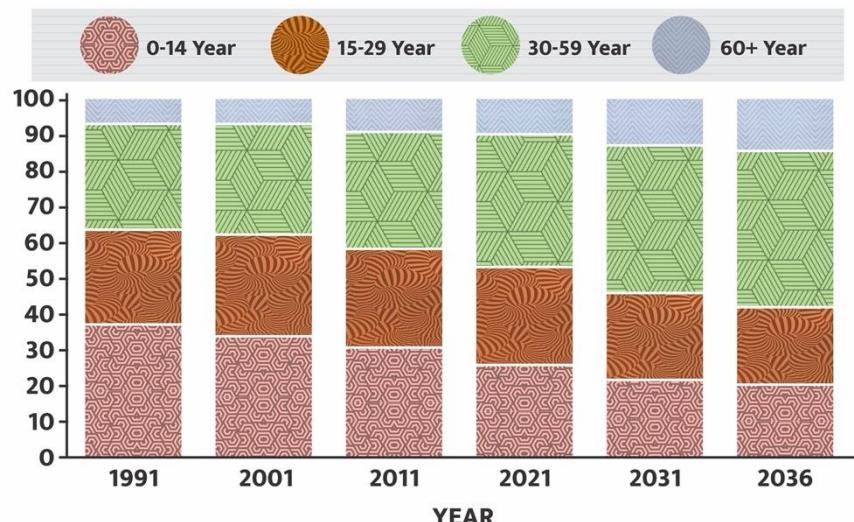
- The demographic dividend is the **economic growth potential that can result from shifts in a population's age structure,** according to the United Nations Population Fund (UNFPA).
- A country enjoys demographic dividend when it **has higher working-age (15 to 64) population than non-working.**
  - o The situation of having a relatively larger working-age population is related to the so-called **first demographic dividend.**
  - o As the working-age population matures, the prospect of retirement can provide the motivation to save for financial security.
    - ✓ The additional savings can either be consumed or used to prolong economic growth. This stage of economic growth has been termed as the **second demographic dividend,** which can occur in the later stage of the demographic transition.

Role of youth in an economy

Advantages of the Democratic Dividend

- An **increased labour force** increases economic productivity. Historically, the demographic dividend has contributed **up to 15% of the overall growth in advanced economies.**
- **Fiscal space increase** afforded by the demographic dividend allows for a reallocation of funds from spending on children to infrastructure investment.
- **Women's labor force increases,** which coincides with a decline in fertility and can be a new source of growth.
- The **savings rate increase** as the working-age is also the optimal time for saving.

> **Key initiatives to tap the demographic dividend**
> - **National Youth Policy, 2014 (NYP-2014)**: It focuses on education, employment and skill development and entrepreneurship.
> - **Skill India Mission:** It has introduced common norms for skills, competencies, occupational standards, and training activities through a National Skills Qualification Framework (NSQF) and Sector Skill Councils (SSCs).
> - **Start-up India:** The government is providing an enabling environment, access to finance and facilitating the incubation of start-ups.
> - **Women centric approach:** Special provisions to incentivise female employment such as MGNREGA, PMEGP, MUDRA.

Although, the demographic dividend is seen as a window of opportunity for accelerating economic growth, but this is **not automatic.**

Way ahead to reap the benefits of demographic dividend

- **Investments in human capital:** Evidence suggests that the average return rate for an additional year of schooling contributes to a 10% increase in income per individual.
  - **Curriculum planning and competency mapping** relevant to employability and job readiness are important policy decisions that can support women's participation and skill level in the workforce.
  - In addition to government initiatives, **corporate investment in employee education and training** will play a critical role in meeting the demand for high-skilled workers.
  - **Expanding community-based services**, such as home visiting, could contribute to the promotion and improvement of good nutrition practices for children all.
- **Promoting low skilled jobs:** It is necessary to create employment opportunities in agriculture and manufacturing. In the past similar strategy was adopted by Japan and China also.
- **Adequate regulation of Gig economy:** NITI Aayog has projects that as many as 90 million people to be absorbed by the gig economy in few years. Hence, it is necessary to ensure these workforces have social security, insurance or medical facilities, and job certainty.
- **Geographically decentralised growth:** With schools as centres of skill-learning, and startups as a foundation of future job creation, it is equally important to move beyond a handful of urban clusters and look at Tier 2, Tier 3 cities and rural areas.
- **Enhance female labour force participation:** There is a need to recognize women's contribution to their families to **address the time burden barrier** to female participation.

- **Domestic savings and investments:** As the early demographic dividend stage will close soon, it is therefore critical to act now to get prepared and benefit from the second demographic dividend opportunity in the near future.

Related News

World Population Prospects 2022

- **United Nations Department of Economic and Social Affairs (UNDESA)** recently released World Population Prospects 2022.
- **Key findings**
  - **Global population,** to reach 8 billion this year, **is growing at its slowest rate since 1950**, having fallen to less than 1% in 2020.
  - **More than half increase in global population** up to 2050 will be concentrated **in eight countries including India.**
  - Share of global **population aged 65 years or above to rise** from 10% in 2022 **to 16% in 2050.**
  - Due to **COVID-19 pandemic** global life expectancy at birth **fell to 71 years in 2021** from 72.9 in 2019.
  - **India specific findings:**
    - ✓ India, currently 1.4 billion people country, will **overtake China** as most populous country **in 2023** and is likely **to retain top spot till 2100.**
    - ✓ Its **share** in world population **has come down marginally** in 2022.

Global Employment Trends for Youth 2022'

- It was released by **International Labour Organization(ILO)**.
- **Key findings of the Report**
  - **Pandemic has worsened the labour market challenges** for those aged between **15 and 24 years.**
  - In **India, 92% of children** on average **lost** at least **one foundational ability in language** and **82%** lost at least **one foundational ability in mathematics**,
  - **MGNREGA played an important role:**
    - ✓ In **providing paid employment, particularly to women.**

✓ **Carbon sequestration** as the Act focuses on natural resources, such as land, water and trees, which provide adaptation benefits.
  o The **orange econom**y (creative economy) is one of the **fastest-growing sectors worldwide**, generating employment opportunities for young people in areas such **as architecture, visual and performing arts, crafts and videogames.**

3.4. PROMOTION AND REGULATION OF E-COMMERCE

Why in news?

Recently, Parliamentary Standing Committee on Commerce has presented its report on '**Promotion and Regulation of E-Commerce in India'**.

Key Highlights of report

- Committee proposed to **bring out a new Digital Markets Act to govern business practices**, including data collection and use by digital economy companies, or to **introduce certain guidelines in Competition Act** to address the concerns.
- The committee has proposed **an ex-ante model instead of ex-post model for regulation**.
  o The **ex-ante model of regulation entails a code of conduct** for Big Tech including on data collection and use.
  o It will ensure data harvested from consumers will not be used for any purpose other than serving the consumer's interest.
  o It will **entail defining big tech companies acting as 'gatekeepers,'** i.e., business platforms that act as a gateway for small firms to reach out to end consumer. This will help **regulate digital markets better**.
- Currently, regulatory vacuum in governing Platform-to-Business user (P2B) relationship and **predominant reliance on ex-post model of regulation** does not always lead to

About e-commerce sector in India
- e-commerce is the practice of **buying and selling goods and services over internet.**
- e-commerce payments in India are forecasted to **rise at compound annual growth rate (CAGR) of 18.2%** between 2021- 2025.
- By 2030, it is **expected to reach US$ 350 billion**, and **US$ 111 billion by 2024 and US$ 200 billion by 2026.**
- As per FDI Policy on e-Commerce, **100 percent FDI under automatic route is permitted in marketplace model of e-commerce**.

E-COMMERCE MODELS

INVENTORY BASED MODEL
★ An e-commerce activity where inventory of goods and services is owned by e-commerce entity and is sold to consumers directly
★ E.g.- Grofers (now Blinkit).

MARKET PLACE BASED MODEL
★ It means providing of an information technology platform by an e- commerce entity on digital & electronic network to act as facilitator between buyer and seller.
★ E.g.- Amazon, Flipkart

- **Steps taken to promote e-commerce in India**
  o **Consumer Protection (e-commerce) Rules 2020**: Ministry of Consumer Affairs directed e-commerce companies to **display the country of origin alongside the product listings**. In addition, the companies will also have to reveal parameters that go behind determining product listings on their platforms.
  o **ONDC:** In a bid to **systematize the onboarding process of retailers on e-commerce platforms**, DPIIT is planning to **utilize ONDC to set protocols for vendor discovery and price discovery.**
  o **Others**- National Retail Policy, Government e-Marketplace, Digital India, etc.

optimal restoration of competition in evolving and fast paced markets, especially involving gatekeepers.

Other issues and recommendations by the report

Specifications	Concerns	Recommendations
Cyberattacks	• **Concerns regarding safety of online shopping and discouraging business entities** from shifting their business to online platforms.	• **National Cybercrime Policy or legislation** that lays down framework for addressing all aspects related to cybercrime like creation of dedicated cybercrime division etc. is required.
FDI Policy	• FDI policy is **limited in addressing anti-competitive practices** in e-marketplace. • **Frequent changes to policy are against the ethos of ease of doing business** as it brings uncertainty in policy regime.	• **Stable FDI policy regime be ensured in e-commerce sector to bring about certainty and boost confidence** of potential investors. • **Enforcement mechanism under FDI policy must be strengthened** and proactive actions should be

	• Obligations under FDI policy are formulated and notified by DPIIT but **enforced by Enforcement Directorate, leading to confusion and dissatisfaction** amongst several trade organisations.	taken against e-commerce giants that are found to defy FDI rules.
Lack of Data	• Critical data regarding e-commerce such as share of e-commerce market in GDP and employment etc. has **not been collated and maintained** by the Government. • E-commerce **companies are not registered with Department for Promotion of Industry and Internal Trade (DPIIT)**.	• DPIIT should **direct its resource towards maintaining appropriate data** regarding e-commerce and make it readily available. • It should be mandatory for all **e-commerce companies to be registered with DPIIT** and process of registration must be simple and in line with ease of doing business.
Abuse of dominant position	• Delay in **undertaking necessary amendments** to regulatory framework may lead to **irreversible effects** on competition in digital market.	• Competition Commission of India (CCI) should **take forward the recommendations of Competition Law Review Committee (CLRC) and make necessary amendment to Competition Act, 2002** to accommodate for factors affecting markets in the digital era.
Gaps in regulatory regime	• **Lack of coordination between different Ministries/Departments** concerned with e-commerce has resulted in enforcement gaps in the current regulatory regime.	• **Digital Market Division within CCI be created as an expert division** specifically tasked with the regulation of digital markets with participation from all existing regulators concerned with e-commerce such as DPIIT etc.
Intellectual Property Rights (IPRs) infringement	• **Unhindered presence of counterfeit products negatively impacts the revenue of genuine manufacturers** and absence of protection to trademark and copyright products act as a deterrent to innovation.	• **Due diligence measures must be imposed on sellers and platforms** to ensure that products sold on platforms are authentic and do not infringe upon IPRs.
Differential Treatment of Offline and Online Sellers	• Under Goods and Services tax (GST), **offline sellers** with turnover **less than Rs 40 lakh for goods** and **Rs 20 lakh for services** are exempt from GST registration. However, **online sellers,** irrespective of their size have to **mandatorily register and pay tax.**	• **Exemption** provided to offline sellers with regard to GST registration should be **extended to online sellers** as well with same applicable threshold limit by Government. • **GST Composition Scheme** should be extended to online sellers subject to turnover threshold of Rs. 1.5 crore.
Competition issues in e-commerce entities	• **Anti-competitive practices** in e-commerce marketplace include **lack of platform neutrality,** i.e., providing preferential treatment to selected sellers, **deep discounting,** i.e., discounts of preferred sellers are selectively funded by platform, **non-transparent search rankings**, and **misuse of data**.	• Marketplace-commerce entities should be **prohibited from licensing their brand to third party sellers** on the platform. • **Government should formulate a clear policy regulating the collection of data** on platform, its use and sharing of such data with third parties.

Conclusion

The need of the hour is to **bring in the much- needed reforms in the e-commerce sector** in a time bound manner in order to give a fillip to the trade industry while instilling customer confidence and providing a level playing field.

3.5. DIGITAL TAX

Why in news?

Recently, India and other developing countries in the **G24 grouping objected to the proposal of making sovereign commitments to not introduce any future digital services tax like equalization levy,** potentially delaying implementation of the global tax deal.

More on News

• Digital Services tax is part of the **OECD's two-pillar plan**. This plan has **been agreed upon by 137 countries (including India) in 2021** to reform international taxation rules and address the tax challenges arising from the digitalization of the economy (Refer box).

About Digital Tax in India

- Digital Tax refers to the tax levied on digital goods or services or digital business activities. It is a form of **Direct tax**.
- In 2016, India was the one of the first countries to introduce a **6 percent equalization levy i.e., Digital tax on non-resident digital companies** (Google Facebook) that was **restricted to online advertisement services** (digital advertising taxes or "DATs").
- In 2020, the **Indian Income-tax Act expanded the scope of Equalisation Levy** (commonly referred to as '**Equalisation Levy 2.0 or EL 2.0'**) as part of the **Finance Act 2020.**
  - EL 2.0 was made **effective on April 1, 2020**.
  - The new levy now includes **2 percent Digital Service Tax (DST) or EL on trade and services of foreign e-commerce companies** such as Amazon and Walmart-owned Flipkart and others having an annual turnover of ₹2 crore or more.
- DST is aimed at ensuring that non-resident, digital service providers pay their fair share of tax on revenues generated in the Indian digital market.

Rationale of Digital Tax

- **Overcoming lacunas of obsolete laws:** Current tax regulations, both international and domestic, were formulated decades ago using brick-and-mortar economy capabilities as a guideline.
- **International tax law**: The agenda to reform international tax law so that **digital companies are taxed where economic activities are carried out** was formally framed within the OECD's base erosion and profit shifting programme.

> **About Group 24 (G24)**
> - It is an **intergovernmental Group on International Monetary Affairs and Development (G-24)** which coordinates the position of developing countries on monetary and development issues in the deliberations and decisions of the Bretton Woods Institutions (BWI).
> - **India is also a member** of G24.
> - G-24 was **established in 1971 by Group of 77 (G-77)** and **formally created in 1972 with the following objectives**:
>   - Keep under **review the course of the international monetary situation**;
>   - **Evaluate events in the monetary field**, as well as any **decisions which might be taken by a single country or group of countries** within the framework of IMF.

> **OCED's Two Pillar Plan**
> - **Pillar One** i.e., **Reallocation of taxing rights**: Applied to about 100 biggest **MNEs with global turnover above 20 billion euros** and **profitability above 10%,** it reallocates part of their profits to places where they sell products or provide services.
> - **Pillar Two i.e., Global anti-base erosion mechanism:** Setting '**global minimum corporation tax' of 15% from 2023** to large MNEs with **revenues above EUR 750 million globally**.
>   - ✓ Pillar Two should be **brought into law in 2022, to be effective in 2023,** with UTPR (Undertaxed Payment Rule) coming into effect in 2024.
> - Global Minimum Tax, **also known as Global Minimum Corporate Tax Rate (GMCTR),** is part of the **inclusive framework on Base Erosion and Profit Shifting (BEPS)** agreed upon by G20 countries and OECD (Organization for Economic Cooperation and Development).
>   - BEPS refers to **tax planning strategies used by multinational enterprises** (MNEs) that exploit gaps and mismatches in tax rules to avoid paying tax.
>   - Global minimum tax deals aim to **prevent multinationals from paying low taxes** (or no tax) by booking their profits in tax havens, and to **make them pay taxes wherever they operate or conduct business in**, even if they do not have physical presence in the country.

- **Proliferation of DSTs**: Due to the changing international economic order, countries such as India which provide large markets for digital corporations seek a greater right to tax incomes.
- **Fair competition**: Equalisation levy **ensures fair competition, reasonableness and exercise the ability of governments to tax businesses** that have a close nexus with the Indian market through their digital operations.
- **Level playing field**: To ensure a level-playing field with respect to e-commerce activities undertaken by entities resident in India as well as those not residents in India or without permanent establishment in India.

Challenges associated with Digital Tax

- **Retaliatory tariffs**: US initiated the US Trade Representative (USTR) investigations which found **DST to be discriminatory**, and then **announced retaliatory tariffs** could lead to digital tax war.
  - USTR states that the DST discriminates against US digital businesses because it specifically **excludes from its ambit domestic (Indian) digital businesses.**
- **Quantifying Data:** The growth in sophistication of information technologies has permitted companies in the **digital economy to gather and use information across borders to an unprecedented degree.**
  - This raises the issues of **attributing value created from the generation of data** through digital products and services for taxation purposes.

- **Burden on customers:** Experts suggest that such taxes can be passed on to consumers. While the Indian customer **may not pay this as a tax**, this **could mean higher prices**, contrary to the claim that it taxes the company.
- **Lack of consensus:** To address **dispute arising out of tax compliance** on a service or consumer grievance, there is need of a **dispute resolution process** such as arbitration which is itself a challenge due to lack of consensus among different countries.
- **Tax sovereignty compromised:** India and other developing countries have objected to a provision that bars nations from enacting any future digital services taxes such as equalization levy as it will unduly restrict sovereign rights to make laws.

Way forward

- **Coordination:** There is need of **coordination among world countries to develop guidelines** and set up a dispute redressal mechanism to resolve dispute arising out of application of digital tax.
- **New model:** The current basis for taxing in a particular jurisdiction is a notion of fixed place of business. To overcome this challenge, **countries suggested that a new basis to tax**, say, the number of users in a country, could address the challenge to some extent.
- **Bilateral treaties:** Bilateral and multilateral renegotiation of tax treaties superseding domestic tax laws are required to address issue of double taxation.

As countries calibrate their response to competing demands for sovereignty to tax, DST is an interim alternative outside tax treaties. It possesses the advantage of taxing incomes that currently escape tax and creates space to negotiate a final, overarching solution to this conundrum.

3.6. REGIONAL RURAL BANKS (RRB)

Why in News?

Recently, the Union Government had asked **Indian Banks Association (IBA)** to assist in the sustainability push to **Regional Rural Banks (RRBs)**.

More on News

Equity holding in RRBs

Sponsor Bank 35%

Government of India 50%

Concerned state Government 15%
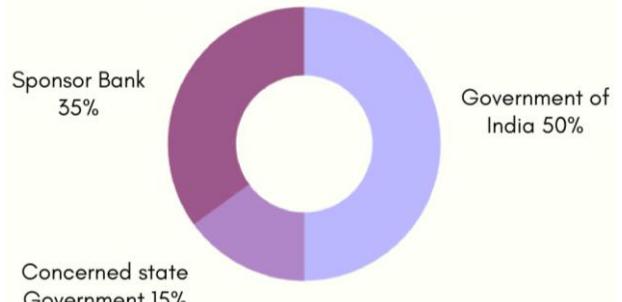
- After recording losses for two consecutive years previously, the RRBs reported a consolidated net profit for **FY21** as well as **FY22**.
- To make them financially sustainable, the government has decided to infuse record capital of **₹10,890 crore** into RRBs during **FY22 and FY23**.
  - Among stakeholders, the Centre's share would be **₹5,445 crore** while the remaining would come from **states** and **sponsor banks**.

About Regional Rural Banks (RRBs)

- RRBs were set up on the recommendations of the **Narasimha Working Group (1975)**, under the provisions of the **Ordinance promulgated in 1975** and **Regional Rural Banks Act, 1976**.
- Presently, we have **43 Scheduled Commercial RRBs**, in comparison to 196 in 2005, under the **Second Schedule** of the **Reserve Bank of India (RBI) Act, 1934**.
  - Their number has reduced due to consolidation, done for improving the **operational viability** and to take advantage of **economies of scale**.
- **Objectives:** To provide sufficient banking and credit facilities in rural and semi –urban areas to small and marginal farmers, agricultural laborers etc., to develop agriculture, trade, commerce, small scale industry and other productive activities. They also provide-
  - **Para-banking facilities** like locker facilities, debit and credit cards, mobile banking, internet banking, UPI etc.
  - **Carry out government operations** like disbursement of wages of MGNREGA workers, distribution of pension etc.
- **Features:** They are **region-based** and **rural-oriented** with features of a **cooperative bank in customer experience** and of **commercial banks** in mobilization of financial resources.
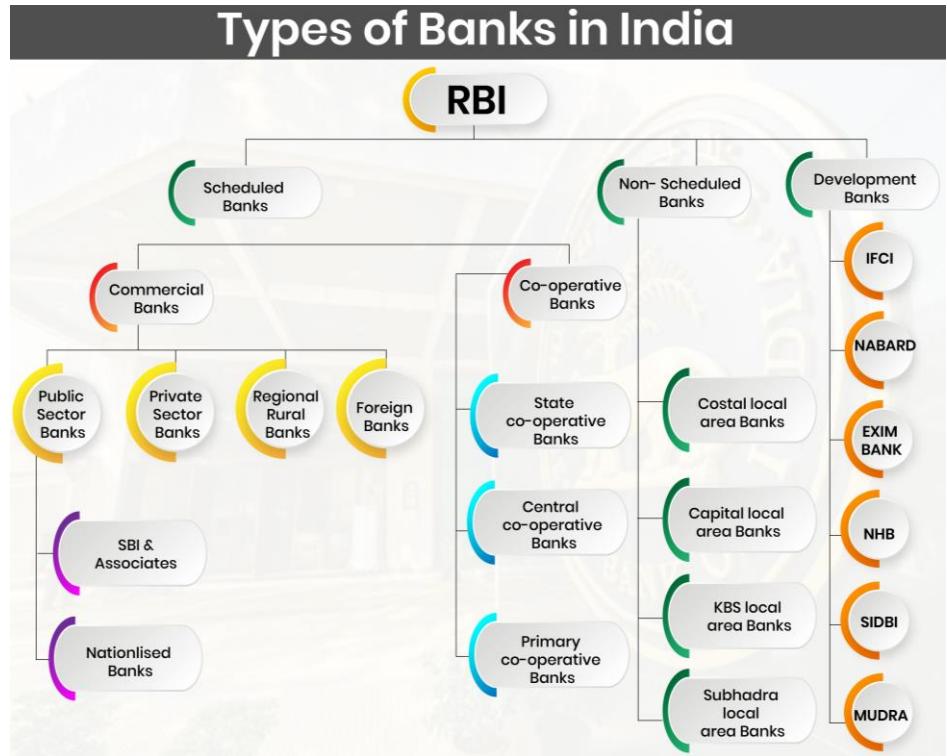
Significance of RRBs

With over **81% of loans to the priority sector** (against **benchmark** of **75%**) and nearly **60%** as **agriculture advances** out of **total advances**, their role becomes significant in:

- **Extending institutional credit** to the weaker section, especially small and marginal farmers, to protect them from moneylenders. For instance, share in **Ground Level Credit (GLC) flow** to agriculture was 12.1% of total despite having smaller size.
- **Financial Inclusion** by providing basic banking services in the rural areas.
- **Increase trust of rural population** in banking services to promote savings from them.
- **Provide easy and direct finance** to co-operative societies and Self-Help Groups (SHGs).
- **Create Employment** in rural India for overall development of rural economy.

Types of Banks in India

Problems faced by RRBs

- **Financial Viability:** Due to **increasing cost** of operations and limited business in many branches, the **Return on Assets (RoA)** of RRBs is poor. E.g., the three largest RRBs have RoA of less than 0.5% in most of the last 5 years.
  - The term return on assets (ROA) refers to a **financial ratio that indicates how profitable a company is in relation to its total assets.** (Calculated by Return on Assets = Total Assets/Net Income)
- **Limited Capital Adequacy Ratio:** Non-fulfillment of intended **13%** Capital Adequacy Ratio of RRBs, also known as Capital to Risk (Weighted) Assets Ratio (CRAR).
  - The capital adequacy ratio (CAR) is a measurement of a **bank's available capital expressed as a percentage of a bank's risk-weighted credit exposures.**
- **Loan delinquencies:** RRBs loan recovery rates have declined over the years, resulting in high **Gross Non-Performing Assets (GNPAs)** of 9.4% in FY21, against 10.4% in FY20.
  - Within them, they have large disparities as 14 RRBs with SBI as sponsor bank had GNPAs of 5.44% only in FY21.
- **Regulatory discrepencies:** They are **supervised by NABARD** while their annual plans and financials are **monitored by both the RBI and NABARD**. Additionally, the Central Government and the sponsoring bank have their own control; leading to lack of **clear ownership** and **control**.

Priority Sector Lending (PSL)
These are the advances made to sectors which are considered important for the development of the basic needs of the country and are to be given priority over other sectors.

PSL CATEGORIES

AGRICULTURE | MSMES | EXPORT CREDIT

EDUCATION | HOUSING | SOCIAL INFRASTRUCTURE

RENEWABLE ENERGY | WEAKER SECTIONS | OTHERS

Among these categories, Agriculture has the highest share followed by lending to weaker sections.

Way Forward

Recently, the **Department of Financial Services (DFS)** has formed an expert committee to seek recommendations for making RRBs viable in the medium to long term. In addition to that following measures can be taken-

- **Time-based viability plan** for the RRBs by sponsor banks with a **clear roadmap to support the post-pandemic economic recovery** and make them profitable. If they fail, the options of changing the sponsor bank can be explored.

Recommended By
B. Sivaraman Committee in 1979 by **Committee to Review the Arrangements For Institutional Credit for Agriculture and Rural Development**

Established In
1982 as a Development Bank through an act of the Parliament with 100% Government of India ownership

Functions
Promotion and development, refinancing, financing, planning, monitoring and supervision

Mission
Promote sustainable and equitable agriculture and rural development through participative financial and non financial interventions, innovations, technology and institutional development for securing prosperity

- **Step up Digitization** to reduce operational cost and offering internet banking services to its customers through Core Banking Solutions (CBS).
  - **Core Banking Solution (CBS)** is the networking of bank branches, which allows customers to manage their accounts, and use various banking facilities from any part of the world. In simple terms, there is no need to visit your own branch to do banking transactions.
- **Operational Reforms** to scale up operations through portfolio diversification and credit expansion through lending to MSMEs.
- **GNPA reduction** by allowing RRBs to invest in perpetual debt instruments from other banks (including RRBs) for higher yields and give them access to **Central Repository of Information of Large Credit (CRILC)** to help reduce their NPAs by accessing borrowers details.
- **List operationally-sound RRBs** on the stock exchanges to provide additional sources to meet their regulatory capital requirement.

3.7. GOLD MINING IN INDIA

Why in news?

The **Centre is planning out a detailed roadmap to identify potential gold-bearing regions to be developed by 2030** and boost gold production in the country with private participation.

Overview of Gold industry in India

- India is the **world's second biggest consumer** of gold, after China.
- **India's gold mine production** has the potential to reach **20 tonne per year**, up from 1.6 tonne in 2020.
- **Gold reserves and resources**: As per National Mineral Inventory data, total gold ore reserves in the country have been estimated at **501.83 million tonnes**.

DID YOU KNOW?

Gold mining in India dates back to the **first millennium BC** and throughout the **twentieth century** was dominated by the Kolar Gold Field.

- o The state of **Karnataka accounts for 88%** of the total reserves located in India, with the **Dharwar craton** being most significant geological formation for gold mineralisation.
- o Over **50% of gold mineral resources** (gold deposits that are potentially economically viable) **are located in Karnataka**, 33% in Rajasthan, 6% in Bihar and 5% in Andhra Pradesh, while the remaining 6 % are spread across a further eight states.
- **India's gold imports rose 33.41%** to $46.16 billion during 2021-22 from $34.6 billion in the previous year. Thus, it is crucial for India **to move along the path of self-reliance in gold industry.**

Significance of enhancing domestic gold production

- **Meet high domestic demand:** India accounts for **around 25% of the world's gold demand**.
- **Decrease dependence on imports**: Imports account for ~ 89 % of gold supply in India, resulting in price volatility and an adverse impact on the Current Account Deficit.
- **Boost national GDP and increase state-level and national taxes and royalties**.
- **Increase employment opportunities**, especially in remote areas.
- **Attract foreign direct investment.**
- **Initiate and support associated service industries** like jewellery fabrication, refining etc., especially in medium and small enterprises.

Constraints in enhancing domestic gold production

- **High risk of the business activity**: The pre-production stage of gold mining is quite long and involves huge capital investment for development and expedition, while the profits are subject to the commodity and exchange rates.
- **Poorly developed infrastructure in gold mining areas** with inadequate road and rail links.
- **Complex regulatory processes for securing approval for a mining licence**: It is usually lengthy, involves multiple agencies and often subject to substantial delays, leading to lengthy and costly hold-ups in project development.
- **Shortage of skilled man power** in exploration and mining industry.
- **Technological upgradation** required in the mining and refining space to create efficiencies in the operations and meet global standards.

- **Poor quality of geological database** with little or no information on the deep-seated miner, where most of the gold is found globally.
- **Environmental concerns related to gold mining** like ravaged landscapes, contaminated water supplies, and destruction of vital forest ecosystems.

Way Forward

- **Promote domestic manufacturing of mining equipment** using Make in India.
- **Enhance connectivity of gold mining regions,** by utilising inland waterways and multimodal linkages.
- **Make gold mining viable and attractive to investors** by promoting ease of doing business with single window clearances.
- **Consider making available the risk capital** for the long-term capital-intensive mining projects to attract investments.
- **Improve quality and availability of digital data**, **covering geological database** (which includes quality and scale of maps and ease of access to information)
- **Draw comprehensive taxation policy** to align India's taxation framework with the strategic needs of the gold mining sector.
- **Promote sustainable mining practices.**

Measures taken in India to encourage gold mining
- **Amendments in Mines and Minerals (Development and Regulation) Act (MMDR Act) 1957:**
  - **2015**: Introduced in a new **regime of granting mineral concessions through auction** to ensure transparency and non-discrimination in the allocation of the mineral wealth.
  - **2020:** Allowed State Governments to take advance action for auction of mineral blocks before the expiry of lease period **facilitating seamless continuity of mining operations.**
  - **2021:** Enabled transparent auction of 500 mining blocks of various minerals, including gold.
- **National Minerals Exploration Policy (NMEP), 2016** aims to stimulate non-fuel and non-coal mining exploration by allowing private companies to enter into a transparent bidding process, conducted via e-auction.
- **National Mineral Policy, 2019** provided more streamlined permit award method with simple, transparent and accountable processes and clear deadlines, to encourage exploration.
- **Minerals (Evidence of Mineral Contents) Rules, 2015** amended in 2021 to allow auction of composite licence at for deep seated minerals including Gold.
- **100% FDI is permitted** under the automatic route.

3.8. SOFTWARE AS A SERVICE (SAAS)

Why in news?

A report titled "**India: The Next Global SaaS Capital**" recently released by Confederation of Indian Industry (CII) and EY, **highlighted Indian SaaS industry's unique value and the enormous impact being created by Indian SaaS.**

About Software as a service (SaaS)
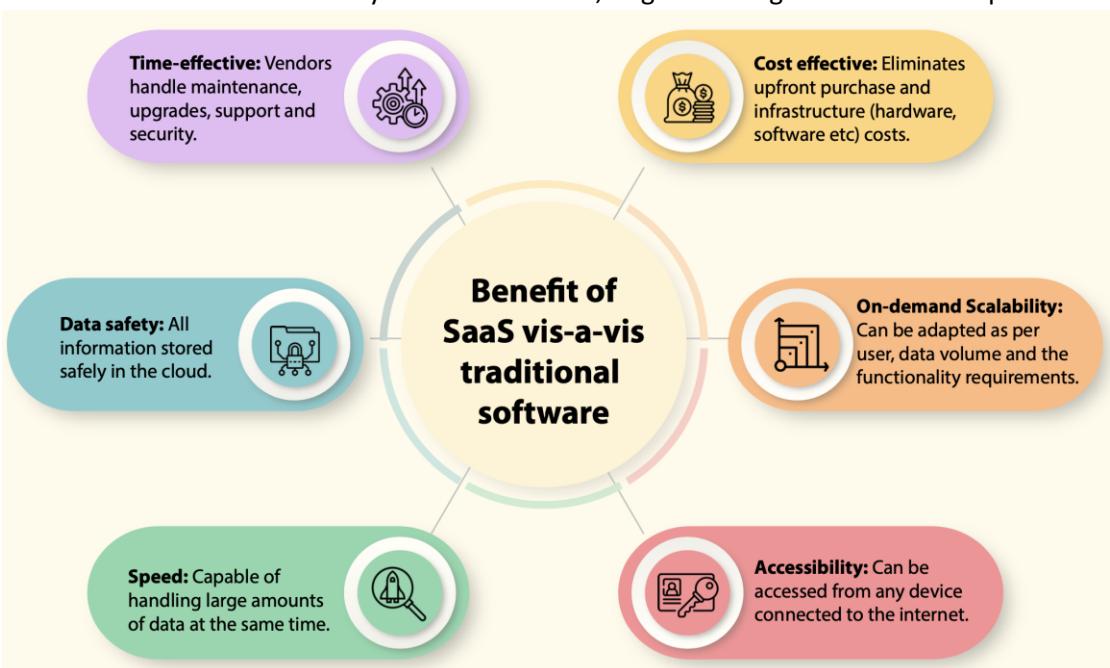
- SaaS is a software distribution model in which a **cloud provider hosts applications** and makes them available to end users over the internet. For examples, it includes services provided by Google Workspace, Adobe Creative Cloud, Github etc.
- **Key features of SaaS**:
  - It is **rented from a software vendor** who also provides technical support.
  - It is provided on a **subscription basis**.
  - The software can be **accessed on multiple devices**.
- It is one of three main categories of cloud computing, alongside-
  - **Infrastructure as a Service (IaaS)** where company leases a whole digital infrastructure (servers, network resources, etc.) for organizing business activities, creating applications, data storing, etc.
  - **Platform as a Service (PaaS)** where cloud environment (hardware, software, development tools and infrastructure) is provided for creating apps and their further support.

SaaS sector in India

- **India is the 3rd largest SaaS ecosystem globally**, after the USA and China.
  - India is on the path to **surpass China to become the 2nd largest SaaS nation in the world by 2026.**
- India presently has **18 SaaS unicorns** as compared to one in 2018.
- The **number of SaaS companies in India have more than doubled** in 2021 as compared to 2019.

Reasons behind growth of SaaS industry in India

- **Large consumer base in India**, further enlarged by increasing smartphone usage, digitization of financial services (e.g. Aadhar and UPI) and pandemic-induced remote or hybrid work models, large-scale digitization of enterprises and Small and medium businesses etc.

- **Global validation of Indian SaaS unicorns** and emergence of scaled-up and mature SaaS companies.

- **Abundant liquidity with growing interest from International Venture capitalists** in Indian SaaS companies.

- **Vast pool of digitally skilled workforce.**

- **Paradigm shift to an on-demand, subscription-based model** instead of legacy, on-premise products.

Benefit of SaaS vis-a-vis traditional software

Time-effective: Vendors handle maintenance, upgrades, support and security.

Cost effective: Eliminates upfront purchase and infrastructure (hardware, software etc) costs.

Data safety: All information stored safely in the cloud.

On-demand Scalability: Can be adapted as per user, data volume and the functionality requirements.

Speed: Capable of handling large amounts of data at the same time.

Accessibility: Can be accessed from any device connected to the internet.

- **Supportive start-up policies** helped in rise of ambitious and dynamic Indian entrepreneurs in the SaaS sector.

Pro Start-up policies in India	
Regulatory	• **Tax exemption and simplified compliance** under Start-up India scheme.
Financial	• **Start-up India Seed Fund** with an outlay of INR 945 Crore and Credit Guarantee Scheme.
Technology	• **Fast tracking of Start-up Patent applications** and provision of 80% rebate. • **National Small Industries Corporation Infrastructure Scheme** to provide ready-to-move in office space, computer hardware and software facilities, internet, and business Centre facilities
Other	• **SAMRIDH (Startup Accelerator of MeitY for Product Innovation, Development and Growth)** Scheme to accelerate start-ups through customer connects, investor connects, and facilitation of international expansion.

Challenges in SaaS sector for India

- **Wide talent and knowledge gap**: There is a shortage of trained workforce with necessary workforces specific technical and managerial skills.

- **Difficulties in complying to norms related to data protection and privacy,** e.g., European Union's General Data Protection Rights (GDPR).

- **Lack of awareness and hesitancy in adoption among Indian businesses,** especially small and medium enterprises, with regards to using SaaS for operations.

- **Challenges faced by Indian start-up enterprises in expansion**: Most early-stage SaaS companies out of India struggle with funding, competition from big players, and go-to-market (GTM) strategies when it comes to scaling globally.
  - A **go-to-market** (GTM) **strategy** is a step-by-step plan created to successfully launch a product to market.

- **Poor internet connectivity in India**, being limited to prominent cities.

Way Forward

- **Focussing on building sustainable talent pipelines** and conducting regular knowledge transfer/skill-sharing workshops for creating a cadre of trained workforce.

- **Raising awareness and handholding Indian businesses** to enhance adoption of SaaS facilities.

- **Assisting start-ups in initial stages by creating mentorship linkages** in the SaaS sector, with the help of initiatives like Start-up India.
- **Facilitating connectivity to faster internet** by launching 5G networks.

3.9. NEWS IN SHORTS

3.9.1. NORMS FOR INVESTMENTS IN OVERSEAS MARKETS

- SEBI recently **eased norms on Alternate Investment Funds (AIFs), Venture Capital Funds (VCFs) investments** in overseas markets.
- Guidelines are aimed to **protect the interests of investors in securities** and to **promote the development** of, and to **regulate the securities market.**
- **Key highlights of the Guidelines**
  - Earlier, investing was limited to **only those companies globally that had connection to India or at least a back-office** in India.
  - However, now they can **invest in companies across the world** in countries that are
    - ✓ **Signatories to the International Organization of Securities Commissions (IOSCO)** or
    - ✓ a signatory to the **bilateral Memorandum of Understanding with SEBI** and
    - ✓ Countries having **Financial Action Task Force (FATF) restrictions** are barred from it.
  - **Transfer or sale of investment in overseas companies** can only be made to **the entities eligible** as per **Foreign Exchange Management Act (FEMA) 1999.**
- **About AIFs and VCFs**
  - 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.
  - VCF is a **type of AIF which is an investment fund** that manages money from different investors seeking to **provide capital in startup and small- and medium-size enterprises.**

> **About IOSCO (HQ: Madrid, Spain)**
> - Founded in **1983**, it is an international body that brings together the **world's securities regulators** as the **global standard setter** for the **securities sector**.
> - It works with **G20** and the **Financial Stability Board (FSB)** on the **global regulatory reform agenda**.
> - From India, **SEBI** is an **ordinary member** of **IOSCO**; **International Financial Services Centres Authority (IFSCA)** is an **associate member**; and **BSE, NSE** and **Multi Commodity Exchange of India** are its **affiliate members**.

3.9.2. BLUE BONDS

- **SEBI has proposed the concept of blue bonds** as a mode of sustainable finance.
- A blue bond is a relatively new form of **debt instrument that is issued to support investments in healthy oceans and blue economies**.
  - Blue Economy is **sustainable use of ocean resources** for economic growth, improved livelihoods, and jobs.
- Blue bonds offer an **opportunity for private sector capital to be mobilized to support the blue economy.**
- **India can deploy blue bonds** in various aspects of blue economy like **oceanic resource mining, sustainable fishing,** national offshore wind energy policy etc.

3.9.3. ACCOUNT AGGREGATOR (AA)
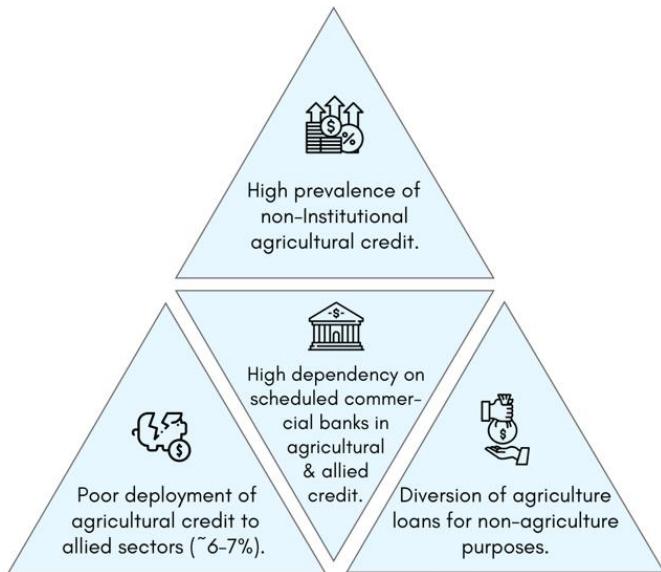
- **SEBI has joined RBI's AA framework system.**
- AA ecosystem aims to **transform how credit is processed and accessed** in the country.
  - It is a type of **RBI regulated non-banking finance company (NBFC).**
- It helps an individual securely and **digitally access and share information from one financial institution** they have an account with **to any other regulated financial institution** in AA network.
- **Significance of AA:** Consolidated dashboard of all bank accounts of user in one place, User controlled data sharing etc.

3.9.4. INTEREST SUBVENTION FOR AGRICULTURE LOAN

- To compensate Banks with RBI increased repo rate, Cabinet has restored **interest subvention on short term agriculture loans to 1.5% to all financial institutions for FY 2022-23 to 2024-25** for lending **short term agri-loans up to ₹3 lakh to farmers**.
  - Previously, Centre's support to banks for **Interest Subvention Scheme (ISS) was stopped in 2020** as banks were able to provide short term agriculture loan at 7% by themselves.
- Centre introduced **ISS now renamed as Modified Interest Subvention Scheme (MISS)** to provide short term credit to farmers at subsidized interest rates.
  - Under this scheme, short term agriculture loan **upto Rs. 3.00 lakh is available to farmers engaged**

in **Agriculture and other allied activities** at rate of **7% per annum**.

- o An **additional 3% subvention** (Prompt Repayment Incentive) is also given to farmers for **prompt and timely repayment of loans**.
- o Therefore, on timely repayment of loan, farmer gets **credit at the rate of 4% per annum.**
- o This support to farmers is **100% funded by Centre**.
- o ISS is being **implemented by NABARD and RBI**.
- **Steps taken to provide agriculture credit**
  - o **Kisan Credit Card** provides timely credit support to farmers for their cultivation.
  - o **Agri Market Infrastructure Fund** provide subsidised loans to states and UTs for agricultural produce market committee mandis and gramin agricultural markets.
  - o **Pradhan Mantri Fasal Bima Yojana (PMFBY)** provides financial support to farmers suffering crop loss/damage.

Issues in Agriculture Credit

3.9.5. ATAL PENSION YOJANA (APY)

- According to new orders by **Ministry of Finance, any citizen who is or has been an income-tax payer, shall not be eligible to join APY.**
- APY was launched in 2015 by replacing Swavalamban scheme **to create a universal social security system for all Indians,** especially poor, under-privileged and workers in **unorganised sector.**
  - o All bank account holders in **age group of 18 to 40 years.**
  - o Subscriber would receive **guaranteed minimum monthly pension of Rs 1,000 to Rs 5,000 per**

month after attaining age of 60 years, depending on contribution.

- o Administered by **Pension Fund Regulatory and Development Authority (PFRDA).**

3.9.6. EMPLOYEES' STATE INSURANCE (ESI) SCHEME

- Ministry of Labour & Employment (MoLE) has announced **expansion of ESI Scheme and convergence with Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB PM-JAY).**
  - o This convergence will create an ecosystem wherein **ESI beneficiaries will be able to access services at ABPM-JAY empanelled Hospitals and vice versa.**
- ESI scheme was **launched under ESI Act, 1948** by MoLE.
  - o It aims to provide **social security to the industrial workers** in certain contingencies such as **sickness, maternity, temporary or permanent physical disablement and death due to employment injury** resulting in loss of wages or earning capacity.

3.9.7. EMERGENCY CREDIT LINE GUARANTEE SCHEME (ECLGS)

- Centre has approved the **enhancement in the limit of ECLGS** from Rs. 4.5 Lakh crore **to Rs. 5 Lakh crore.**
  - o The **additional amount is earmarked exclusively** for enterprises in **hospitality and related sectors**.
- The ECLGS was **launched in the backdrop of COVID-19 crisis**.
  - o It provides **100% guarantee coverage to banks and NBFCs** to enable them to **extend emergency credit facilities to business entities/MSMEs** to meet their additional term loan or additional working capital requirement.
  - o So far loans of about Rs. 3.67 Lakh crore have been sanctioned under ECLGS.

3.9.8. GRAMEEN UDYAMI PROJECT (GUP)

- **Second phase of GUP**, to train 450 tribal students in Madhya Pradesh and Jharkhand, **was launched**.
- GUP, funded by National Skill Development Corporation (NSDC), aims **to augment skill training in tribal communities** for their inclusive and sustainable growth.
  - o Project is **being implemented in six states**—Maharashtra, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, and Gujarat.
  - o It is implemented **under Sansadiya Parisankul Yojana.**
- **Training is conducted in job roles** (such as electrician, plumbing, farm mechanisation etc.) **which are relevant to local economy.**

3.9.9. MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY (MPEDA)

- Recently the MPEDA celebrated its 50th years.
- During the celebration the Union Commerce Minister made **four proposals for the comprehensive development** of the country's marine resources.
  - o **Identify 20 markets** for items that contribute to **90% of the exports.**
  - o Prepare **state-wise export development plans** in consultation with state administrations.
  - o Aim at **exports worth $20 billion in the next five years**, and
  - o **Raise the livelihood of fishermen** by reducing their risk, creating awareness among them, increasing their income and shielding them against middlemen.
- **About MPEDA**
  - o It was launched in 1972 as a statutory body of the **Ministry of Commerce and Industry** as the nodal agency **to promote the export of marine products.**
    - ✓ The erstwhile **Marine Products Export Promotion Council** established in 1961 was **converged in to MPEDA**.
  - o It is empowered **to regulate exports of marine products** and take all measures required for ensuring **sustained, quality seafood exports from the country**.
  - o **Its key functions include:**
    - ✓ **Identifying bottlenecks** in seafood trade and **taking corrective action.**
    - ✓ **Registering seafood processing units**, fishing vessels, pre-processing centres, etc.
    - ✓ **Marketing activities** such as buyer-seller meets, delegation visits to potential markets, etc.
    - ✓ **Promotes research and development** for commercial aquaculture activities through the Rajiv Gandhi Centre for Aquaculture (RGCA).
    - ✓ **Undertaking capacity building through** societies such as
      - ▪ **National Centre for Sustainable Aquaculture** - It **empowers the marginalised and poor rural aquaculture farmers** through capacity-building at the grass-roots level.
      - ▪ N**etwork for Fish Quality Management and Sustainable Fishing** – It imparts training to fishermen on marine conservation, post-harvest handling and other
  - o Since 2004, it is implementing the **National Residue Control Plan (NRCP),** for monitoring the residues of substances like Antibacterial/Veterinary Medicinal Products, etc. for exports of marine products to the European Union.
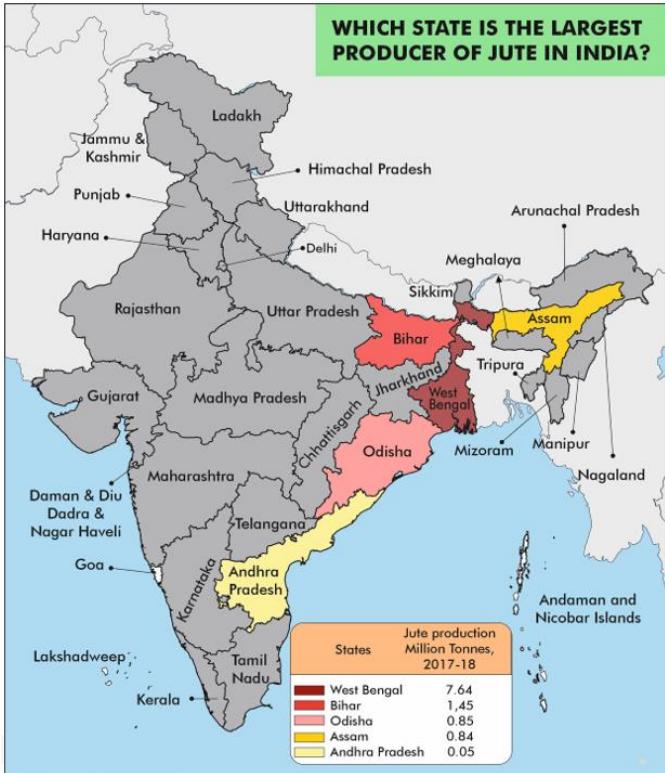
> **India's marine industry**
> - India is the **second largest fish producer** in the world.
> - Currently India is **exporting to more than 120 countries.**
> - **Marine products exports** have reached **USD 7.74 Billion in 2022.**

3.9.10. PRODUCTION OF JUTE

- As per third advance estimates of Ministry of Agriculture & Farmers' Welfare, India's jute **economy declined to 1.77 million tonnes in 2021-22,** from 2.03 million tonnes in 2011-12.
  - o Also, over the years **average area under jute cultivation has** also declined.
  - o During the same period, **production and are in Bangladesh has shown significant rise.**
  - o **Bangladesh has a comparative advantage in export** of jute products because of its **low cost of production driven by lower wages, favourable power tariffs, cash subsidy** for export, diversified jute products market etc.
- **Reasons for decline**: Lack of market, government procurement and diversification, poor infrastructure as well as the sorry state of Indian jute mills.
- Jute, also known as **golden fibre**, is a **long, soft and shiny natural fibre** used in many textile applications.
- o Jute crop requires **humid climate with temperature between 24 and 38 degree Celsius.** Minimum **rainfall required is 1000 mm**
- India is the **world's largest producer** of raw jute. Jute is **primarily grown in West Bengal, Odisha, Assam, Meghalaya, Tripura.**
  - o **India's share is just 7 per cent of the global jute exports** whereas Bangladesh accounts for nearly 75 per cent.
- **Steps taken for Jute Industry**
  - o **Mandatory Packaging in Jute Materials:** At present, 100% of food grains and a minimum of 20% of sugar are to be compulsorily packed in jute sacking.
  - o **Golden Fibre** Revolution
  - o **Jute Mark India Logo** for authenticity of Jute Products.
  - o **JUTE –ICARE** for using certified seeds, adopting scientific technique.

WHICH STATE IS THE LARGEST PRODUCER OF JUTE IN INDIA?

States	Jute production Million Tonnes, 2017-18
West Bengal	7.64
Bihar	1,45
Odisha	0.85
Assam	0.84
Andhra Pradesh	0.05

3.9.11. UDAN (UDE DESHKA AAM NAGRIK) SCHEME

- UDAN scheme recently completed 5 years of its launch.
- UDAN is a **Regional Connectivity Scheme (RCS) to stimulate regional air connectivity and making air travel affordable to masses**.
  - It was formulated based on **review of National Civil Aviation Policy (NCAP), 2016**.
  - **Airports Authority of India** is designated as **implementing agency.**
  - **Regional Connectivity Fund (RCF)** funds Viability Gap Funding (VGF) requirements of scheme through a levy on certain domestic flights.
  - RCS-UDAN was **awarded Prime Minister's Award for Excellence in Public Administration under Innovation Category** for year 2020.
- In last five years, UDAN has **increased the regional air-connectivity in country**.
  - **Operation airports increased** from 74 to 141 by now.
  - With 425 new routes initiated under scheme, UDAN has provided **air connectivity to more than 29 States/ UTs**.
  - **220 destinations** (airports/heliports/water aerodromes) under UDAN are targeted to be **completed by 2026 with 1000 routes**.
- **UDAN created a framework based on need and led to formulation of**:
  - **Lifeline UDAN** (transportation of medical cargo during pandemic).

- **Krishi UDAN** (value realization of agriculture products especially in North eastern Region and tribal districts).
- **International UDAN routes for NER** to explore International Connectivity from / to Guwahati and Imphal.

3.9.12. CONVENTION ON INTERNATIONAL ROAD TRAFFIC OF 1949 (GENEVA CONVENTION)

- Ministry of Road Transport and Highways issued notification on standardising process for issuance of **International Driving Permit (IDP)** across country in adherence to Convention.
- Geneva Convention is an **international treaty promoting the development and safety of international road traffic** by establishing certain uniform rules among the contracting parties.
- **India, being a signatory to convention** is required to issue IDP as provided under this Convention, for **acceptance of the same on reciprocal basis** with other countries.

3.9.13. AMENDMENT IN INDIAN TELEGRAPH RIGHT OF WAY (ROW) RULES, 2016

- **Right of Way**: Telecommunications providers use rights-of-way to build physical network infrastructure like towers on lands they do not own.
- Amendments are aimed at **facilitating rapid expansion and upgradation of telecom networks** and therefore **improvement in the quality of services.**
  - RoW Rules, 2016 **provide for a framework to give approvals and settle disputes** in a time-bound manner, as well as **improve coordination between companies and government authorities.**
  - Rules were **earlier amended in 2021 to incorporate several provisions** related to compensation and uniform procedure for establishment of overground telegraph line.
- **Key features of the latest amendment**
  - **RoW application procedures simplified** to facilitate faster 5G roll-out.
  - **Administrative fees have been rationalized** to reduce the cost of compliance.
  - **Telecom licensees may enter into agreement with private property owners** and they will not require any permission from any government authority.
- Also, a **new 5G RoW application form on Gati Shakti Sanchar Portal was launched** to enable faster 5G roll-out.
  - In line with PM GatiShakti National Master Plan, Portal **facilitates smooth deployment of digital**

communications **infrastructure** across the country.

o Portal will be the **single window portal for all telecom related RoW applications.**

3.9.14. NATIONAL INTELLECTUAL PROPERTY AWARENESS MISSION (NIPAM)

- Recently, **NIPAM has achieved its target of imparting Intellectual Property (IP) awareness** and basic training to 1 million students in India.
- **NIPAM** is a **flagship program of Ministry of Commerce and Industry** to **impart IP awareness and basic training**, as a part of Azadi Ka Amrit Mahotsav celebrations.
  o It is being **implemented by Intellectual Property Office, the Office of Controller General of Patents, Designs and Trademarks (CGPDTM)**, Ministry of Commerce and Industry.
- **Objective of NIPAM**
  o The pan-India ambitious mission aims **to provide awareness on intellectual property and its rights to 1 million students.**
  o It aims to **inculcate the spirit of creativity and innovation to students of higher education (classes 8 to 12).**
  o It aims to ignite and **inspire students at college / Universities to innovate and protect their creations.**
  o **Contribute to the cultural and economic development** of the society through a remodelled approach that makes use of the IP office's existing resources in **collaboration with Atal Innovation Mission (AIM), All India Council for Technical Education (AICTE), University Grants Commission (UGC),** and others.
  o **Creation of an Aatmanirbhar Bharat by raising IP awareness.**

3.9.15. WORK FROM HOME (WFH) NORMS

- The Department of Commerce **has notified new rule 43A for WFH in the SEZ Rules, 2006** which provides WFH for a certain category of employees including employees of IT/ITeS SEZ units, temporarily incapacitated, who are working offsite.

- Under the new norms a company **whose 50% or less employees opt for WFH** can **flexibly use this facility without submitting** the attendance records with the SEZ development commissioner.
- New **provision of deemed approval for WFH proposals within 15 days of submission** in case of no communication by the commissioner.

3.9.16. MOONLIGHTING

- Moonlighting refers to **pursuing more than one job at a time** without the awareness of the main employer (hence, considered unethical by many).
  o **Remote working has helped employees** take up this option.
  o It provides **people with high skills to do side gig.**
- It has **become very popular after the COVID-19 pandemic** as people got time and opportunities to do more than one thing for a living.

3.9.17. CANTILLON EFFECT

- It refers to the idea that **changes in money supply in an economy causes redistribution of purchasing power among people,** disturbs relative prices of goods and services, and **leads to misallocation of scarce resources.**
  o Although, **money has largely been considered to be neutral** by economists today, in the sense that changes in its supply have no real effect on the economy.
- It is named after **18th century French economist Richard Cantillon** who published his ideas in 1755 book Essay on Nature of Trade in General.

3.9.18. WORLD'S HIGHEST RAILWAY BRIDGE

- Recently, **golden joint connecting two ends of overarch deck of the world's highest railway bridge** over Chenab river was inaugurated.
  o 1.3-km-long bridge is **located 359 metres above Chenab riverbed** and is 30 metres **higher than Eiffel Tower.**
- Chenab bridge will **provide all-weather rail connectivity to Kashmir** and **forms a crucial link from Katra to Banihal**, part of Udhampur-Srinagar-Baramulla section of the Kashmir Railway project.

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

4. SECURITY

4.1. WEAPONS OF MASS DESTRUCTION (WMD)

Why in News?

Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Act, 2022 was passed by Parliament.

About Weapons of Mass Destruction (WMDs)

- While there is **no single, authoritative definition of a WMD in international law,** the expression is usually understood to cover **nuclear, biological, and chemical (NBC) weapons**.
- As per United Nations Regional Centre for Peace and Disarmament in Asia and the Pacific (UNRCPD), **WMDs constitute a class of weaponry with the potential to:**
  - **Produce in a single moment an enormous destructive effect** capable to kill millions of civilians, jeopardize the natural environment, and fundamentally alter the lives of future generations.
  - Cause **death or serious injury of people through toxic or poisonous chemicals.**
  - **Disseminate disease-causing organisms or toxins** to harm or kill humans, animals or plants.
  - **Deliver nuclear explosive devices, chemical, biological or toxin agents** to use them for hostile purposes or in armed conflict.
- As per India's 2005 WMD Act, **WMDs are biological, chemical, or nuclear weapons.**

Key features of the 2022 Act

- It **amends the Weapons of Mass Destruction and their Delivery Systems** (Prohibition of Unlawful Activities) **Act, 2005**.
- It **prohibits financing of any activity in relation to WMD** and their delivery system.
- **It empowers the Central Government to:**
  - **freeze, seize or attach funds or other financial assets** or economic resources for preventing such financing.
  - **prohibit making available funds, financial assets or economic resources** for any prohibited activity in relation to weapons of mass destruction and their delivery systems.

Significance of the Amendment

- **To meet international obligations:** United Nations Security Council's targeted financial sanctions and the recommendations of the Financial Action Task Force (FATF) have mandated against financing of proliferation of weapons of mass destruction and their delivery systems.

- **Address shortcomings in the present act:** Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, passed in 2005, only banned manufacture of weapons of mass destruction.
  - Current law only covers trading and does not cover financing of WMD.

- **Tackling evolving threats:** These notably include developments in the field of drones or unauthorised work in biomedical labs that could maliciously be used for terrorist activity.

- **To strengthen global enforcement** to ensure that non-state actors, including terrorist and black-market networks, do not gain access to such materials.

ABOUT WMD AND THEIR DELIVERY SYSTEMS (PROHIBITION OF UNLAWFUL ACTIVITIES) ACT, 2005

Primary objective was **to provide an integrated and overarching legislation** on prohibiting unlawful activities in relation **to all three types of WMD**, their delivery systems and related materials, equipment and technologies.

It instituted **penalties for contravention of these provisions.**

It was passed to meet an **international obligation enforced by the UN Security Council Resolution (UNSCR) 1540 of 2004 that puts** binding obligations on all UN member states **to take and enforce effective measures against proliferation of WMD**, their means of delivery and related materials to non-state actors

- **Enforcing global WMD controls:** Having now updated its own legislation, India can demand the same of others, especially from those in its neighbourhood.

What more should India do?

- Amendment will have to be **enforced through proper outreach measures to industry and other stakeholders** to make them realise their obligations under the new provisions.
- **India should keep WMD security in international focus.** Even countries which do not have WMD technology have to be sensitised to their role in the control framework to prevent weak links in the global control system.
- **India can offer help to other countries on developing national legislation,** institutions and regulatory framework through the IAEA (International Atomic Energy Agency) or on bilateral basis.

Global treaties to outlaw WMDs		
Treaties/Conventions/Codes	**About**	**Ratified/Signed by India**
Biological Weapons Convention, 1972	• **Prohibits the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons.**	**Yes**
Chemical Weapons Convention, 1992	• **Prohibits the development, production, acquisition, stockpiling, retention, transfer or use of chemical weapons.** • It led to the establishment of **Organisation for the Prohibition of Chemical Weapons (OPCW)** headquartered at Hague, Netherlands	**Yes**
Treaty on the Non-Proliferation of Nuclear Weapons (NPT), 1970	• **To prevent the spread of nuclear weapons and weapons technology**, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament.	**No.** India opposes NPT's discriminatory nature and argues for the universal ban of nuclear weapons.
Treaty on the Prohibition of Nuclear Weapons (TPNW), 2017	• **Prohibits participating in any nuclear weapon activities.** • These include **undertakings not to develop, test, produce, acquire, possess, stockpile, use or threaten to use nuclear weapons** and also to provide assistance to any State in the conduct of prohibited activities.	**No.** India believes that this Treaty does not constitute or contribute to the development of customary international law; nor does it set any new standards or norms.
Comprehensive Nuclear-Test-Ban Treaty (CTBT), 1996	• It **bans all nuclear explosion tests on Earth.** It also establishes a CTBT Organization (CTBTO), located in Vienna, to ensure the implementation of its provisions. • It is **yet to enter into force**.	**No** India opposes CTBT's discriminatory nature and supports universal ban of nuclear weapons.
Hague Code of Conduct (HCOC) formerly known as "The International Code of Conduct" (ICOC), 2002	• **To regulate access to ballistic missiles** which can potentially deliver weapons of mass destruction.	**Yes**

Multilateral Export Control Regimes (MECR)	• **Voluntary and non-binding agreements created by the major supplier countries** to co-operate in their effort to prevent transfer of certain military and dual use technology that support proliferation of WMD.
	• **There are currently four such regimes under MECR:**
	  o **Nuclear Suppliers Group (NSG)** for the control of nuclear related technology.
	  o **Australia Group (AG)** for control of chemical and biological technology that could be weaponized.
	  o **Missile Technology Control Regime (MTCR)** for the control of rockets and other aerial vehicles capable of delivering weapons of mass destruction.
	  o **Wassenaar Arrangement for Conventional Arms and Dual-Use Goods and Technologies.**
		India is **member of three of the 4 MECRs**, except the Nuclear supplier Group.

4.2. FACIAL RECOGNITION TECHNOLOGY (FRT)

Why in news?

The Delhi's International Airport and Bengaluru's Kempegowda International Airport has recently rolled out the beta version of the DigiYatra (DY) app.

More on the news

- DigiYatra (DY) app is a **Biometric Enabled Seamless Travel experience (BEST)** based on Facial Recognition Technology.
  - It is a part of the **DY Central Ecosystem (DYCE).**
- The app links facial features to the documents, like ID proof, Vaccine proof and boarding pass.
- Thus, the passengers' face acts as their ID proof and travel document, automatically validating entry at all checkpoints including entry into the airport, security check areas, aircraft boarding, etc. through E-Gate.

About Facial Recognition Technology (FRT)

- Facial recognition is a **biometric software application** capable of uniquely identifying or verifying a person by comparing and analysing patterns based on the person's facial contours.
- **Most of FRT systems use three main components**:
  - a camera;
  - a database of stored images; and
  - an algorithm that creates a "**faceprint**" from images captured by the camera to compare with the database images.
- Faceprint is made of distinctive details about a face, such as distance between the eyes, identified by the FR algorithms.
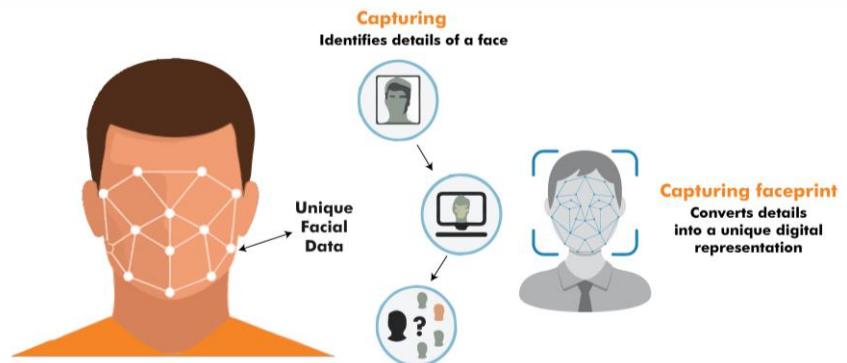
Concerns about use of FRT

- **Surveillance:** Use of facial recognition along with existing setup of Close-Circuit Television (CCTV) cameras, artificial intelligence, and data analytics creates the potential for mass surveillance.
  - E.g., China uses facial recognition for racial profiling and tracking and control of the Uighur Muslims.
- **Inaccuracy and misidentification:** The results of FRT are **probabilistic** (do not give a yes or no answer, but instead generate a likelihood of match) and are found to be **disproportionately inaccurate when used on certain groups**, including people with darker skin, women, and young people. This is due to biases in data sets used for training algorithms.
  - This can result in a **false positive**, where a person is misidentified as someone else, or a **false negative** where a person is not verified as themselves.

About the DY Central Ecosystem (DYCE)
- It is an initiative of the **Digi Yatra Foundation (DYF).**
- It has been set up as a **joint venture (JV) company in 2019** under Section 8 of the Companies Act, 2013.
- The shareholders of DYF are Airport Authority of India (26% shares) and Bangalore International Airport Ltd (BIAL), Delhi International Airport Limited (DIAL), **GMR Hyderabad International Airport Limited** (**GHIAL**), Mumbai International Airport Limited (**MIAL**) and **Cochin International Airport Ltd**. (equally hold the remaining 74% of the shares).

Working of Facial Recognition Technology (FRT)

Capturing
Identifies details of a face

Unique Facial Data

Capturing faceprint
Converts details into a unique digital representation

APPLICATIONS OF FRT

Law enforcement
- Tracking and **identification of criminals.**
- **Find missing persons** and victims of human trafficking.

Retail sector
- **Customize** retail experiences.
- Identify known **shoplifters.**
- "**Face pay**" technology.

Airports and border control
- Hassle-free, contactless, paperless and fast **processing at checkpoints.**
- **Enhanced security.**
- Non-intrusive and automatic **Identity Verification.**

Healthcare
- Access **patient records.**
- Management of pandemics.
- Streamline **patient registration.**
- Detect emotion and pain in patients.
- Help to **identify specific genetic diseases.**

Marketing and advertising
- Creating **tailored advertisements.**
- Generating **feedback from facial expressions** of consumer.

Other uses
- **Digital security tool** for unlocking smartphones and other personal devices.
- **Management of staff and customers** for Businesses.
- **Governance:** Identifying beneficiaries.
- **Banking:** Authorize financial transactions.

- **Risk of Function creep:** wherein a technology or system gradually widens its scope from its original purpose to encompass and fulfil wider functions.
  - E.g., widespread use by law enforcement agencies can lead to **surveillance creep** where the technology ends up being used to track people who are not supposed to be tracked.
- **May lead to violation of fundamental rights:** such as
  - **Right to privacy under Article 21** due to lack of clarity and consent on how data is being collected, stored, shared, used and by whom.
  - **Right to move freely** within the territory of India under Article 19(1)(d) by undermining privacy in public spaces.
- **Absence of data protection regulations in India:** raises concerns about how datasets are collected, retained, secured and shared within public and private agencies.
- **Cybersecurity issues**: Facial data falls in the category sensitive personal data which if com promised by hackers can lead to fraud, identity theft etc.
- **Technological limitations:** Various factors that affect the technology's ability to recognize people's faces include camera angles, lighting levels, image or video quality, disguises, change in physical appearances with time etc.

> **Use cases of facial recognition systems in India**
> - **As a proof of 'life certificate' for pensioners** and ensure ease of living for the retired and elderly citizens.
> - **As part of Operation Smile**, by Telangana Police for a periodic drive to tackle child labour and missing children.
> - **Deployment by State law agencies** (Delhi, Uttar Pradesh, Punjab etc.) **for investigation purposes.**
> - **For providing digital mark sheets** to students, by CBSE, by using FRT as one of the authentication mechanisms in multifactor authentication.
> - **UIDAI has announced a pilot programme to test the functionality of FRT for financial services**, along with the National Payments Corporation.
> - **Automated Facial Recognition System (AFRS)** to be built by National Crime Records Bureau (NCRB) using police records.
>   - It will be accessible only to Law Enforcement Agencies for identification of criminals, unidentified dead bodies and missing/found children and persons.

Way Forward

- **Conducting privacy impact assessment** to help organisations in identifying how personally identifiable information is collected, used, shared and maintained, and privacy risks arising out of such arrangements.
- **Ensuring that use of FRT by Government agencies fulfils the thresholds of-**
  - **Necessity** - which justifies that the restriction to people's privacy is needed in a democratic society; and
  - **Proportionality** -where the Government must show that the intrusion is proportional to the necessity and that there are no other alternatives which can fulfil said mandate.
- **Establishing consent-based standards and legislation** to govern use of the technology with the option to opt out and erasure of data.
  - E.g., Draft Personal Data Protection Bill classified the use of facial recognition technology as 'sensitive personal data' according it high level of protection.
- **Taking technical steps-**
  - **Addressing racial and gender biases** in facial recognition algorithms by expanding datasets.
  - **Decentralized identity management** to address privacy/data protection issues.
  - **Ensuring that facial data is stored securely** by private and public authorities.
  - **Assessing scope, structure, and process of FRT systems** to determine technical feasibility and accuracy.

4.3. COUNTERFEIT CURRENCY NOTES

Why in news?

According to Ministry of Finance, the value of the counterfeit currency has reduced in the banking system.

More on news

- The value of the counterfeit currency in the banking system has **reduced from ₹43.47 crore in 2016-17 to about ₹8.26 crore in 2021-22,** amounting to a sharp **decline of more than 80%.**
- At the same time, **notes seized by different law enforcement agencies have gone up**.
  - As per the National Crime Records Bureau (NCRB) data, the value of fake currency seized by various enforcement agencies in 2017 was ₹28 crore which shot up to ₹92.18 crore in 2020.

Steps taken to prevent circulation of Counterfeit Note

Legal provisions relating to printing and circulation of counterfeit banknotes	• Counterfeiting is offence under **Sections 489A to 489E of the Indian Penal Code** and is punishable in the Courts of Law by fine or imprisonment ranging from seven years to life imprisonment or both. • Activity of production, smuggling or circulation of High Quality Counterfeit Indian Notes has been brought under the ambit of **Unlawful Activities (Prevention) Act (UAPA), 1967.**
Anti-counterfeiting Measures by RBI	• **Incorporating Security Features in Indian Banknotes**, such as Watermark/Security Thread/Latent Image/Micro-lettering/Intaglio/Identification Mark/Fluorescence/Optically Variable Ink • Continual **upgrades of banknote security features**. • **Public awareness campaigns** to educate citizens to help prevent circulation of forged or counterfeit notes. • **Installation of note sorting machines.** • **Forged Note Vigilance Cells** have been formed at all the banks to pay focused attention to counterfeiting. • **Conduct of regular training programs.**

Measures by government for overhauling circulation of Fake Indian Currency Notes (FICN)	• **FICN Coordination Group** to share intelligence and information with the security agencies in the States and the Centre.
	• **Close watch by the Intelligence and security agencies** of Central and State Governments, on the elements involved in the circulation of fake currency in the country and take action in accordance with the law.
	• **Terror Funding and Fake Currency Cell** has been constituted in the National Investigation Agency (NIA) to conduct a focused investigation of terror funding and fake currency cases.
	• **Capacity-building programmes** for various law enforcement agencies at the Centre/State level.
	• **Demonetisation of Rs.1000 and Rs.500 currency notes** with one of the objectives being curbing of circulation of FICN.
	• **Cooperation with neighbouring countries:**
	  o **Training programmes for the police officers of Nepal and Bangladesh** to sensitise them about the smuggling/counterfeiting of Indian currency.
	  o **Joint Task Force between India and Bangladesh** for building trust and cooperation for exchange of information and analysis of smugglers of FICN.

Way ahead

India has been employing all the traditional measures to control the problem of FICN, however, the efforts have met only limited success and the problem still haunts the nation. As per the RBI report, counterfeit notes of all denominations increased in the financial year 2021-22 as compared to the previous year.

Following measures are required to deal with the issue in the long term:

• **Introducing digital currency:** Experts believe that Central Bank Digital Currency (CBDC) can dent the circulation of fake notes as it will be traceable.
  o RBI plans to bring a digital currency, which is expected to replace the Indian currency for digital transactions.
• **Increase digital transactions:** Use of credit/debit cards and digital transactions should be encouraged instead of cash transactions.
• **Law Enforcement Considerations**: Strategies for formulation of new laws and their enforcement, to prevent counterfeiting, need to be envisioned to diffuse the threat posed by counterfeiters.

Threats of Counterfeit currency

Black Marketing and Corruption

The shortage of supply that is created in the market due to extensive circulation of forged currency, gives rise to another grave problem, that of black marketing. This in turn gives rise to the vicious circle of corruption.

Devaluation of Currency and Inflation

As counterfeit money makes its way into the markets; there is undesirable influx of money in circulation. This artificially increases the purchasing power of people, leading to rise in demand for goods and services and thereby inflation. This reduces the value of real money and leads to currency devaluation.

Loss of Public Confidence

With circulation of counterfeit money, people tend to lose faith in the economy of their country and the money that they hold.

Increase in Terrorism

Counterfeit currency has long been a source of funding for terrorism in India . For example, in the Mumbai 26/11 attacks, a significant part of the money, to fund the preliminary operations, was obtained through fake currency rackets and hawala (illegal money transfer) channels.

Economic Impacts

Criminal networks exchange the counterfeit currency for genuine notes, which not only facilitate money laundering, but also poses a serious threat to the Indian economy.

- **Selection of Combinations of Features:** a combination of features will be required to provide a high level of practical counterfeit deterrence. For example, print with photo luminescent ink on security thread.
- **Information Exchange-** Continuing exchange of information with other countries of the world about effectiveness of new features, feature durability, public acceptance, counterfeiting methods, and new features under development.
- **Detection of fake notes:** All bank branches should have note sorting machines to detect fake notes which enter banking channels.
- **Role of citizens:** People should remain vigilant about FICN and report the matter to banks/Police in case they suspect the currency.

4.4. INDO-NAGA CEASEFIRE AGREEMENT

Why in News?

National Socialist Council of Nagalim (Isak-Muivah) (**NSCN (IM)) observed 25 years of signing the "Indo-Naga" ceasefire agreement with the central government**.

About "Indo-Naga" ceasefire agreement
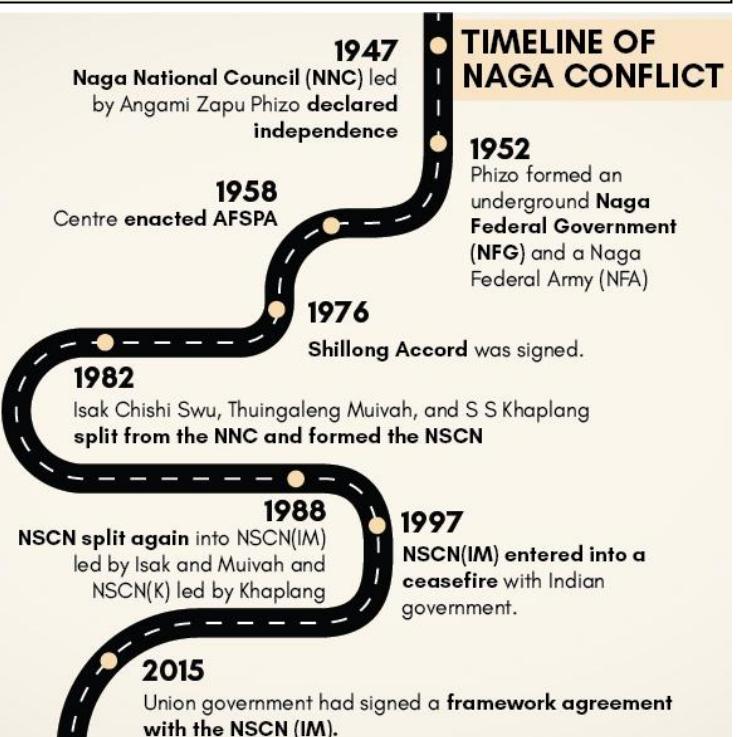
- The NSCN-IM signed a ceasefire agreement with the Government of India on July 25, 1997, **which became effective on August 1, 1997.**
  - This **heralded the start of Indo-Naga peace talks**.
- It opened an **avenue in the search for a solution to the long-standing political demands of Nagas** living across the region between India and Myanmar.
- However, even after 25 years of this agreement, **a final solution to the Naga conflict remains elusive.**

Barriers to Naga Peace talks

- **Nature of demands:** NSCN's (IM) long-standing demand for a separate flag and constitution complicates the peace process as this requires fundamental changes in the country's federal dynamics.
- **Finding shared goal for different ethnic groups:** There is deep rooted tribalism in Nagaland and the claims of any group of representing all Nagas is disputed by other factions.
- **Limitations of Article 371A:** In 2013, it was stated that Article 371A(1)(a) **does not confer legislative power to the Legislative Assembly of Nagaland on regulation and development of mineral oil.**
  - Therefore, any subsequent amendment to this Article is critical to the ongoing Naga peace process to resolve substantive issue of settling the question whether Nagas have the right over land and resources.
  - **Article 371A** states that no act of Parliament shall apply to the State of Nagaland in respect of the religious or social practices of the Nagas, its customary law and procedure, administration of civil and criminal justice involving decisions according to Naga customary law and ownership and transfer of land and its resources.

About Nagas
- **Nagaland is almost entirely inhabited by the Naga tribes** except some Kukis, Kacharis, Garos, Mikris, Assamese etc. in the plains sector.
- **Major naga tribes** include Ao, Angami, Chang, Chakesang, Kachari, Khiamniungan, Konyak, Kuki, Lotha, Phom, Pochury, Rengma, Sangtam, Sumi, Tikhir, Yimkhiung and Zeliang.
- **Nagas are not a composite people** and speak many languages. They **differ widely in dress and other cultural traits**, as well as in physical features.
- **There is no caste system among the Nagas**. But each of the Naga tribes is divided into several clans.
- **Cultural traditions** of the Nagas include features which are common to all the tribes like **head hunting, a sort of trial marriage,** or great freedom of intercourse before marriage, **disposal of dead on raised platforms,** etc.

TIMELINE OF NAGA CONFLICT

1947 Naga National Council (NNC) led by Angami Zapu Phizo **declared independence**

1952 Phizo formed an underground **Naga Federal Government (NFG)** and a Naga Federal Army (NFA)

1958 Centre **enacted AFSPA**

1976 Shillong Accord was signed.

1982 Isak Chishi Swu, Thuingaleng Muivah, and S S Khaplang **split from the NNC and formed the NSCN**

1988 NSCN split again into NSCN(IM) led by Isak and Muivah and NSCN(K) led by Khaplang

1997 NSCN(IM) entered into a **ceasefire** with Indian government.

2015 Union government had signed a **framework agreement** with the NSCN (IM).

- **Concern from other states:** Integration of Naga-inhabited areas into a greater Nagaland — which they call Nagalim-would involve territories of three states — Assam, Manipur, and Arunachal Pradesh —making the process more difficult.
- **Low transparency and limited participation:** Lack of transparency in the past peace processes and the failure to engage all the stakeholders and include their voices in the negotiations.
  - Further, situation and the negotiations get further complicated **due to continued violence in the region, continuance of AFSPA and People losing faith** in the overall management of the conflict

Way Forward

- **Negotiations should be kept away from public gaze as far as possible.** Hype, frequent proclamations that peace is round the corner, denunciation etc. have been the bane of the post-2015 negotiations.
- **Stand firm against pressure to secure a quick fix.** Time, space and sustained dialogue are necessary to rebuild trust in the Naga relationship.
- **Priority should be** on studying and working on **aspects such as autonomy in the Naga-inhabited** areas of Manipur and the **workings of a pan-Naga body**.
- **Confidence-building measures** should have the participation and acceptance of locals and not just to repair bilateral relations with the NSCN (IM).

NSCN (IM) Map of Greater Nagalim

- **People-to-people contacts need to be built up** so that real problems of the people can be voiced on a larger platform. There is a need for more cross-cultural openness among the north-eastern states.

4.5. NEWS IN SHORTS

4.5.1. NIDAAN (NATIONAL INTEGRATED DATABASE ON ARRESTED NARCO-OFFENDERS)

- India's first portal (NIDAAN) on arrested narco offenders gets operational.
- NIDAAN is a **first-of-its-kind database and one-stop solution for all narcotics offenders** related data of arrested narcotics offenders for prosecution agencies.
  - It is **developed by Narcotics Control Bureau (NCB).**
  - It is part of **earlier launched narcotics coordination mechanism (NCORD) portal.**
  - It **sources its data from the ICJS** (inter-operable criminal justice system) **and e-Prisons (a cloud-based application) repository.**
  - It is planned to **integrate with crime and criminal tracking network system (CCTNS).**

4.5.2. FORENSIC PROBE MANDATORY

- **Delhi Police has become first police force** in country to make **collection of forensic evidence mandatory** in crimes punishable by more than six years.
- **Forensic evidence** is the **application of science** within legal proceedings.

- Analysis of key data within court proceedings can help to establish the guilt or innocence of possible suspects.
- Under this, **one forensic mobile van** – which will be an **independent entity responsible to court of law**, shall be allotted to each district to provide scientific and forensic assistance on the spot.

4.5.3. COMBINED MARITIME FORCES (CMF)

- **India began cooperation with Bahrain-based CMF.**
- CMF is a **multi-national naval partnership to promote security, stability and prosperity across international waters**, which encompass some of the world's most important shipping lanes.
  - 34 nations grouping (India still not a member) is **commanded by a U.S. Navy Vice Admiral.**
- CMF's main **focus areas include counter-narcotics, counter-smuggling, suppressing piracy,** encouraging regional cooperation etc.
- **It is comprised of following task forces:** CTF 150 (maritime security and counter-terrorism), CTF 151 (counter piracy), CTF 152 (Arabian Gulf security and cooperation), CTF 153 (Red Sea Maritime Security).

4.5.4. OPERATION SKYLIGHT

- The Indian Army reportedly tested the **operational readiness of its satellite-based systems** deployed across the country under operation 'Skylight'.
  - Satellite-based systems provide **resilience to communication capabilities in case terrestrial connectivity is disrupted** in conflicts.
- Unlike the Indian Air Force and the navy, the army **currently does not have a dedicated satellite**.
  - **Currently, the Army is using 30%** of the communication capabilities of the GSAT 7A.
  - The Defence Acquisition Council has cleared an army proposal for **a GSAT-7B satellite** to sharpen its operational capabilities.
- **GSAT 7 series satellites** are advanced satellites developed by ISRO to meet the **communication needs of the defence services.**
  - **GSAT 7 satellite** (launched in 2013) is mainly used by the Indian Navy for its communication needs.
    - ✓ It helps the Navy to have a **secure, real time communication link**.
  - **GSAT 7A (launched in 2018)** helps in boosting the connectivity between the **ground radar stations, airbases and the airborne early warning and control aircraft** (AEW&C) of the **IAF (**Indian Air Force**)**.
  - **GSAT 7B** will primarily fulfil the communication **needs of the Army**.
    - ✓ It will help the **Army enhance its surveillance in border areas**.

4.5.5. EXERCISE IN NEWS

- **VINBAX 2022: Vietnam-India** Bilateral Army Exercise concluded recently.
  - The exercise was unique as it was the **first time that the Vietnam People's Army (VPA) was undertaking a Field Training Exercise with any foreign Army.**
- **Exercise 'Pitch Black':** It is a **biennial multi-national large force employment exercise** conducted by the **Royal Australian Air Force (RAAF).**
  - India will take part in the exercise along with 16 other nations.
- **Ex Vajra Prahar 2022:** It is an **Indo-US Joint Special Forces exercise.**
- **AL NAJAH-IV:** It is a joint military exercise between **Indian Army and Royal Army of Oman.**

4.5.6. ANTI-TANK GUIDED MISSILES (ATGM)

- DRDO successfully test fires **indigenously developed laser-guided ATGMs from Main Battle Tank (MBT) Arjun.**
- ATGM employs a **tandem high explosive anti-tank (HEAT) warhead to defeat explosive reactive armour (ERA) protected armoured vehicles.**
- Also, it has **multi-platform launch capability.**

4.5.7. VERTICAL LAUNCH SHORT RANGE SURFACE-TO-AIR MISSILE (VL-SRSAM)

- DRDO and Indian Navy **successfully flight tested indigenously designed and developed VL-SRSAM.**
- VL-SRSAM, **a ship-borne weapon system,** is to **strike aerial threats at close ranges** (40 to 50 km at an altitude of around 15 km), including sea-skimming targets.
  - Its **design is based on Astra missile,** which is a Beyond Visual Range Air to Air missile.
- **Key Features of VL-SRSAM:**
  - **Cruciform wings** (for stable aerodynamic posture),
  - **Thrust vectoring** (to change direction of thrust from its engine control).
  - **Canisterised system** (stored and operated from specially designed compartments).

4.5.8. BUTTERFLY MINE

- Russia is accused of using **PFM-1, known as "butterfly mines,"** which look like **toys** and are **therefore dangerous for children.**
- The **PFM-1 and PFM-1S** are two kinds of anti-personnel landmines that are commonly referred to as **'Butterfly mines' or 'Green Parrots'.**
  - These mines can be **deployed by being dropped from helicopters** or **through ballistic dispersion using artillery and mortar shells.**
- The anti- personal mines are **banned by international convention on land mines** but **Russia and Ukraine are not signatories to it.**

4.5.9. ERRATA

- Due to a typological error in Article 4.2 Theatre commands of July 2022, the infographic has incorrectly mentioned the purpose of Western theatre command as - "To resolve procedural issues in anti-doping disputes". Correctly, it should have been – "For the border with Pakistan".

5. ENVIRONMENT

5.1. INDIA'S UPDATED NDCS

Why in news?

India recently **submitted its Updated Nationally Determined Contributions (NDCs)** to the United Nations Framework Convention on Climate Change (UNFCCC).

More on the news

- Earlier, '**Glasgow Climate Pact'**, signed by the countries during the 26th Conference of the Parties (COP), of UNFCCC had **requested Parties to revisit and strengthen the 2030 targets in their NDCs by the end of 2022**.
- The updated NDCs have thus been **prepared after carefully considering India's national circumstances and the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC).**

About India's NDCs

- India submitted its **first NDC to UNFCCC in 2015**.
  - The 2015 NDC comprised eight goals; three of which have quantitative targets upto 2030 with respect to **reduction of emissions intensity**, **increasing the share of non-fossil fuels in installed electricity capacity** and **creation of additional carbon sink** through additional forest and tree cover.
- **India's updated NDCs:**
  - It represents the framework for India's transition to cleaner energy for the **period 2021-2030**.
  - The new NDCs have **updated two of the three quantitative targets of 2015 NDCs** related to emissions intensity and share of non-fossil fuels in installed electricity capacity.

About Nationally Determined Contributions (NDCs)

- The Paris Agreement requests each country to outline and communicate their **post-2020 climate actions**, known as their NDCs.
- Together, these climate actions determine whether the world achieves the long-term goals of the Paris Agreement i.e. to **limit global warming** to well below **2°Celsius**, **preferably to 1.5°Celsius**, compared to pre-industrial levels
- They are **submitted every five years to the UNFCCC secretariat**.

Help India usher in low emissions growth pathways.

Enhancing India's contributions towards global response to climate change under the Paris Agreement.

Decoupling of India's economic growth from greenhouse gas emissions.

Significance of India's updated NDCs

Translating 'Panchamrit' announced at COP 26 into enhanced climate targets.

Enabling overall increase in green jobs such as in renewable energy and clean energy industries.

Step towards achieving India's long term goal of reaching net-zero by 2070.

INDIA'S NATIONALLY DETERMINED CONTRIBUTION (NDC)
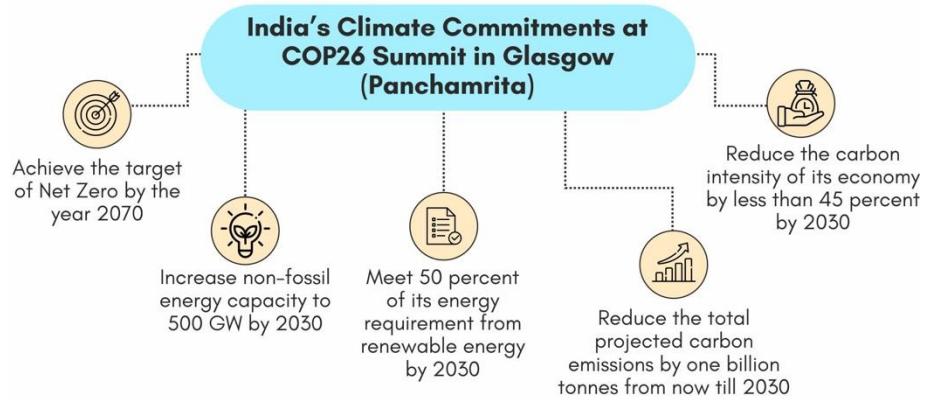
Quantitative Targets					
		Targets for 2030	**Previous NDC, 2015**	**Updated NDC, 2022**	**Progress**
	1.	**Reduce the emissions intensity of its GDP**	By **33 to 35%** **by 2030** from 2005 level.	By **45%** by **2030** from 2005 level.	Estimated **reduction of 28%** over 2005 levels
	2.	**Cumulative electric power installed capacity from non-fossil fuel-based energy resources** with the help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF).	About **40%**	About **50%**	**41.5% achieved** by end of June, 2022
	3.	**Create an additional carbon sink** through additional forest and tree cover.	**2.5 to 3 billion tonnes of Co2 equivalent**	**Same as earlier**	

Qualitative Targets			
		Previous NDC, 2015	**Updated NDC, 2022**
	4.	Put forward and further propagate a **healthy and sustainable way of living** based on traditions and values of conservation and moderation.	Put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation, including through a mass movement for **'LIFE'**– **'Lifestyle for Environment'** as a key to combating climate change.
	5.	**Adopt a climate friendly and a cleaner path** than the one followed hitherto by others at corresponding level of economic development.	**Same as earlier**
	6.	**Better adapt to climate change** by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health and disaster management.	**Same as earlier**
	7.	**Mobilize domestic and new & additional funds** from developed countries to implement the above mitigation and adaptation actions in view of the resource required and the resource gap.	**Same as earlier**
	8.	**Build capacities, create domestic framework and international architecture** for quick diffusion of cutting edge climate technology in India and for joint collaborative R&D for such future technologies.	**Same as earlier**

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Challenges related to new commitments

- **Coal dependency:** The pace of decommissioning coal-based plants does not match the pace of rise of renewable energy.
- **Constraints in increasing share of renewable energy:** Intermittent supply, high dependence on import for components, high cost of storage, grid connectivity etc.
- **Dilution of panchamrita commitments**: Two promises made in Glasgow have not been converted into official targets i.e. of 500 GW non fossil fuel energy & emissions of at least one billion tonnes of carbon dioxide.
- **Financial constraints** (climate finance of $1 trillion needed by developed countries).
- **Lack of sector specific mitigation** obligation or action.

Way Forward

- **Provision of new and additional financial resources as well as transfer of technology by developed countries** under UNFCCC and the Paris Agreement.
- **Gradually phasing out coal by** early retirement of the existing coal capacity and reduction of the coal project pipeline.
- Developing a mitigation strategy for **net zero goals**.
- **Incentivizing deep decarbonization in hard-to-abate industrial sectors** like cement, steel, aluminum, copper etc.

India's Climate Commitments at COP26 Summit in Glasgow (Panchamrita)
- Achieve the target of Net Zero by the year 2070
- Increase non-fossil energy capacity to 500 GW by 2030
- Meet 50 percent of its energy requirement from renewable energy by 2030
- Reduce the total projected carbon emissions by one billion tonnes from now till 2030
- Reduce the carbon intensity of its economy by less than 45 percent by 2030

> **Efforts in the direction of meeting the targets**
> - **Tax concessions and incentives such as Production Linked Incentive scheme** for promotion of manufacturing and adoption of renewable energy.
> - **Net Zero target by 2030 by Indian Railways** is estimated to reduce emissions by 60 million tonnes annually.
> - **UJALA (Unnat Jyoti by Affordable LEDs for All) scheme** is reducing emissions by 40 million tonnes annually.
> - **National Afforestation Programme (NAP) and National Mission for a Green India (GIM).**
> - **Policies for scaling renewable energy**: National Wind Solar hybrid policy, National Biofuel Policy, National Offshore Wind Energy Policy, Green Hydrogen/ Green Ammonia Policy etc.
> - **Other schemes**: Solar rooftop programme, ultra-mega solar parks, Perform Achieve and Trade (PAT) scheme, Ujjwala, FAME India scheme, Sustainable Alternative Towards Affordable Transportation (SATAT), etc.

5.2. ENERGY CONSERVATION (AMENDMENT) BILL, 2022

Why in news?

The Energy Conservation (Amendment) Bill, 2022 was recently passed by the Lok Sabha.
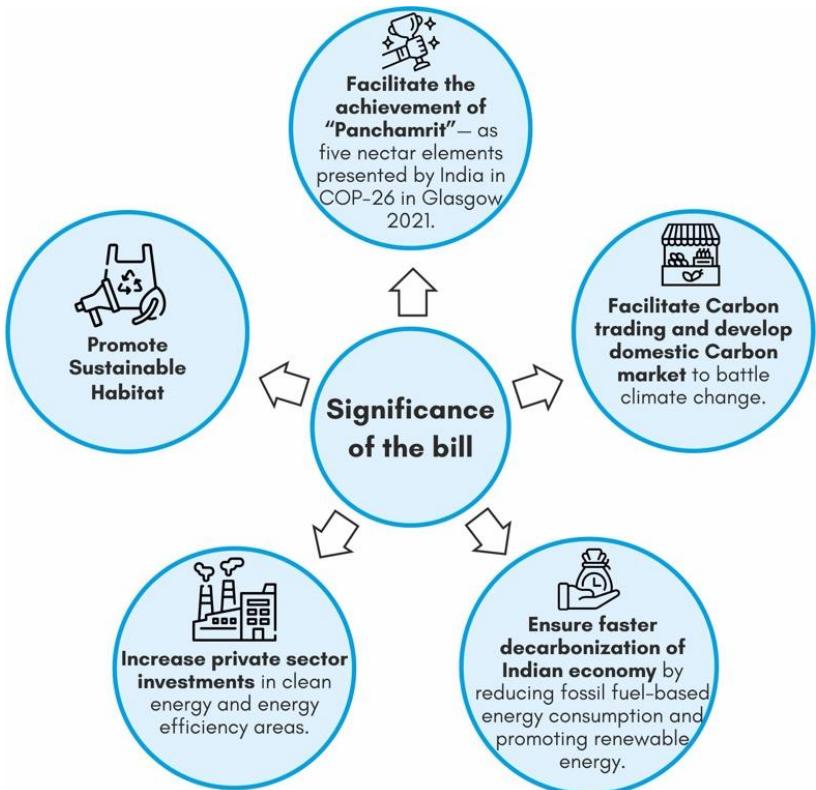
About Energy Conservation (Amendment) Bill, 2022

- The bill seeks to **amend the Energy Conservation (EC) Act, 2001**, which provides for the legal framework, institutional arrangement and a regulatory mechanism at the Central and State level to **embark upon energy efficiency drive in the country.**
  - **2001 Act was enacted to provide for Designated Consumers, Standard and Labelling of Appliances, Energy Conservation Building Codes,** Creation of Institutional Set up (**Bureau of Energy Efficiency)** and Establishment of Energy Conservation Fund.

> **Major provisions of Energy Conservation (Amendment) Act, 2010**
> - **Established a framework for trading of energy saving certificates:**
>   - **Empowered the Central Government to issue the energy savings certificate** to the designated consumer whose energy consumption is less than the prescribed norms and standards.
>   - **Enabled the designated consumers** whose energy consumption is more than the prescribed norms **to purchase the energy savings certificate** to comply with the norms.
> - **Expanded the scope of energy conservation norms for buildings.**
> - **Tightened the applicability of energy efficiency norms** for appliances and equipment.
> - **Increased penalties for offences.**
> - **Provided for appeals to be heard by the Electricity Appellate Tribunal** set up under the Electricity Act, 2003.
> - **Conferred power upon the Bureau of Energy Efficiency** to appoint its officers and employees instead of by the Central Government.

- o Currently, the Energy Conservation Act, 2001 (amended in 2010) governs the domain in India.
- Further, 2001 Act was amended in 2010 through **the Energy Conservation (Amendment) Act, 2010** to address various new factors which emerged with the development of the energy market over a period of time.
- **2022 Bill seeks to reduce fossil fuel-based energy consumption** and resultant carbon emissions to the atmosphere**.**
- **Key provisions of the new bill**
  - o **Mandating use of non-fossil sources of energy**: The Central Government has been empowered to **specify minimum share of consumption of non-fossil sources** (like including Green Hydrogen, Green Ammonia, Biomass and Ethanol for energy and feedstock) by designated consumers as energy or feedstock.
    - ✓ It has been made mandatory for **industries (mining, steel, cement, textile, chemicals and petrochemicals), the transport sector (including railways) and commercial buildings**.
  - o **Establishing Carbon Markets**: The Central Government has been empowered to **specify a carbon credit trading scheme for reduction of carbon emissions.**
    - ✓ The central government or any authorised agency can **issue carbon credit certificates to entities registered under and compliant with the scheme**.
    - ✓ Energy saving certificate or carbon credit certificate can also be **purchased on voluntary basis**.
  - o **Substitution of term 'energy conservation building codes' with 'energy conservation and sustainable building codes':** The new code will provide norms and standards for energy efficiency and its conservation, use of renewable energy and other green building requirements for a building.
  - o **Inclusion of large residential buildings in the Energy Conservation regime**: The new code will also be applicable to **office building or residential buildings** meeting certain load and demand threshold as against just commercial buildings earlier.
    - ✓ The state government has been empowered to lower the thresholds.
  - o **Standards for vehicles and vessels:** The Central Government can now specify norms for processes and energy consumption standards for vehicles (as defined under the Motor Vehicles Act, 1988), and vessels (includes ships, boats, roll-on-roll-off vessel etc.) in addition to equipment and appliances.
  - o **Amendment in penalty provisions**: The bill specifies penalties for violation of various provisions of the act like failure to meet energy consumption norms and standards or fulfil minimum share of consumption of non-fossil sources etc.
  - o **Regulatory powers of SERCs**: Empower the State Electricity Regulatory Commissions (SERCs) to make regulations for smooth discharge of its functions.
  - o **Expansion of the Governing Council of BEE**: Its strength increased to 31-37 from earlier 20- 26.
  - o **State Government empowered to levy fee for the services rendered by the designated agency** to promote efficient use of energy and its conservation under the Act.

Significance of the bill

- Facilitate the achievement of "Panchamrit"— as five nectar elements presented by India in COP-26 in Glasgow 2021.
- Facilitate Carbon trading and develop domestic Carbon market to battle climate change.
- Ensure faster decarbonization of Indian economy by reducing fossil fuel-based energy consumption and promoting renewable energy.
- Increase private sector investments in clean energy and energy efficiency areas.
- Promote Sustainable Habitat

Various concerns associated with the bill
- **Seasonality of renewables (especially solar and wind) i.e.** the peak time of its generation might not meet the peak time of the demand in industries.
- **Not having enough affordable storage technologies,** which could balance the demand and supply for all types of industries, especially industries which have continuous operations.
- **Less R&D in fuels like green hydrogen etc** to leading to issues in their technical and financial feasibility.

- o **Other provisions**-
  - ✓ **Constitution of State Energy Conservation Fund** by State Government for the purposes of promotion of efficient use of energy and its conservation within the State.
  - ✓ **Prohibition of use of deceptive name that resembles the name of the Bureau**.
  - ✓ **Designated agency required to prepare a budget** for the next financial year and forward the same to the State Government.

Conclusion

The need for energy is inevitable and with the changing business landscape, it is has become even more imperative to address the nation's need to become energy-efficient without putting further pressure on the environment.

The right kind of infrastructural, financial and policy support environment needs to be enabled to view substantial impacts on the ground as an outcome of this amendment bill.

Related News: Review of Power Tariff Policy
- In its review of Power Tariff Policy in India, the **Parliamentary Panel on Energy** has recommended the need for uniformity across the country.
  - o Electricity is part of the **concurrent list** of the **Seventh Schedule** of the Constitution with **Electricity Act, 2003** as the governing legislation of the Indian Electricity Sector.
  - o Under Section 3 of the Electricity Act, the Central Government notified last tariff policy in 2016 with focus on **4Es of Electricity for all, efficiency for affordable tariffs, ease of doing business and environmentally sustainable**.
- **Major Observations and Recommendations**

Observations	Recommendations
Highly complex and **varied tariff structure** categories/slabs in states.	**Rationalise tariff structure** and undertake uniform tariff structure.
Poor efficiency due to **under-utilisation** of power plants and high **Aggregate Technical and Commercial (AT&C) losses** at nearly **21%.**	**Rationalise tariff structure** and undertake uniform tariff structure.
Poor efficiency due to **under-utilisation** of power plants and high **Aggregate Technical and Commercial (AT&C) losses** at nearly **21%.**	Improve efficiency through time-bound improvements and pass on the benefits to consumers.
Coal-based thermal power plants to remain mainstay of power sector.	Restricting emissions through **carbon capture technology.**
Concerns over **financial viability of distribution sector** despite efforts to **attract investments** and **ensure financial viability.**	**Amend Tariff Policy** to cater to the needs of **changed scenario** and **achieve its unaccomplished goals.**

5.3. ETHANOL BLENDING

Why in news?

Prime Minister recently said that having achieved **10% Ethanol blending with petrol** (**E10**) before schedule India has advanced the target of 20% blending by five years, to be accomplished by 2025.

Ethanol Blending programme (EBP) in India

- Ethanol (ethyl alcohol) is a **biofuel.** It is formed **by the fermentation of sugar** sourced from **sugarcane or other organic matte**r like food grains.

Alternatives to ethanol as clean fuel
- **Methanol: Blending of 15% methanol in gasoline can result in at least 15% reduction** in the import of gasoline/crude oil.
  - o In addition, this would bring down GHG emissions by 20% in terms of particulate matter, NOx, and SOx, thereby improving the urban air quality.
- **Butyl alcohol, or butanol:**
  - o It has **more energy than ethanol**,
  - o It is **easier to handle** and **more of it can be blended** into each gallon of gasoline.
  - o But **producing it will require costly retrofitting of ethanol plants**, and plant capacity will be reduced.
- **Hydrogen:** It is **one of the cleanest fuels, which on being burnt in air produces only water** as a by-product and no carbon-based emissions are released**.**
  - o **Ministry of Petroleum and Natural Gas has launched National Hydrogen Mission, which is the first scientific project** in India to address all aspects of value chain of hydrogen-based mobility.

- India started ethanol blending programme in 2003 with an aim to blend 5% ethanol in petrol in nine States and four UTs.
- The '**National Policy on Biofuels',** 2018 envisaged an **indicative target of 20% ethanol blending** in petrol (E20) by 2030. It has now been preponed to **2025.**
- In 2018 Centre launched **Pradhan Mantri JI-VAN (Jaiv Indhan-Vatavaran Anukool fasal awashesh Nivaran) Yojana".** It seeks to provide financial support to Integrated Bioethanol Projects using lignocellulosic biomass and other renewable feedstock.
- **Department of Food and Public Distribution (DFPD) is the nodal department** for promotion of fuel grade ethanol producing distilleries in the country.

Challenges in ethanol blending

- **Food and water security:** Sugarcane is a water intensive crop. Promoting its cultivation may deplete our groundwater. Using other food grains as feedstock may hurt India's food security programme.
- **Compatible vehicles:** Although no significant change is required for 10% mixing. But engines and components will need to be tested and calibrated with E20 as fuel.
  - Also, the cost of flex-fuel vehicles (running on multiple fuel) would be higher compared to ordinary vehicles.
- **Delayed environmental clearance:** Currently, ethanol production plants/distilleries fall under the "Red category".
  - They need environmental clearance under the Air and Water Acts for new and expansion projects. These clearances often delay such projects.
- **Issues in meeting carbon emission target:** Producing and burning ethanol results in CO_2 emissions.
  - Hence, net CO_2 emission benefit depends on how ethanol is made and whether indirect impacts on land use are included in the calculations.
- **Other issues:**
  - **Weather related issues**: floods / drought affect the crop and prices of feed-stock and ethanol,
  - **Transport of ethanol** to different places for blending will increase the cost of logistics and transport related emissions,
  - **Need for extra storage tanks** for ethanol at marketing terminals / depots, etc.

SIGNIFICANCE OF ETHANOL BLENDING

Reducing import dependency: 98 percent of the fuel requirement in the road transportation sector is currently met by fossil fuels. Off the total oil requirement in the transportation sector, 85 percent needs to be imported.

Reducing emission of greenhouse gasses: Use of ethanol-blended petrol decreases emissions such as carbon monoxide (CO), hydrocarbons (HC).

Enhancing farmers' income: Alternative use-case of sugarcane will help the farmers realise more income on their produce.

Reduces food wastage: The surplus and damaged rice procured by the Food Corporation of India can be used to produce ethanol.

FACTORS DRIVING PRODUCTION AND USAGE OF ETHANOL

DEMAND ENRICHMENT
Governments' mandate for blending a minimum percentage (%) of ethanol with gasoline fuel & production of ethanol compatible vehicles.

SUPPLY ENRICHMENT
Schemes for ethanol production from different feedstocks and encouragement to augment bio-refineries and their capacities.

INCENTIVES
Promoting the use of higher ethanol blends through price incentives (tax relief at the retail level) and tax incentives for vehicles compatible with E20 and E85.

BIOFUELS

1ˢᵗ Generation Edible Biomass
Sugar Beet
Sugarcane
Wheat
Corn

2ˢᵗ Generation Non-Edible Biomass
Wood
Straw
Grass
Waste

3ˢᵗ Generation Algal Biomass
Macroalgae
Microalgae

4ˢᵗ Generation Breakthrough
Pyrolysis
Solar-to-fuel
Engineered Algae
Gasification

Way ahead

- **Alternative to sugarcane:** Production of ethanol from non-food feedstock (Advanced Biofuels) including second generation (2G) should be promoted.
  - o Investments to promote R&D for innovation in 2G biofuel technology are needed.
- **Reducing the logistic cost:** For e.g. efforts are needed to attract investors to the North East of the country to avail the Interest Subvention Scheme of DFPD.
  - o There is need to build an adequate distillation capacity and to avoid long distance transport of ethanol
- **Infrastructure development:** There is a need for ethanol compliant dispensing units and extra storage tanks for ethanol at marketing terminals / depots.
- **Single Window Clearance:** A system for single window clearances may be formulated by DPIIT. This should include all clearances by Central and State agencies.
- **Price incentive:** Like electric vehicles, higher ethanol blends can be provided with tax benefits. This will help in absorbing the cost increase due to E20 compatible design.
- **Awareness generation:** by launching a nationwide educational campaign by government in partnership with the industry.

Conclusion

Domestic biofuels provide a strategic opportunity, as they reduce nation's dpendence on imported fossil fuels. Also, when utilized with appropriate care, biofuels can be sustainable energy sources. They can also help in generating employment and doubling of farmers' incomes. They can help in Swachh Bharat and promote Waste to Wealth generation.

5.4. OCEAN THERMAL ENERGY
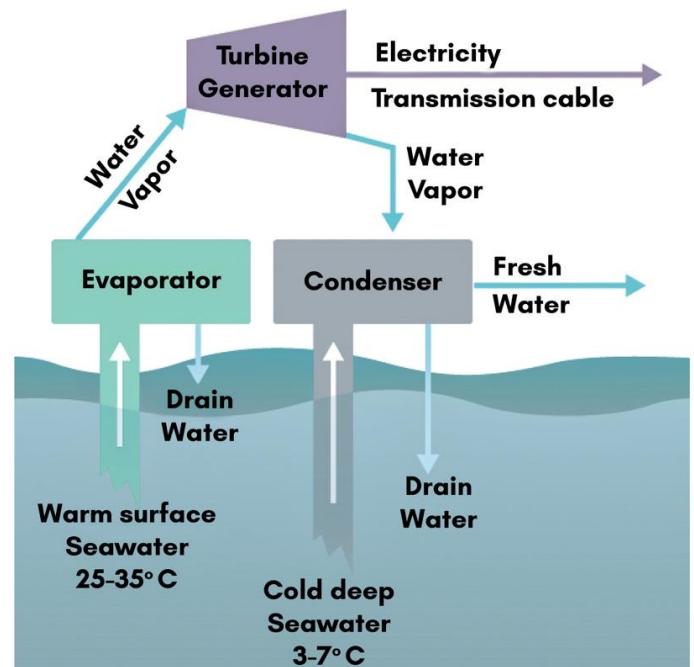
Why in news?

The **National Institute of Ocean Technology (NIOT)**, an autonomous Institute under Ministry of Earth Sciences (MoES) is establishing India's first **Ocean Thermal Energy Conversion (OTEC) plant**.

More about news

- OTEC plant will have a **capacity of 65kW in Kavaratti, Lakshadweep** with indigeneous technology.
- The OTEC plant will power the Low Temperature Thermal Desalination (LTTD) based desalination plant for **conversion of Sea water into Potable water.**

OCEAN THERMAL ENERGY CONVERSION SYSTEM

  - o The plant will power the **1 lakh litre per day low temperature thermal desalination plant, which converts seawater into potable water.**
- **Earlier in 1980, India had planned to set up an OTEC plant**, off the Tamil Nadu coast, but it was abandoned.

About Ocean Thermal Energy Conversion (OTEC)
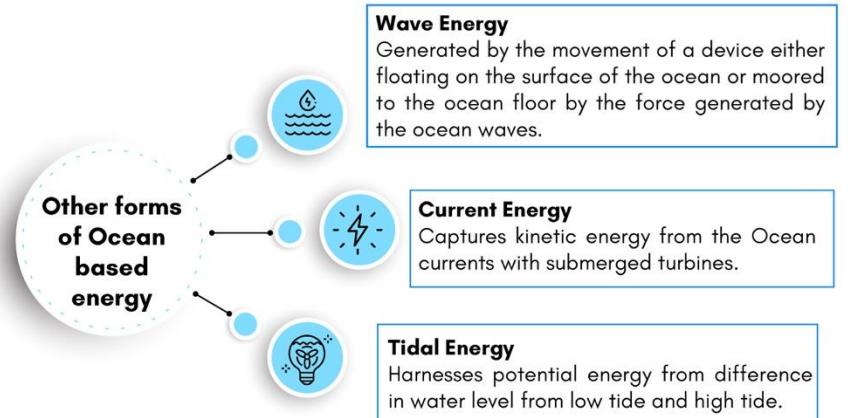
- OTEC is a process for **producing energy by harnessing the temperature differences** (thermal gradients) between **ocean surface waters and deep ocean waters.**
  - o In tropical regions, surface water, heated by Sun's energy, can be much warmer than deep water.
  - o This temperature difference can be used to produce **electricty and to desalinate ocean water**.
- OTEC systems use a **temperature difference of at least 20° Celsius** to power a turbine to produce electricity.
- **Types of OTEC methods-**
  - o **Closed cycle method:** A working fluid, such as ammonia, is pumped through a heat exchanger and

vaporized. This vaporized steam runs a turbine and is again condensed using cold water from deep ocean and returned to the heat exchanger.

- o **Open cycle system:** Warm surface water is pressurized in a vacuum chamber and converted to steam to run the turbine. The steam is then condensed using cold ocean water from lower depths.
- **India's potential**: OTEC has a theoretical **potential of 180,000 MW in India** subject to suitable technological evolution.
- **Advantages:**
  - o **India is geographically well-placed** for development of OTEC facilities.
  - o **Generates a constant, clean source of electricity** unlike intermittent electricity from renewable resources like wind and solar.
  - o **Potential to generate potable water, hydrogen, and ammonia**.
  - o **Cold and nutrient rich water from the OTEC process can benefit commercial products** such as air conditioning, aquaculture, seawater cooled greenhouses enabled food production etc.

Challenges associated with OTEC

- **High up-front capital costs:** OTEC requires significant maintenance costs of pumping and piping infrastructure. Therefore, it is **economical only at very large scales**.
- **Less R&D:** Most OTEC Technologies are currently at pre-R&D/demonstration stage or the initial stage of commercialization.
- **Environmental concerns:** OTEC can have potential impact on marine organisms and ecosystem due to discharge of cooler,

Wave Energy
Generated by the movement of a device either floating on the surface of the ocean or moored to the ocean floor by the force generated by the ocean waves.

Other forms of Ocean based energy

Current Energy
Captures kinetic energy from the Ocean currents with submerged turbines.

Tidal Energy
Harnesses potential energy from difference in water level from low tide and high tide.

denser and nutrient rich water from OTEC facilities, entanglement in cables, entrapment, noise generation, accidental release of biocides (used for water treatment) or other potential pollutants etc.

- o It can also lead to **increased Biofouling** i.e., unwanted accumulation of algae, microorganisms, plants etc.

Way Forward

- **Accelerate financial and policy support for the deployment of OTEC**.
- **Invest in R&D and promote international collaborations** the field of ocean energy
- **Develop more Demonstration projects** for OTEC at feasible sites **to carefully assess environmental impacts** before large scale deployment.

5.5. COASTAL REGION CONSERVATION

Why in News?

Comptroller and Auditor General (CAG) of India presented a report on whether steps taken by Ministry of Environment, Forest and Climate Change (MoEF&CC) to conserve India's coastal ecosystems have been successful.

About Coastal Zone

- It is an **interface between the land and the sea** which comprises of coastal land, intertidal area, coastal ecosystems including rivers, estuaries, marshes, wetlands and beaches.
- **Beside the coastal waters,** the other major ecosystems found in the coastal environment are **Mangroves; Coral reefs; Sea Grass; Mud Flats; Estuaries/backwaters; Lagoons; Sand Dunes** etc.

SIGNIFICANCE OF COASTAL REGIONS

Concentration of population

Exploitation of renewable and non-renewable natural resources

High productivity of its ecosystems

Discharge of waste effluent and municipal sewage

Community's first level of defence, by reducing wave energy, absorbing flood waters

Development of various industries and spurt in recreational activities

- **India has a coastline of about 7516 kms** of which the mainland accounts for about 5422 kms, Lakshadweep coasts extend to 132 kms and Andaman & Nicobar Islands have a coastline of about 1962 kms.
- **There are nine coastal states in the country,** namely, Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha and West Bengal.

Conservation of Coastal areas in India

- **MoEF&CC and Ministry of Earth Sciences (MoES) are the two nodal Ministries** which deal primarily in the coastal and ocean areas.

AREAS REQUIRING SPECIAL CONSIDERATION IN THE CRZ

- for the purpose of **protecting critical coastal environment/difficulties faced by local communities;** consist of CRZ area falling within municipal limits of Greater Mumbai;
- the **CRZ areas of Kerala** including the backwaters and backwater islands;
- **CRZ areas of Goa** and **Critically Vulnerable Coastal Areas** like Sundarbans
- other **ecologically sensitive areas** identified as **under Environment (Protection) Act, 1986** and managed with the involvement of coastal communities including fisherfolk.

- Government has issued **notifications under Environment Protection Act 1986** to regulate the activities in coastal space so as to protect the coastal environment from various anthropogenic activities.
- **Coastal Regulation Zone Notification (CRZ) 2019** (implemented by MoEF&CC) aims to classify the coastal area into different zones and manage the activities in an integrated manner (refer image).
- **Three institutions responsible for implementation of CRZ are:**
  - **National Coastal Zone Management Authority (NCZMA)** at Centre,
  - **State/UT Coastal Zone Management Authorities (SCZMAs/UTCZMAs)** in every coastal State and UT,
  - **District Level Committees** in districts with a coastal stretch.

COASTAL REGULATION ZONE (CRZ)

CRZ I
- **areas which are ecologically sensitive,** form the geomorphological features which play a role in the maintaining the integrity of the coast.
- includes-mangroves and 50 m buffer area for mangroves exceeding 1000 sqm; corals, coral reefs and associated biodiversity; sand dunes; biologically active mudflats;
- **national parks, marine parks, sanctuaries, reserve forests, wildlife habitat and other protected areas** notified as biosphere reserves;
- **Salt marshes;** turtle nesting grounds; **horse shoe crab habitats;** sea grass beds; **nesting grounds of birds;**
- **areas or structures of archaeological importance**/heritage sites/area lying between the Low Tide Line and High Tide Line

CRZ II
- areas within the existing municipal limits/other urban areas which are **substantially built-up and drainage,** approach roads and other infrastructural facilities

CRZ III
- **relatively undisturbed /do not belong to either CRZ-1 or 2;** This includes **coastal zone in the rural areas,** areas within the existing municipal limits or other urban areas which are not substantially built up.

CRZ IV
- designated to the **water area from the Low Tide Line to twelve nautical miles** on the sea ward side and inland waters influenced by tide

INSTITUTIONAL MECHANISM FOR IMPLEMENTATION OF CRZ NOTIFICATIONS

MoEF&CC
- The **Impact Assessment Division of the Ministry regulates developmental activities** of the coastal areas falling within CRZ.
- The Ministry constitutes **Expert Appraisal Committees** with domain experts for grant of approvals to Category A project proposals along the coasts.

NCZMA
- **National Coastal Zone Management Authority (NCZMA)** is the apex agency for coastal regulation.
- It **advises central government** on the matters for changes in the classification of coastal zone areas and CZMPs.
- It also **provides guidance and technical assistance to** SCZMAs.

SCZMAs
- **State Coastal Zone Management Authorities** (SCZMAs) evaluate the project proposals from their respective states and **recommend them to MoEF&CC or SEIAA for approval.**

SEIAA
- **State Environmental Impact Assessment Authorities (SEIAA)** are state bodies responsible for granting project clearance to Category B projects on the basis of recommendations of SCZMAs.
- The **composition of SEIAA** is similar to that of Expert Appraisal Committees at the centre.

DLC
- **District Level Committees (DLCs)** are the **district level authorities for** monitoring and enforcement of CRZ Notification.

Key Findings of the report

Report contains the observations of Performance Audit on Conservation of Coastal Ecosystems from 2015-20 undertaken mainly to examine the institutional mechanism regulating Coastal Regulation Zone (CRZ) notification 2019.

Areas	Finding and observation	Recommendation
Institutional Framework	• MoEF&CC **hadn't notified National Coastal Zone Management Authority (NCZMA) as a permanent body** and was functioning as an ad-hoc body. • **State Coastal Zone Management Authorities (SCZMA) not reconstituted** in Karnataka and delayed reconstitution in Goa, Odisha and West Bengal.	• **SCZMAs and NCZMA may be made as permanent bodies** with full time members.
Project Clearances under CRZ Notifications	• **Projects approved despite inadequacies in Environmental Impact Assessment (EIA) Reports** (like usage of outdated baseline data, non- evaluation of environmental impacts of the project etc.)	• Ministry may ensure that **Project Proponent carry out in-depth ecological evaluation of project environment** before granting the clearances to the projects as well as enforce the practice of cumulative assessments already defined in EIA Notification, 2006.
Post clearance monitoring and enforcement of CRZ Notifications	• Instances were **observed where SCZMAs failed to take action against CRZ violations** and DLCs too failed to identify violations and report the same to SCZMAs.	• MoEF&CC may **revisit the roles and composition of different agencies** to strengthen the post clearance monitoring.
Conservation of Coastal Ecosystems in States	• **Tamil Nadu didn't have a strategy to mitigate propaganda of invasive species** in Gulf of Mannar, despite degradation of live coral cover. • **Gaps in the efforts to conserve mangroves** in Goa and Gujarat were noticed.	• State Governments may make **necessary efforts for mapping and preparation of Management Plans** for the coral reefs, turtle nesting sites etc.
Integrated Coastal Zone Management Project	• Although the entire work of mapping of Hazard Line was completed in 2018, **ground demarcation of Hazard Line was yet to be done** by MoEF&CC. • **Integrated Management Plans (IMPs) for Critically Vulnerable Coastal Areas (CVCAs) yet to be prepared** by coastal states.	• Efforts may be made by **MoEF&CC to notify the IMPs for Ecologically Sensitive Areas** at the earliest.

Threats to Coastal regions

- **Coastal erosion:** Erosion of the shoreline and dunes, caused by ocean currents, tidal movements and wave and wind action, is a common natural phenomenon.
- **Habitat loss and degradation:** Disordered urbanisation and development of infrastructure in combination with uncoordinated industrial, tourism-related, fishing and agricultural activities, is a significant threat to coastal habitats and resources.
- **Pollution:** Because of the contaminant load being discharged into receiving waters, resulting in harm to plants, animals and human health, hindrance to marine activities, impairment of quality for use of sea water and reduction of amenities.
- **Global warming** is causing alterations in ocean chemistry and is threatening many species of marine animals that cannot cope with higher temperatures.
  - It is causing sea levels to rise, threatening coastal population centres.
- **Overexploitation:** It is the leading threat to marine ecosystems.
  - Some of the most widespread exploitation is in the form of fishing and most marine fisheries have experienced drastic collapses.
- **Excessive nutrient enrichment (Eutrophication)**: Eutrophication leads to a cycle of enhanced algal blooms followed by algal death, decomposition and oxygen depletion, is a widespread problem in coastal waters.

Way Forward

- **Comprehensive climate vulnerability assessment** of coastal communities, towns and ecosystems should be done to prioritize vulnerable stretches for ecosystems-based interventions.
- **Public policies to help improve the compatibility** of increased urbanisation, tourism and recreation with the environment need to be carefully designed, taking local economic needs into account.
- **Optimal coastal zone management plans** should be developed using the satellite derived inputs viz., coastal land use, vital coastal habitats, ecological status of all marine/ protected areas.
- **Focus should be made on sustainable use of marine resources** by public awareness of marine and coastal ecosystems, their productivity, biodiversity, value to humanity, and their fragility.
- **International collaboration and agreement** to achieve improvements in the environmental quality of coastal zones. This is needed not only between the riparian states around a particular sea, but also of states within the catchment

> **Initiatives taken in India**
> - **Legislations** like the Wild Life (Protection) Act, 1972, the Forest (Conservation) Act, 1980 and the Environment (Protection) Act, 1986.
> - **Coastal Regulation Zone Notifications** issued under the Environment (Protection) Act, 1986.
> - MoEF&CC implements **Centrally Sponsored Schemes namely**:
>   o National Plan for Conservation of Aquatic Eco-systems' for conservation and management of wetlands;
>   o Conservation and Management of Mangroves and Coral Reef for protection, conservation and management of mangroves and coral reef;
>   o Development of Wildlife Habitats.
> - Government has also implemented **Integrated Coastal Zone Management Project (ICZMP)**, a World Bank Assisted project, in identified stretches of Gujarat, Odisha and West Bengal from 2010 to 2020 with a purpose of protecting and conserving coastal and marine environment of the country.
> - MoEFCC approved the proposal for **National Coastal Management Programme** for the FY 2021-22 to 2025-26.
> - **Blue Flag Certification** with a view to protect and conserve the environment and control and abate pollution in coastal beaches and sea waters.
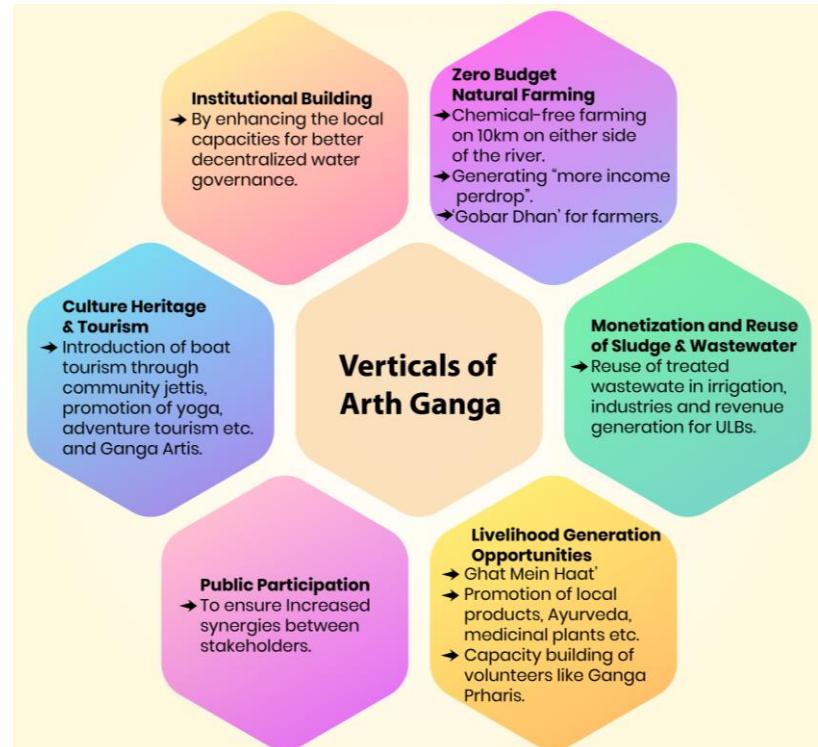
5.6. ARTH GANGA

Why in news?

Recently, **several new initiatives were launched under Arth Ganga** concept during the event of 'Yamuna Par Azadi ka Amrit Mahotsav' organized by National Mission for Clean Ganga (NMCG).

About Arth Ganga

- Arth Ganga is a concept espoused by the Prime Minister during **National Ganga Council meeting in Kanpur in 2019**.
- It focuses on **creating economic livelihood opportunities to sustain the activities under Namami Gange Programme**, the flagship program of the Government to clean Ganga and its tributaries.
- **New initiatives launched under it-**
  o **Jalaj:** Launched at 26 locations on Ganga basin main stem states, it involves setting up of small shops or floating mobile centres to promote livelihood on the banks of River Ganga.

Institutional Building
→ By enhancing the local capacities for better decentralized water governance.

Zero Budget Natural Farming
→ Chemical-free farming on 10km on either side of the river.
→ Generating "more income perdrop".
→ 'Gobar Dhan' for farmers.

Culture Heritage & Tourism
→ Introduction of boat tourism through community jettis, promotion of yoga, adventure tourism etc. and Ganga Artis.

Verticals of Arth Ganga

Monetization and Reuse of Sludge & Wastewater
→ Reuse of treated wastewate in irrigation, industries and revenue generation for ULBs.

Public Participation
→ To ensure increased synergies between stakeholders.

Livelihood Generation Opportunities
→ Ghat Mein Haat'
→ Promotion of local products, Ayurveda, medicinal plants etc.
→ Capacity building of volunteers like Ganga Prharis.

  o **MoU between NMCG and Sahakar Bharti** which aims at identifying 75 villages in five states on the main stem will be designated as '**Sahakar Ganga Grams'**, promoting natural farming among the farmers, FPOs and Cooperatives and facilitating marketing of natural farming/organic produce under **brand Ganga.**

- o **Tourism-related portal ImAvatar** to promote livelihood opportunities along the Ganga basin by facilitating tourism, marketing of local products (both agriculture and handicrafts), and sustainability of ghats and other assets created by NMCG.
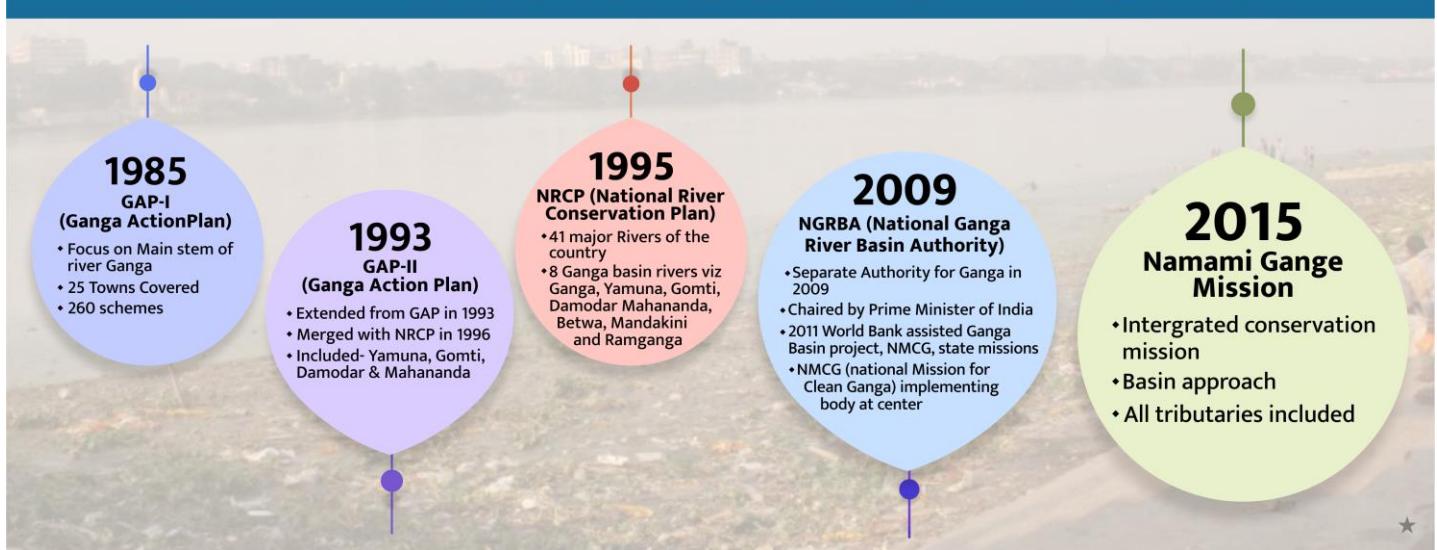
Significance of the Arth Ganga concept

- **Catalyses economic development in the Ganga basin**: Project Arth Ganga aims to contribute about 3% to the GDP from Ganga Basin and is expected to generate economic benefit of more than Rs 1000 crores over the next 5 years.
  - o It would generate **economic benefits in terms of trade and access to markets, local community's economic enhancement** and facilitation of tourism.
- **Encourages public participation in Ganga rejuvenation:** By enabling large scale skills enhancement and public/private sector capability development and deployment of Ganga Doots for awareness generation programmes.
- **Conserves cultural heritage of India**: The project raises awareness about cultural and spiritual significance of Ganga River through promotion of religious pilgrimage, Ganga Artis, yoga etc.
- **Limits pollution in Ganga:** By encouraging reuse of wastewater and promoting use of organic fertilizers.
- **Promotes sustainable livelihood in Ganga river basin** like eco-tourism, natural farming etc. and aligns skill enhancement activities with Ganga conservation.
- **Works towards achieving Doubling farmers' income**: Floating jetties can lower the logistics cost for farmers in the movement of local produce. Further, encouraging farmers to undertake sustainable agriculture practices can bring down costs on inputs and enhance crop yields.

KEY INITIATIVES FOR CLEANING RIVER GANGA

1985
GAP-I (Ganga ActionPlan)
- Focus on Main stem of river Ganga
- 25 Towns Covered
- 260 schemes

1993
GAP-II (Ganga Action Plan)
- Extended from GAP in 1993
- Merged with NRCP in 1996
- Included- Yamuna, Gomti, Damodar & Mahananda

1995
NRCP (National River Conservation Plan)
- 41 major Rivers of the country
- 8 Ganga basin rivers viz Ganga, Yamuna, Gomti, Damodar Mahananda, Betwa, Mandakini and Ramganga

2009
NGRBA (National Ganga River Basin Authority)
- Separate Authority for Ganga in 2009
- Chaired by Prime Minister of India
- 2011 World Bank assisted Ganga Basin project, NMCG, state missions
- NMCG (national Mission for Clean Ganga) implementing body at center

2015
Namami Gange Mission
- Intergrated conservation mission
- Basin approach
- All tributaries included

Potential challenges in implementation of Arth Ganga concept

- **Rise in tourist activities** can lead to issues littering, increased emission from jetties, disturbance of natural ecosystems etc.
- **Limited awareness knowledge about sustainable livelihood practices** like natural farming.
- **Suboptimal performance of Sewage treatment plants (STPs) and limited capacity at local level** to effectively monetization sludge and wastewater.
- **Reusing improperly treated wastewater for irrigation** can lead to leaching of contaminants like heavy metals in groundwater and their entry into food**.**

Way forward

- **Low emission technologies and proper waste disposal habits should be promoted** to limit indirect impacts on rivers.
- **National policy for reuse of treated wastewater** can be being framed.
- **Raising awareness about the concept of Arth Ganga** to transform it into a Jan Andolan.
- **Investing in enhancing capacity and performance of STPs** to effectively treat wastewater.

About Namami Gange programme

- It is a **World Bank funded Central Sector Scheme under the Ministry of Jal Shakti** for effective abatement of pollution, conservation and rejuvenation of National River Ganga.
- Its **2ⁿᵈ Phase was approved** by the World Bank Board in June 2020 for US$ 400 million for a period of 5 years **up to December 2026**.
- **It has a 5-tiered structure-**
  - **National Ganga Council** under chairmanship of Prime Minister of India.
  - **Empowered Task Force (ETF)** under chairmanship of Union Minister of Jal Shakti.
  - **National Mission for Clean Ganga (NMCG).**
  - **State Ganga Committees.**
  - **District Ganga Committees** in every specified district abutting river Ganga and its tributaries in the states.
- **Other components-**
  - **'Ganga Task Force'** to spread public awareness.
  - **Ganga Praharis,** a grassroot-level workforce.
- **Key achievements of the Namami Gange Programme**
  - **Biological oxygen demand (BOD)** level of the river flowing **through Uttarakhand and Bihar is below 3 mg per litre,** which falls in the unpolluted category.
  - **Projects worth more than Rs. 30,000 crores** were sanctioned to clean Ganga and its tributaries.
  - **92 sewage projects have been completed**.
  - Sewerage capacity of **5015.26 million liters per day** under construction**.**
  - **River Surface cleaning into service at 11 locations.**
  - **Online Continuous Effluent Monitoring Stations (OCEMS)** connectivity established to CPCB server in **885 out of 1072 Grossly Polluting Industries**.
  - Initiation of **67 Ghats/Crematoria projects.**

5.7. NEW RAMSAR SITES

Why in news?

Recently, India has designated **26 new wetlands of international importance under the Ramsar Convention.**

More on the news
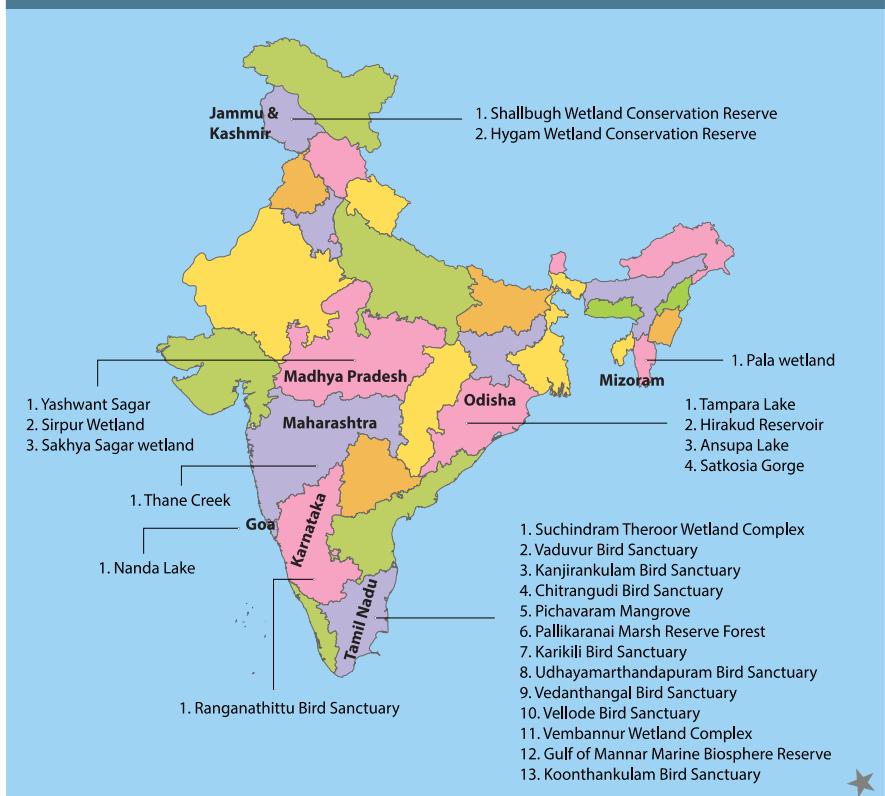
- With this designation, now India has a total of **75 Ramsar sites covering an area of 13,26,677 ha**.
- Designation of these sites would help in **conservation and management of wetlands and wise use of their resources.**

For more details on the newly added Ramsar Sites, kindly refer appendix at the end of the document.

About Wetlands

- A wetland is defined as **any land area that is saturated or flooded with water, either seasonally or permanently**.
- As per Ramsar convention, **wetlands include areas of marsh, fen, peatland or**

NEW RAMSAR SITES IN INDIA

Jammu & Kashmir
1. Shallbugh Wetland Conservation Reserve
2. Hygam Wetland Conservation Reserve

Madhya Pradesh
1. Yashwant Sagar
2. Sirpur Wetland
3. Sakhya Sagar wetland

Maharashtra
1. Thane Creek

Goa
1. Nanda Lake

Mizoram
1. Pala wetland

Odisha
1. Tampara Lake
2. Hirakud Reservoir
3. Ansupa Lake
4. Satkosia Gorge

Tamil Nadu
1. Suchindram Theroor Wetland Complex
2. Vaduvur Bird Sanctuary
3. Kanjirankulam Bird Sanctuary
4. Chitrangudi Bird Sanctuary
5. Pichavaram Mangrove
6. Pallikaranai Marsh Reserve Forest
7. Karikili Bird Sanctuary
8. Udhayamarthandapuram Bird Sanctuary
9. Vedanthangal Bird Sanctuary
10. Vellode Bird Sanctuary
11. Vembannur Wetland Complex
12. Gulf of Mannar Marine Biosphere Reserve
13. Koonthankulam Bird Sanctuary

Karnataka
1. Ranganathittu Bird Sanctuary

water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.

- India has over 7 lakh wetlands covering **~16 Mha** i.e., **4.86% of the total geographic area** of the country**.**
- In comparison to man-made wetlands area in India, **natural wetlands area is approximately two times**.

About Ramsar convention
- **Ramsar Convention** adopted in 1971 (came into force in 1975), is an **intergovernmental treaty** that provides the framework for the conservation and wise use of wetlands and their resources.
  - **Wise use of wetlands** is defined as the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development.
- **India is one of the Contracting Parties** to the Convention.
- The convention has **5 formally recognized International Organization Partners**:
  - BirdLife International,
  - International Union for Conservation of Nature (IUCN),
  - International Water Management Institute (IWMI),
  - Wetlands International
  - WWF International.
- **Criteria for designation of Ramsar sites:** A wetland must meet at least 1 of 9 criteria as defined by the Ramsar Convention such as supporting vulnerable, endangered, or critically endangered species or threatened ecological communities or, if it regularly supports 20,000 or more waterbirds among others.
- Ramsar Sites which are potentially at risk as a result of technological developments, pollution or other human interference may be placed on **Montreux Record.**

Significance of Wetlands

Carbon Sink Peatlands alone store twice as much as all the world's forests.

Habitat for wide range of biodiversity and **key role in annual migration patterns**

Nature's shock absorbers
○ Act as a natural barriers during floods, tidal surges, storms etc.
○ Prevent Coastal erosion.
○ Delay onset of droughts.

Water Storage Help soak rainfall and recharge groundwater

Intrinsic cultural and recreational value

Create Livelihood in sectors like food, fishing, aquaculture, tourism etc.

Kidneys of the Landscape Purify water by locking up pollutants in their sediments and vegetation

Threats to Wetlands in India

- **Alteration of natural hydrological regimes** due to factors like- groundwater salinization and over extraction, encroachment and concretisation of catchment area, deforestation, coastal erosion, construction of canals, dams and reservoirs and diversion of streams and rivers etc.
- **Pollution:** Growing waste disposal from urban and peri-urban areas and runoff from Agricultural fields has disturbed nutrient composition of wetlands leading to eutrophication and has even disconnected some wetlands from inflow sources.
- **Proliferation of invasive species** like Water hyacinth, Salvinia, Ipomoea and Alternanthera etc.
- **Unsustainable harvesting of wetland resources** such as wood, fish, water, sand etc.

Efforts for wetland conservation in India
- **Wetland (Conservation and Management) Rules 2017** to conserve aquatic ecosystems, through implementation of sustainable conservation plans.
- **Establishment of Centre for Wetland Conservation and Management (CWCM)**.
- **National Plan for Conservation of Aquatic Eco-systems (NPCA):** It prohibits activities like conversion of wetland for non-wetland uses including encroachment, solid waste dumping, etc.
- **National Mission for Clean Ganga (NMCG):** Under the mission, a scientific and community-based program to develop Health card and management of 10 wetlands in each of the 50 plus Ganga districts was launched.
- **Regulations like-** Water (Prevention and Control of Pollution) Act, 1974, Coastal Regulation Zone (CRZ) Notification, 2019 etc.

- **Unregulated development of tourism infrastructure** and recreation facilities without appropriate protection to habitat characteristics or functioning of wetlands.
- **Climate change**: Coastal wetlands are at risk due to sea level rise, while inland wetlands are at risk from changes in river water flow, variable precipitation, and algal blooms that are likely to result from increasing temperatures.

Way Forward

- **Developing a holistic and standardized protocol for monitoring** the ecological condition of wetlands and aquatic ecosystems.
- **Restoration of degraded wetlands** through de-siltation, recharging groundwater aquifers, removal of invasive species, nature-based solutions such as afforestation, etc.
- **Strict implementation of pollution norms** and proper treatment and disposal of waste.
- **Ensuring optimal and sustained water flow** to wetlands that is needed for their functioning.
- **Participatory conservation of wetlands** enabled by capacity building of local communities to ensure sustainable use of wetland resources and minimise encroachment.

5.8. NEWS IN SHORTS

5.8.1. COALITION FOR DISASTER RESILIENT INFRASTRUCTURE (CDRI)

- **India signed 'Headquarter Agreement' with CDRI,** thereby according the status of an **'independent and international legal entity' to CDRI.**
  - Agreement will **enable CDRI to pursue functions internationally with all rights, immunities, and privileges,** as per **United Nations (Privileges & Immunities) Act, 1947.**
  - India enacted UN (Privileges & Immunities) Act, 1947 to give effect to **Convention on Privileges and Immunities of United Nations**, adopted by **UN General Assembly in 1946**.
- **International legal personality refers** to entities endowed with rights and obligations under public international law. This **includes states, international organizations, NGOs** etc.
  - It will help CDRI to deploy funds & experts globally and receive funds or bring experts from member countries to achieve its commitments for disaster resilient infrastructure.
- Headquarter Agreement is an **agreement between an international organisation and host state** to determine the **privileges and immunities necessary for its good functioning**.
- **About CDRI (Headquartered: New Delhi)**
  - It is a **global partnership of national governments**, UN agencies and programmes, private sector, and academic and research institutions.
  - It was launched in 2019 by Indian Prime Minister at **UN Climate Action Summit (New York).**
  - It aims to promote **resilience of infrastructure systems to climate and disaster risks**, thereby ensuring **sustainable development**.

- Currently, it has **31 Countries, 6 International Organisations and 2 private sector organisations as members.**
- It'll work at intersection of **Sendai Framework for Disaster Risk Reduction and Paris Climate Agreement.**

5.8.2. HAR GHAR JAL

- **Goa** and **Dadra & Nagar Haveli and Daman & Diu** became the **first 'Har Ghar Jal' certified State and UT** in the country respectively.
- 'Har Ghar Jal' is a **flagship programme** of the Union Government, **implemented by Jal Jeevan Mission** (JJM) under the Ministry of Jal Shakti, in partnership with States/ UTs **to ensure tap water connection in every rural household by 2024.**
  - More than **52% rural households in India are now connected** with tap water which was only 17% at the time of programme's launch in 2019.
  - JJM also **implements source sustainability measures as mandatory elements**, such as recharge and reuse through grey water management, water conservation, and rain water harvesting.
- **Reforms under JJM**
  - **Shift of focus** for water supply from **'habitations to households'.**
  - **Community ownership** to ensure 'long-term sustainability' of water supply schemes.
  - **Special focus on children**: Piped water supply in schools, Anganwadi centres and ashramshalas.
  - **Central role of women and weaker sections** in managing water supply.
  - **Technological interventions** for transparency and accountability (like dedicated Dashboard, geotagging of assets created under JJM etc.)

PROCESS OF 'HAR GHAR JAL' CERTIFICATION

First, **field engineer submits a completion certificate regarding water supply scheme to the Panchayat** during the Gram Sabha meeting.

⬇

Villages confirm through a resolution of the Gram Sabha that every household is getting regular supply of water of prescribed quality and not a single household is left out.

5.8.3. CENTRE NOTIFIES INDIA'S 31ST ELEPHANT RESERVE

- The new reserve has been notified **as Agasthyamalai Elephant Reserve, covering an area of 1,197.48 sq. km in Kanyakumari and Tirunelveli, in Tamil Nadu.**
- **About Elephants**
  o The Indian elephant (Elephas maximus) is found in the **central and southern Western Ghats, North East India, eastern India and northern India and in some parts of southern peninsular India.**
  o It is included in **Schedule I of the Indian Wildlife (Protection) Act, 1972** and in **Appendix I of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES).**
  o IUCN Status: **Endangered**
  o **As per the last count in 2017, India has 29,964 elephants.**
    ✓ Karnataka has the highest number of elephants (6,049), followed by Assam (5,719) and Kerala (3,054).
- **Threats -** Man-elephant conflict, habitat loss and fragmentations, poaching and the loss of genetic viability resulting from small population size and isolation.
- **Initiatives taken**
  o India launched **'Project Elephant' in 1992**. Under the project, the government provides technical and financial help to states to save elephants.
  o Development of **Elephant Reserves**.
  o **Monitoring the Illegal Killing of Elephants (MIKE)**, an international effort for conservation of elephants in Asia and Africa.

5.8.4. INDIAN VIRTUAL HERBARIUM (IVH)

- IVH is a **database of dried plants** that maximizes the usefulness of the collections.
- Apart from digital images, **label data on each species include all information about the herbarium specimen** such as family, genus, species etc.

- o Herbarium specimens are **considered important tools for plant taxonomy, conservation, habitat loss** and even climate change.
- **Developed by: Botanical Survey of India (BSI).**
  o BSI, under Ministry of Environment, Forest & Climate Change, is **apex taxonomic research organization** of the country.

5.8.5. NATIONAL WATER AWARDS (NWA)

- **Ministry of Jal Shakti** has launched **4th NWA on Rashtriya Puraskar portal.**
- NWAs were introduced to **recognize and encourage exemplary work and efforts** made by States, Districts, individuals, etc. in accomplishing **government's vision 'Jal Samridh Bharat'.**
  o It aims to **sensitize the public about importance of water and motivates them** to adopt best water usage practices.
  o Award winners in different categories will be presented with a **citation, trophy, and cash prize.**

5.8.6. OZONE LAYER

- The US' **National Oceanic and Atmospheric Administration (NOAA)** found that the overall concentration of **ozone-depleting substances (ODS) in the mid-latitude stratosphere in 2022 are back to those observed in 1980** before ozone depletion was significant.
  o **NOAA's Ozone Depleting Gas Index** tracks the overall stratospheric concentration of ozone-depleting chlorine and bromine from long-lived ODSs relative to its peak concentration in the early 1990.
- **Ozone (O_3)** is a **highly reactive molecule** formed of **three oxygen atoms** found primarily in two regions of the atmosphere.
  o Nearly **90%** of **Earth's ozone resides** in the **stratosphere** (also known as Ozone Layer) above the **troposphere** — the **layer closest to Earth's surface**.
  o Ozone layer **absorbs the sun's ultraviolet rays** and **protects all biological systems** on Earth from these harmful rays.
  o **Ozone concentration** is commonly measured through **Dobson Unit**.
- **About Ozone Depleting Substances (ODS)**
  o These are **long-lived man-made chemicals which destroy the protective ozone layer**.
  o The **Montreal Protocol on Substances that Deplete the Ozone Layer (1987)** regulates the production and consumption of ODS such as **chlorofluorocarbons (CFCs), halons, methyl**

bromide **(CH3Br), bromochloromethane (CH2BrCl)** etc.
- o **Uses of ODS:** Refrigerators, air conditioners, fire extinguishers, foams etc.

Ozone depleting potential (ODP)
- ODS have **high ODP.**
- ODP is a **measure of how much damage a chemical can cause to the ozone layer compared with a similar mass of trichlorofluoromethane (CFC-11).**

5.8.7. PER AND POLYFLUOROALKYL SUBSTANCES (PFAS)

- New research suggests that **rainwater around the world is contaminated by PFAS.**
- PFAS are chemicals that have **partially or completely fluorinated carbon chains** of varied lengths.
  - o Due to these strong carbon-fluorine bonds, they do not degrade easily in the environment and are often referred to as "**forever chemicals**".
  - o PFAS like perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are listed under **Stockholm Convention on Persistent Organic Pollutants** and their production and use are restricted or eliminated in the Parties.
- **Concerns associated with use of PFAS:**
  - o **Found in the blood of people and animals** due to widespread use and persistence in the environment.
  - o **High exposure associated with health risks** like decreased fertility, developmental effects in children, interference with body hormones, increased cholesterol levels, liver damage, kidney and testicular cancer etc.
  - o **Difficult to capture and destroy**: Don't easily break down in water or soil through natural processes, treatment methods are capital and energy expensive, easily leach to soil and water etc.
- **Measures to reduce PFAS contamination**: Safe disposal of PFAS using methods like filtration through activated carbon tanks, incineration etc.; phasing out PFASs listed under the Stockholm Convention and replace them with safer alternatives; Avoid PFAS-based non-stick pans and kitchen utensils; etc.

About Stockholm Convention
- It is an international intergovernmental treaty to **protect human health and the environment from persistent organic pollutants (POPs).**
  - o POPs are chemicals that **remain intact in the environment for long periods**, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife.
- **India is a signatory to the convention.**

Common uses of PFAS

Non-stick cook and bake-ware

Fire-fighting foams

Water- and oil-proof apparel

Stain resistant upholstery carpet, etc.

Biocides, household agents such as cleaning agents and impregnation sprays
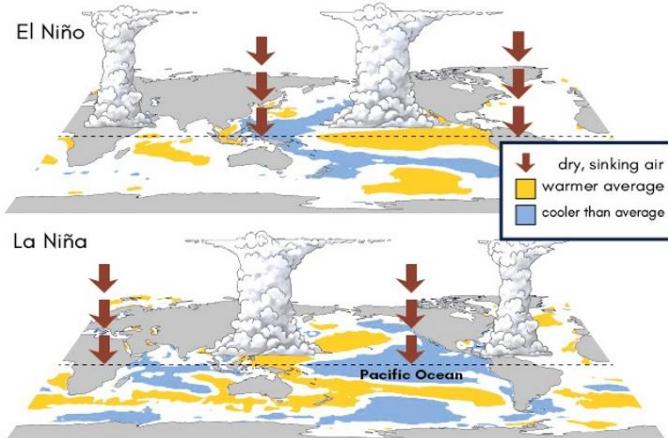
Food packaging

5.8.8. LA NINÃ CONDITIONS ENTER 3RD YEAR, 6TH TIME SINCE 1950

- **As per India Meteorological Department (IMD)** data, **La Ninã conditions** prevailing over Equatorial Pacific Ocean since September 2020 **have entered third year.**
- Having started in September 2020, it has prevailed for the last 24 months, and looks set to continue for another six months, and has thus been classified as a **'triple dip' La Niña.**
- **About La Niña**
  - o **La Niña** (known as **little girl**) is a weather pattern that occurs in Pacific Ocean.
  - o It is **observed when sea surface temperatures (SSTs) in Eastern Equatorial Pacific (EEP) get comparatively colder than normal.**
    - ✓ This results in a **strong high pressure over EEP** (i.e. tropical west coast of South America).
  - o It is **counterpart to El Niño** (known as **little boy or Christ Child**), which is characterized by unusually warm SSTs in EEP and causes **suppressed Monsoon**.
  - o Together, **La Niña and El Niño are "cold" and "warm" phases of El Nino-Southern Oscillation (ENSO)**, which involves temperature changes in waters of Eastern and Central Pacific Ocean.

- Generally, **El Niño and La Niña occur every 4 -5 years**. El Niño is more frequent than La Niña.
- **Impact of La Niña**
  - **Better monsoon rains in India.**
  - Frequent and **intense hurricanes and cyclones in Atlantic Ocean and Bay of Bengal**.
  - Causes **drought** in Peru and Ecuador, **heavy floods** in Australia, **high temperatures** in Western Pacific, Indian Ocean, off Somalian coast.

5.8.9. ARCTIC AMPLIFICATION

- Arctic is heating up **4 times as fast as rest of world.**
- Arctic amplification (AA)- refers to **enhancement of near-surface air temperature change over Arctic relative to lower latitudes**
  - **Global warming, Ice-albedo feedback, lapse rate feedback, water vapour feedback and ocean heat transport** are primarycauses of AA.
- **Impact:**
  - **Affects fauna of the region** especially, Polar Bears, whales and seals; would open up new sea-trade routes; would facilitate further extraction of natural resources.

5.8.10. STRONG THERMAL EMISSION VELOCITY ENHANCEMENT (STEVE)

- It is a puzzling **aurora-like phenomenon that** leads into a **purple streak of light.**
  - Auroras are caused by **interaction of energetic particles of solar wind with** atoms of **upper atmosphere.**
  - Aurora occurs **primarily in high latitudes** of both hemispheres.

- STEVE appears **significantly lower in the atmosphere unlike the typical auroras.**
- STEVE **first appeared in 2017** and has been appearing often since.
  - It has been observed in **New Zealand, Canada, Alaska and UK** between October to February.

5.8.11. ZOMBIE ICE

- Zombie ice from massive Greenland ice sheet **will eventually raise global sea level by at least 10 inches.**
- Zombie or doomed ice is **ice that is still attached to thicker areas of ice, but is no longer getting fed** by those larger glaciers because parent glaciers are getting less replenishing snow.
- **Without replenishment,** zombie ice is **melting from climate change and will inevitably raise seas.**

5.8.12. TONGA VOLCANO

- According to a new study, **Volcanic eruption in Tonga (January 2022) is likely to add to global warming and depletion of Earth's ozone layer**.
  - **Generally, volcanic eruptions have a cooling effect** on atmosphere as particles spewed from volcanoes shades incoming solar radiation.
- **Underwater eruption** of Hunga Tonga-Hunga Ha'apai volcano **injected 146 teragrams** (1 teragram equals a trillion grams) **of water vapour** (a greenhouse gas) **into the stratosphere.**
  - Excess stratospheric H2O will persist for years, **could affect stratospheric chemistry and dynamics** and **may lead to surface warming.**

5.8.13. ERRATA

- Due to a typological error in Article 5.6 Water Insecurity of June 2022, it has been incorrectly mentioned that "water availability less than 1,700 cubic meter per capita per year, is classified as water scarcity according to Falkenmark's water stress index."
  - The correct statement is "**According to the 'Falkenmark indicator' (the world's mostly used index for estimating water scarcity), if the water availability in a country is below 1,700 m^3 per person per year, the country is said to be experiencing water stress; below 1,000 m^3 it is said to be experiencing water scarcity; and below 500 m^3, absolute water scarcity**."

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

6. SOCIAL ISSUES

6.1. MANUAL SCAVENGING

Why in news?

The Government has formulated NAMASTE scheme for cleaning of sewers and septic tank.

About National Action for Mechanized Sanitation Ecosystem (NAMASTE)

- It is launched to promote **100% mechanization, specially cleaning of sewers, septic tanks, desilting of drains, garbage lifting, sludge handling,** solid and medical waste disposal etc.
- It is a **Central Sector Scheme.**
- It is a joint collaboration **Ministry of Social Justice and Empowerment (MoSJE)** and **Ministry of Housing and Urban Affairs (MHoUA).**
  - **National Safai Karamchari Financial Development Corporation(NSKFDC)** would be **implementing agency** for NAMASTE.
  - **NAMASTE Management Units will be setup at the National, State and City level** to facilitate proper coordination for the scheme.
- **Aims of NAMASTE are:**
  - **Zero fatalities** in sanitation work in India.
  - All **sanitation work** is performed by **skilled workers.**
  - **No sanitation worker**s come **in direct contact with human faecal matter.**
  - Sanitation workers are **collectivized into Self Help Groups (SHGs)** and are empowered to **run sanitation enterprises.**
  - All Sewer and Septic tank sanitation workers (SSWs) have **access to alternative livelihoods.**
  - **Strengthened supervisory and monitoring systems** at national, state and Urban Local Bodies (ULB) levels to ensure enforcement and monitoring of safe sanitation work.
  - **Increased awareness** amongst sanitation services seekers (individuals and institutions) to seek services from registered and skilled sanitation workers.
- It envisages **identifying the Sewer/Septic Tank Workers (SSWs) with a focus on informal workforce** who are engaged in hazardous cleaning operations
  - The identified SSWs and their families will be covered under the **Ayushyaman Bharat- Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)** and will also **be provided livelihood assistance including capital subsidy and interest subvention**.
  - **Five hundred cities,** converging with AMRUT (Atal Mission for Rejuvenation and Urban Transformation) cities, will be taken up **under this phase of NAMASTE.**

NATIONAL ACTION PLAN FOR MECHANIZED SANITATION ECOSYSTEM: ACTION PLAN

NAMASTE ACTION PLAN

01 To reach out to one lakh unorganised workers

02 Train and equip them for safer cleaning operations

03 Provide training for alternative livelihood

04 Form them into SHGs

05 Allocation of Rs. 287 Crore in next four years.

Manual Scavenging VS Hazardous Cleaning of Sewers
- **Hazardous cleaning of sewers and septic tanks is different from manual scavenging** that has been banned under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013
  - Hazardous cleaning of sewers and septic tanks has **led to at least 351 deaths since 2017** but manual scavenging no longer exist in the country.
  - All manual scavengers had been accounted for and enrolled into the rehabilitation scheme.
  - NAMASTE will **merge with and replace Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS)** which provides assistance to **manual scavengers** and their dependents.

o The **identified sanitation workers and their family members will be extended benefits of all the social security schemes** being implemented by various departments like PM Suraksha Bima Yojana, Atal Pension Yojana, etc.

About Manual scavenging

- Manual Scavenging is **lifting of human excreta from unsanitary latrines** as defined in Section 2 (1) (g) of the "Prohibition of Employment as Manual Scavengers and Rehabilitation Act 2013" or the MS Act 2013 (refer to the table).
- Manual scavengers die of the **potent mix of methane, hydrogen sulphide and carbon monoxide fumes** from sceptic tanks.
- Recently, the Union Minister for Social Justice and Empowerment said that of the 43,797 persons among the total 58,098 identified in manual scavenging, a staggering **97.25% are from communities classified as Scheduled Caste.** Other include Scheduled Tribes, communities classified as other backward classes.

Key provisions of the 'Prohibition of Employment as Manual Scavengers and Rehabilitation Act 2013'

Steps taken to address manual scavenging
• **Swachhata Abhiyan app:** To create a database on location of unsanitary latrines and identifying manual scavengers who can be rehabilitated.
• **Safai-mitra Suraksha Challenge across 243 cities:** Sewers and septic tanks in **243 cities will be mechanized and a helpline created** to register complaints if manual scavenging is reported.
• **Changed terminologies:** Prohibiting use of the word 'manhole' anymore and instead using only **'machine-hole'** to support the government's decision to eradicate manual scavenging.
• **Safai Karamchari vs Union of India, 2014:** The Supreme Court has ruled that the continuance of **manual scavenging in the country is in blatant violation of Article 17 of the Constitution of India** by which, "untouchability is abolished and its practice in any form is forbidden". The court was **emphatic about the duty cast on all states and union territories "to fully implement the law** and to take action against the violators".

Who is a 'manual scavenger'?	• Any person who has been employed to **handle undecomposed human waste from an insanitary latrine, open drain or pit or railway track** is a manual scavenger under this law. • The person could have **been employed by anyone** - say, someone from their village or by an agency or contractor. • It does not matter if she was given regular employment or engaged on contract basis, she is covered under this law. • **Exception** - Any person who has been employed to clean human waste and does so with the help of the **appropriate protective gear and equipment** will not be considered a manual scavenger under this law. • Another group of people called **'safai karamcharis'** are also sometimes considered as manual scavengers - however, they usually refer **to people working as sweepers or cleaning workers in the municipalities,** government or private organisations.
How does this law prevent manual scavenging?	• Under this law, the first step to preventing manual scavenging is **demolishing 'insanitary latrines'.** It imposed certain time bound commitments by the local authorities (municipal bodies, cantonment boards and railway authorities). • The **local authorities are responsible for the building and maintenance of the community sanitary latrines** and must make sure that they are functional and hygienic.
Law makes it an offence to:	• Employ people as manual scavengers to clean insanitary latrines. • Employ people to clean sewers and septic tanks without protective gear. • Construct insanitary latrines. • Not demolish or convert insanitary latrines within a certain period of this Act coming into force
Rehabilitation of manual scavengers	it **lays down the rules and procedure for the rehabilitation of manual scavengers** through training in alternate employment, financial help and help with purchasing property.
Responsibility for identifying manual scavengers	Every **local authority** (municipality or panchayat), cantonment board or railway authority is responsible for surveying its area to identify manual scavengers.
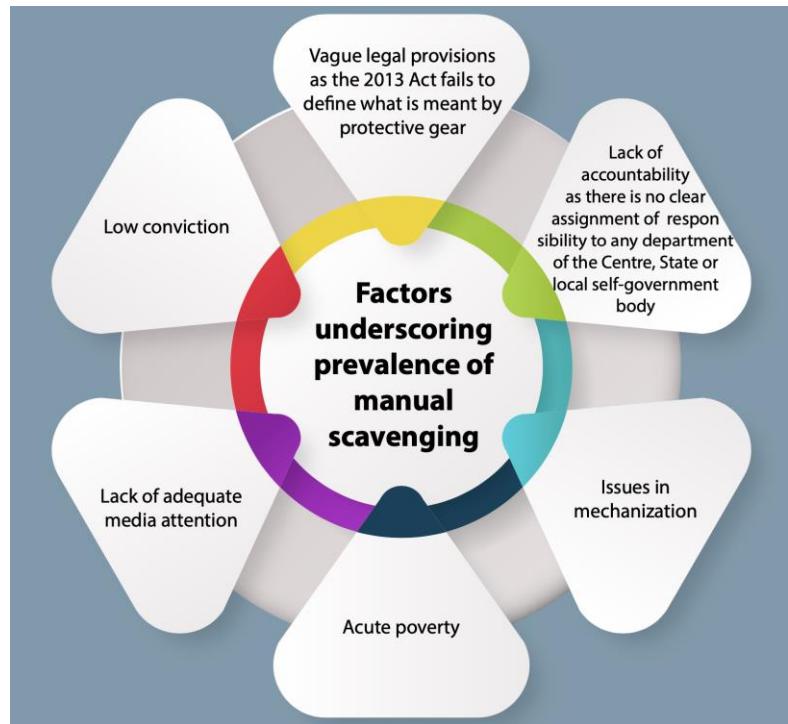
Way ahead

- **Consultation with stakeholders:** To make the law crystal clear about the modus operandi of ending manual scavenging and to address the loopholes in existing law.
- **Tackle corruption in local bodies:** Open drains are badly designed, allowing people to dump solid waste into open drains, which adds to the problem. To address this, corruption in local bodies needs to be tackled.
- **Making contractual workers permanent:** This would ensure their social and financial security.

- **Facilitate mechanization:** NAMASTE scheme is a positive step in this direction.
- **Proper waste disposal**: Improper disposal of contraceptives, sanitary napkins and diapers contributes to clogged drains which machines cannot clear. Widespread campaign against such waste disposal should be carried out. Also, Civic bodies need to provide dustbins for proper disposal.
- **Behavioural change**: Nobody should be made to clean another person's faeces, in any form. This requires behavioral and attitudinal change at the individual and societal level.

Conclusion

Ending manual scavenging is one of the core initiatives to ensure dignified life to all as guaranteed under Article 21 of the Constitution. A multipronged and multi stakeholder approach is needed to curb this menace.

6.2. RIGHT TO HEALTH

Why in news?

Recently, Rajya Sabha discussed a private member's bill seeking to provide for **health as a fundamental right** to all citizens.

About Right to Health (RTH)

- Understanding health as a human right creates **a legal obligation on states to ensure access to timely, acceptable, and affordable health care** of appropriate quality as well as to providing for the underlying determinants of health.
- This includes **safe and potable water, sanitation, food, housing, health-related information and education, and gender equality.**

Core components of the RTH

Availability: Sufficient quantity of functioning public health and health care facilities, goods and services, as well as programmes for all

Accessibility: Requires that health facilities, goods, and services must be accessible to everyone. Accessibility include non-discrimination, physical accessibility, economical accessibility (affordability) & information accessibility

Acceptability: Relates to respect for medical ethics, culturally appropriate, and sensitity to gender.

Quality: Quality health services should be: safe; effective; people-centred, timely, equitable, integrated and efficient.

- The right to health includes **both freedoms and entitlements:**
  - Freedoms include the **right to control one's health and body** (for example, sexual and reproductive rights) and to be **free from interference** (for example, free from torture and non-consensual medical treatment and experimentation).
  - Entitlements include the **right to a system of health protection** that gives everyone an equal opportunity to enjoy the highest attainable level of health.
- **Key features of RTH**
  - **Inclusivity:** A rights-based approach to health requires that health policy and programmes must **prioritize the needs of those furthest behind first towards greater equity** as envisaged in 2030 Agenda for Sustainable Development and Universal Health Coverage.

- o **Non-discriminatory:** The right to health **must be enjoyed without discrimination** on the grounds of race, age, ethnicity or any other status.
- o **Participatory:** Ensuring that national stakeholders – including non-state actors such as non-governmental organizations – are meaningfully involved in all phases of programming: assessment, analysis, planning, implementation, monitoring and evaluation.
- **WHO** envisages "the highest attainable standard of health as a **fundamental right of every human being."**
- **More than half of the world's countries** including Uruguay, Latvia, and Senegal have some degree of a guaranteed, specific **right to public health and medical care** for their citizens written into their national constitutions.

Challenges in providing RTH

- **Low healthcare spending:** Overall, India's public health expenditure has **remained less than 2% of the GDP.**
- **Suboptimal capacity:** Every allopathic doctor in India caters to at least 1,511 against WHO's recommendations of one doctor for every 1,000 people. Nurse-to-population ratio is of 1:670 against the WHO norm of 1:300. Also, there are mere 0.5 beds for every 1,000 population.
- **Weak Primary health care (PHC) sector:** Declaration of Alma-Ata, 1978 identified PHC as the key to the attainment of the goal of Health for All.
  - o 60% of PHCs in India have only one doctor while about 5% have none. This adversely impacts filtering of patients as well as prevention and early detection.
- **Regional disparity in accessibility**: About 70% of Indian population lives in rural areas.
  - o However, about 80 percent of doctors, 75 percent of dispensaries and 60 percent of hospitals are present in urban areas.
- **Non availability of skilled workforce:** India currently needs an additional 6.4 million healthcare resources (overall) to serve its population.
- **Neglected diseases:** These diseases, almost exclusively, affect poor and marginalized populations in low-income countries, in rural areas and settings where poverty is widespread. Hence, they do not get adequate attention by pharma industry.
- **Poor governance:** The public sector offers healthcare at low or no cost but is perceived as being unreliable, of indifferent quality and generally is not the first choice, unless one cannot afford private care
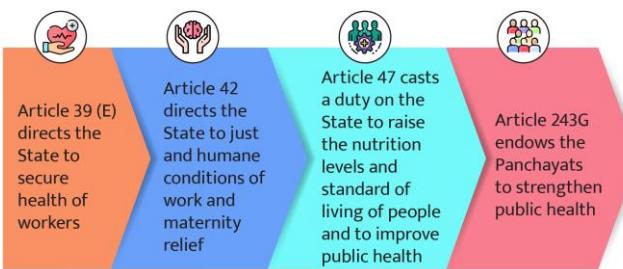
Way ahead

- **Comprehensive law for RTH:** A legislatively guaranteed right will make access to health legally binding and ensure accountability. It must also include the following provisions to ensure health care to citizens:
  - o The **role of the Union, state, and local governments**—panchayats and municipalities should be clearly defined without creating any conflicts.
  - o The RTH should be **explicitly mentioned in the Indian Constitution** through this act and include provisions for strengthening the medical infrastructure.

Constitutional provisions on RTH
- The Constitution of **India does not expressly guarantee a fundamental RTH**
- The Supreme Court of India in **Bandhua Mukti Morcha v Union of India & Ors**, 1984 interpreted the **RTH under Article 21 which guarantees the right to life.**
- There are **multiple references in the Constitution to public health** and on the role of the State in the provision of healthcare to citizens (refer to the infographics).

CONSTITUTIONAL PROVISIONS ON RTH

Article 39 (E) directs the State to secure health of workers

Article 42 directs the State to just and humane conditions of work and maternity relief

Article 47 casts a duty on the State to raise the nutrition levels and standard of living of people and to improve public health

Article 243G endows the Panchayats to strengthen public health

Initiatives to achieve RTH in India
- In 2019, a **High-Level Group on the health sector** constituted under the 15th Finance Commission had recommended that the **right to health be declared a fundamental right.**
  - o It also put forward a recommendation to **shift the subject of health from the State List** to the Concurrent List.
- **National Health Policy (2017)** provides for Universal Health Coverage for which **Ayushman Bharat was** launched in 2018.
- **Mental Healthcare Act 2017** to provide for mental healthcare and services for persons with mental illness.
- **National Policy for Rare Diseases (NPRD), 2021** aims to lower the incidence and prevalence of rare diseases, enable access to affordable health care to patients of rare diseases, increase focus on indigenous research.

- An institutional mechanism that can establish a **network with governments, research institutions, and health care providers** should be included.
- The Act should **clearly state various processes and mechanisms for tracing testing and treatment** for controlling the epidemics through appropriate and timely interventions at national, state, and local levels.
- **Fiscal and momentary relief for states and local bodies during medical emergencies** should be included.
- **Special protection should be given to health care and sanitation workers** keeping in mind the social dynamics of society.
- **Enhance funding:** Enhancing expenditure on health up to 3% is necessary to ensure RTH to each citizen.
- **Digitize healthcare system:** This would ensure evidence-based planning and decision making.

6.3. NEWS IN SHORTS

6.3.1. REVIEW OF GUARDIANSHIP AND ADOPTION LAWS

- **Department-related Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice**, presented the **118th Report on the Subject 'Review of Guardianship and Adoption Laws'.**

Area	Observations	Recommendations
Review of Laws on Adoption	• **Hindu Adoptions and Maintenance Act, 1956 (HAMA)** (applicable only to Hindus) and **the Juvenile Justice Act, 2015** (JJ Act) (all religion) both deal with adoption **yet have differing criteria.** • Parents adopting a child **under HAMA are not** required to register with **Central Adoption Resource Authority** (CARA). • **Parents are willing to adopt a child,** but there are not many c**hildren available for adoption.** • **Unregistered Child Care Institution (CCI)** and their poor functioning led **to death of 762 children.** • Adoption related matters are being dealt by **Ministry of Law and Justice and Ministry of Women and Child Development.**	• **Harmonize** both the Laws and bring out a **Uniform and comprehensive** legislation on adoption. • New legislation **should cover LGBTQ community.** • **Make registration with CARA mandatory.** • **A district level survey of orphaned/abandoned children.** • A **third-party study of all CCIs and empower DM to take down unregistered CCIs.** • Need to bring **Adoption Laws under a single Ministry for better monitoring and implementation.**
Review of Laws on Guardianship	• **The Hindu Minority and Guardianship Act** makes use of the term **'illegitimate'** in reference to a **child born out of wedlock.**	• **Word 'Illegitimate' should be omitted** as no child is illegitimate. • Amend HMGA and **accord equal treatment to both mother and father as natural guardians.**

6.3.2. PAALAN 1000

- Government launches **Paalan 1000 campaign** and parenting app to focus on child health.
- The **'Paalan 1000 - Journey of the First 1000 Days'**, focuses on the cognitive developments of children in the first 2 years of its life.
  - The first 1000 days establish a **solid platform for a child's physical, mental, emotional, cognitive and social health.**
  - The app will **provide caregiver with practical advice** on what they can do in their everyday routine and will help resolving the various doubts of parents and will direct our efforts in the development of child.

6.3.3. WOMAN SCIENTISTS

- According to recent Department of Science and Technology (DST) data the number of woman scientists has gone up over past two decades.

- **Key highlights of DST data**
  - **Percentage of women among researchers** went from 13.9% in 2015 **to 18.7% in 2018.**
    - ✓ However, there were **fewer women researchers in engineering and technology** (14.5%) compared with natural sciences and agriculture (22.5% each), and health sciences (24.5%).
  - **28% women participants in extramural** (sponsored) R&D projects in 2018-19 (13% in 2000-01).
  - Participation of women is **healthy till postgraduate level.** But there is a **drop at post-doctoral level.**
- **Constraints faced by women:** Social conditioning (gender bias against women, early marriage etc.), Organisational practices (gender discrimination in rules and practices, glass ceiling etc.) etc.

Steps taken by Government

KIRAN (Knowledge Involvement in Research Advancement through Nurturing) Scheme, by DST, to encourage women scientists.

Vigyan Jyoti Scheme to create level-playing field for meritorious girls in high school to pursue Science, Technology, Engineering, and Mathematics (STEM) in higher education.

CURIE (Consolidation of University Research for Innovation and Excellence in Women Universities), a sub-component of KIRAN, to develop state-of-the-art infrastructure in women universities.

Gender Advancement for Transforming Institutions (GATI) project based on UK's Athena Swan Charter.

Indo-US Fellowship for Women in STEMM (STEM and Medicine).

6.3.4. UGC E-SAMADHAN PORTAL

- University Grants Commission (UGC) will soon launch UGC e-samadhan, **a single window for submitting grievances** by merging the different portals and helplines that exist currently.
  - Aim is **to fast-track resolution of complaints** and **monitor institutes that are slow in responding** to them.
- Portal **will be available 24x7** and also **specific timelines have been laid down** for addressing the grievances registered at the portal.

6.3.5. FUNCTIONALLY LITERATE DISTRICT

- **Mandla district**, a tribal dominated region in **Madhya Pradesh has been reported as fully 'functionally literate' district**.
- A person can be called functionally literate **when he or she is able to write his or her own name, to count and read and write.**
- It also refers to the **capacity of a person to engage in** all those **activities in which literacy is required for effective function** of his or her group and community.

6.3.6. PROGRESS ON WASH IN HEALTHCARE FACILITIES, 2000–2021 REPORT
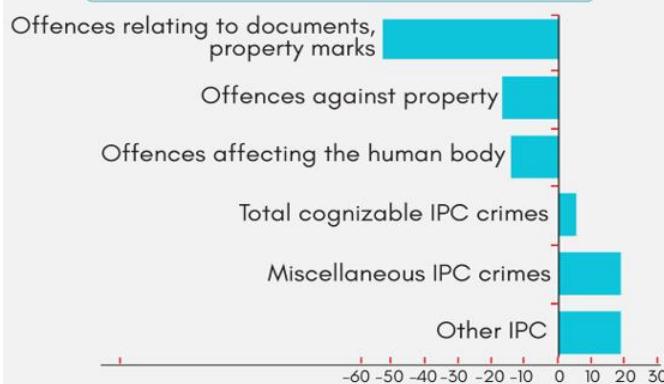
- Report is released **by World Health Organisation (WHO) and United Nations Children's Fund (UNICEF).**
  - It **focuses on WASH (Water, Sanitation and Hygiene) and infection prevention and control (IPC).**
- **Key Findings**
  - Half of world's healthcare facilities **lack basic hygiene services, nearly 4 billion people at risk.**
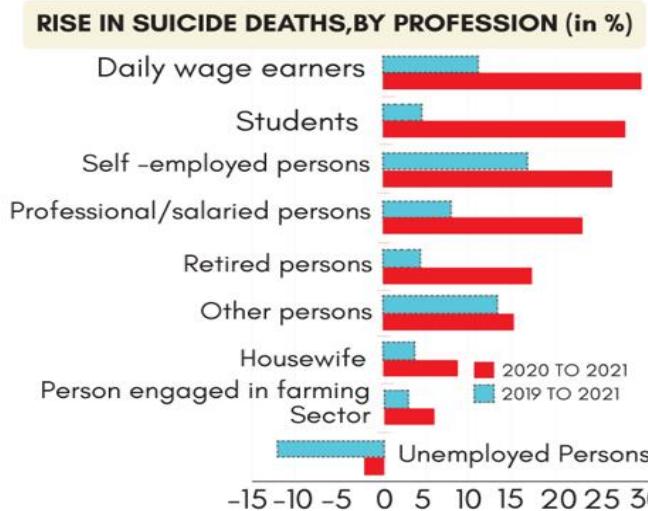
- Lack of potential infection prevention in health facility impacts pregnant mothers, new-borns and children health.
  - **Unhygienic health care facility influences disease transmission** and emergence of antibiotic resistance.

6.3.7. ACCIDENTAL DEATHS & SUICIDES IN INDIA REPORT 2021

- According to the '**Accidental Deaths & Suicides in India'** report 2021, by the NCRB India saw **120 deaths per million population in 2021** the highest level ever recorded.
  - The report highlights the **toll the pandemic** appears to have taken on the **emotional well-being of Indians.**
  - This report provides **age-group-wise and sex-wise details of** accidental deaths, traffic accidents and suicides including **farmer's suicides** which is a crucial matter in India.
- **The NCRB also release 2 other annual flagship reports:**
  - **Crime in India:** Information on **cognizable crimes as reported in police stations, police casualties, police firing, police & civilians' casualties.**
  - **Prison Statistics India:** Data like numbers and available capacity of different types of jails, strength and training of jail officials and prison budget and expenditure.
    - ✓ It is based on the principle of **importance of adequacy of prison infrastructure for successful reformation of the prisoners.**
- **National Crime Records Bureau (NCRB) (HQ: New Delhi)**
  - It was established in 1986 based on **the recommendations of the National Police Commission (1977) and the modalities worked out by a Task Force (1985).**
  - NCRB also looks after the **Crime and Criminal Tracking Network & Systems (CCTNS), Central Finger Print Bureau etc.**

GROWTH IN MAJOR CRIMES in 2021 (%)

RISE IN SUICIDE DEATHS, BY PROFESSION (in %)

- Daily wage earners
- Students
- Self-employed persons
- Professional/salaried persons
- Retired persons
- Other persons
- Housewife
- Person engaged in farming Sector
- Unemployed Persons

2020 TO 2021
2019 TO 2021

−15 −10 −5 0 5 10 15 20 25 30

6.3.8. NATIONAL PHARMACEUTICAL PRICING AUTHORITY (NPPA)

- **Silver Jubilee Celebrations of NPPA,** an attached office of Department of Pharmaceuticals (DoP), Ministry of Chemicals & Fertilizers, **held recently**.
- NPPA was **constituted in 1997 as an independent Regulator for pricing of drugs** to
  - o **Implement provisions of Drugs (Prices Control) Order** (DPCO).
  - o **Monitor availability of drugs**, identify shortages and to take remedial steps.
  - o **Maintain data** on production, exports and imports etc. **for bulk drugs and formulations.**
- On the occasion **following initiatives were also launched:**
  - o **Integrated Pharmaceutical Database Management System 2.0** to provide **a single window for submissions of various forms** as mandated under DPCO,2013.
  - o **Pharma Sahi Daam 2.0 App** with **updated features like speech recognition,** facility for launching complaints etc.

7. SCIENCE AND TECHNOLOGY

7.1. 5G SPECTRUM AUCTION

Why in News?

A record over ₹1.5 lakh crore worth of 5G telecom spectrum was sold in recently held auction.

More about News

- Government had put on offer spectrum in 10 bands but received no bids for **airwaves in 600 MHz, 800 MHz and 2300 MHz bands.**
- **About two-thirds of the bids were for the 5G bands** (3300 Mhz and 26 GHz), while more than a quarter of the demand came in the 700 Mhz band.
- **Reliance Jio was the top bidder** followed by Bharti Airtel and Vodafone Idea Ltd.

About 5G spectrum

- Spectrum relates to the **radio frequencies allocated to the mobile industry and other sectors for communication** over the airwaves.
- **Spectrum is a sovereign asset.** That is, use of the airwaves in each country is overseen by the government or the designated national regulatory authority, which manages it and issues the needed licenses.
- Operators will use a **combination of different spectrum bands to deliver 5G services,** and it will play a critical role in determining the speed and range of coverage.
- Operators around the world are most likely going to have **to use a mix of low-band, mid-band, and high-band spectrum** to deliver the type of 5G experience that their customers demand.

5G Spectrum	Features
Low-band	- Any spectrum that is **lower than 1 GHz on the spectrum chart.** - Will make it **possible for operators to provide a wide-swath of coverage** but speed and latency of the 5G network will only be incrementally better than 4G networks. - Much of the 5G network's **performance will depend upon proximity to the cell site.** - It is essential to build coverage in thinly populated areas and provide indoor coverage in built-up areas.
Mid-band	**Spectrum in the 1 GHz - 6 GHz range** is mid-band spectrum. - Considered **ideal for 5G because it can carry plenty of data** while also **traveling significant distances.** - Provides high-capacity city-wide 5G.
High-band	- This is very high on the spectrum chart in the **24 GHz band and higher.** - It **delivers super-fast speeds over short distances.**

SPECTRUM DETERMINES 5G COVERAGE AND SPEED

High Bands 24GHz - 40 GHz

Mid Bands 3.5GHz - 6 GHz

Mid Bands 1GHz - 2.6 GHz

Low Bands < 1 GHz

Challenges in 5G deployment

- **Device availability:** availability of devices compatible with 5G standards and spectrum will be vital in creating end-user demand for 5G services.
- **Suitable wave spectrum:** Using a frequency above six gigahertz enable networks to provide super-fast speeds. However, high-frequencies entail several problems with 5G such as short-range, signal obstruction from trees, buildings and other objects etc.

- **Fiberisation infrastructure:** In India, currently only 33% of the towers are fiberised, compared to the 80%-90% in the U.S., Japan and China.
  - Fiberisation represents the part of the network that connects the core of the network to the edge facilitating large amounts of data used in 5G services.
- **Globally harmonised spectrum allocation:** across a range of frequencies requires coordination among the global community, regional telecommunication organizations.
  - **Harmonized allocation minimizes radio interference along borders**, facilitates international roaming and reduces the cost of equipment.
- **Net Neutrality debate:** The uniqueness of 5G networks tailoring to specific use cases will be in direct contradiction to net neutrality laws in India, if network slicing and differentiated experiences are offered on the network.
- **Cybersecurity threats:** deployment of 5G networks will have millions of devices coming online. These connected devices are all potential attack vectors. Operators have to be ready for potential rise of cybersecurity attacks.

Way Forward

- To achieve the potential of the 5G era **three critical elements are required:**
  - **Substantial investment in digital infrastructure**, which should largely come from private sources;
  - A **digital environment that inspires trust**; and
  - A **modernised policy and regulatory framework** that enables this.
- To accelerate 5G to commercial use, **regulators need to promote streamlined network deployment regulations** to address the emerging challenges of network densification.
- To foster an environment that encourages investment in mobile service provision, the **mobile taxation framework should be further simplified.**
- **Legacy regulations need to be reviewed,** and regulatory barriers that hamper investments, sustainability and innovation need to be removed or adjusted to the new economy.
- **Satellite communication can facilitate 5G broadband connectivity to underserved areas** where it is not feasible to deploy terrestrial infrastructure like remote villages, islands or mountainous regions.

7.2. TUBERCULOSIS

Why in news?

Recently, World Health Organization (WHO) released new guidance to support **National Strategic Planning (NSP) for the tuberculosis (TB).**

More on news

- NSP for TB is a key document that **guides national authorities and stakeholders on how to comprehensively address the TB epidemic** through goal(s), strategies, priority interventions within health and across other sectors.
  - Each goal must be defined in line with **SMART (specific, measurable, attainable, realistic and time-bound) criteria.**
  - Current document is an **update to 2015 Toolkit to develop a NSP for TB prevention, care and control.**

DATA BANK

Tuberculosis Burden

- As per WHO, **1.5 million people die from TB each year,** making it the world's top infectious killer.
- As per Global TB report, in 2020, **30 high TB burden countries accounted for 86% of new TB cases,** with **India leading the count.**
- As per Ministry of Health and Family Welfare (MoH&FW) data, **India reported 1.8 million TB cases in 2020** as compared to 2.4 million in 2019.

- The guidance was **developed with input from national TB programmes**, technical partners, civil society, WHO technical staff at country and regional level, and from various departments at headquarters, and other experts in TB and in strategic plan development.

About Tuberculosis

- TB is **caused by bacteria (Mycobacterium tuberculosis)** and it most often **affects the lungs**.
  - It is **spread through the air** when people with lung TB cough, sneeze or spit.
  - **Two categories of TB**: **Pulmonary TB** (affects lungs) and **Extra Pulmonary TB** (affects both lungs and other organs).

- **Treatment for TB:**
  - Currently, the **BCG (Bacille Calmette-Guérin) vaccine is used among children** at the time of birth.
  - It was developed in 1921 in France to be used against Tuberculosis.
  - In India, **BCG vaccine was first introduced in 1948** and was then made a part of universal immunisation programme and administered to millions of children at birth or soon after it.

> - **Drug Resistant TB**:
>   - **Multi- Drug Resistance TB (MDR- TB):** It is TB that does **not respond to at least isoniazid and rifampicin** (2 of the most powerful first line drugs).
>   - ✓ MDR-TB remains a public health crisis and a health security threat. Only about one in three people with drug resistant TB accessed treatment in 2020.
>   - **Extensively Drug Resistant TB (XDR- TB)**: It is resistant to at least four of the core anti-TB drugs. It involves MDR-TB, in addition to resistance to any of the **fluoroquinolones (such as levofloxacin or moxifloxacin)** and to at least one of the three injectable second-line drugs (amikacin, capreomycin or kanamycin).
>   - **Totally drug-resistant tuberculosis (TDR-TB):** TB which is resistant to all the first- and second-line TB drugs.

Steps taken to eliminate Tuberculosis

- **India's efforts:**
  - **National Strategic Plan (NSP), 2017-2025:** Under this, India is committed to eliminate TB by 2025, five years ahead of the target for TB set by Sustainable Development Goal (SDG), 2030.
  - **National Tuberculosis Elimination Program (NTEP):** To accelerate momentum towards eliminating TB in the country by 2025, NTEP has **expanded both the laboratory network as well as diagnostic facilities** to cover the entire country.
    - ✓ Earlier, it was known as **Revised National Tuberculosis Control Program (RNTCP).**
  - **NIKSHAY Portal:** It is the **National TB information system** which acts a one-stop solution to manage information of patients and monitor program activity throughout the country.
    - ✓ It provides a **National Data repository of TB information** for advanced analytics.
  - **NIKSHAY Poshan Yojana (NPY)**: India's NSP provides **direct benefit transfer (DBT) for all TB patients** in order to support their nutrition needs and help address the financial burden of tuberculosis for the affected households.
    - ✓ Scheme is financed by the Government of India, with partial financing provided through World Bank.
    - ✓ It is **launched by Ministry of Health and Family Welfare**.

Challenges in controlling TB: Poor primary healthcare infrastructure in rural areas; Unregulated private healthcare leads to irrational use of first and second-line anti-TB drugs; Resource limitations due to Poverty and Lack of awareness; Lack of political will and corruption; Inadequate diagnostics and treatment.

  - **TB Free India Campaign** has been launched by the Indian Prime Minister to eliminate Tuberculosis in India by 2025.

- **Global commitments and efforts taken to eliminate TB**
  - **Moscow Declaration, 2017**: It is commitment to increase multisectoral action and enhance accountability in the global TB response towards ending TB by 2030
  - **WHO End TB Strategy:** It serves as a blueprint for countries to **reduce TB incidence by 80%, TB deaths by 90%,** and to eliminate catastrophic costs for TB-affected households by 2030.
  - **Find. Treat. All. #EndTB**: It is the joint Initiative of WHO, Stop TB Partnership, and Global Fund to **diagnose treat and report 40 million people with TB**, including 3.5 million children and 1.5 million people with Drug Resistant-TB.

Tuberculosis can be **controlled if appropriate policies are followed, effective clinical and public health management is ensured, and there are committed and co-ordinated efforts** from within and outside the health sector. Rapid expansion of **effective TB control services is urgently required, both to avert the continued high burden** of morbidity and mortality from TB.

7.3. GENOMIC SURVEILLANCE

Why in News?

With outbreaks of several pathogens and their variants, including COVID-19, monkeypox etc, in recent years, need to build a sustainable system for genomic surveillance is felt.

About Genomic Surveillance

- Genomic surveillance is the process of **constantly monitoring pathogens and analyzing their genetic similarities and differences to identify variants of concern.**
  - Scientists use genomic sequencing to identify different variants of pathogen in a specimen.
- Genomic surveillance is **critical for stronger pandemic and epidemic preparedness** and response.
  - In the past, genomic surveillance systems have proven to be **instrumental in controlling polio in India and around the globe.**

> **Genomic Surveillance in India**
> - **Indian SARS-CoV-2 Genomics Consortium (INSACOG)** was established to expand Whole Genome Sequencing of SARS-CoV-2 across the nation, aiding our understanding of how the virus spreads and evolves.
>   - INSACOG, jointly initiated by the Union Health Ministry of Health, and Department of Biotechnology (DBT) with Council for Scientific & Industrial Research (CSIR) and Indian Council of Medical Research (ICMR), is **a consortium of over 50 laboratories**.
> - **Regional Genome Sequencing Laboratories (RGSL)** serve as the regional hub laboratory for genome sequencing of the relevant region
> - **Indian Tuberculosis Genomic Surveillance Consortium (InTGS)** is proposed on lines of INSACOG.

**Significance of Genomic Surveillance**

- **To enhance pandemic preparedness:** It helps governments to strengthen predictive interventions and serves as an early warning system by integrating with other epidemiological and metadata to provide real-time, actionable insights.
- **To support vaccine development:** It helps to track and analyze circulating strains and informs vaccine development and redesign for emerging and existing infectious diseases.
- **To support diagnostics and therapeutics:** smart surveillance can provide insights in real-time for development and calibration of diagnostics and can also help pharmaceutical companies to shape their research and design efforts.

Challenges in Genomic Surveillance

- **Inequity among nations:** The complexities of genomics and the challenges of sustaining capacities in different settings, including workforce needs, means that most countries cannot develop these capabilities on their own.
- **Lack of integration:** Scale, geographic representativeness, timeliness, quality, comparability and integration of genomic surveillance outputs with epidemiological and clinical surveillance findings remain weak.
- **Technological challenges:** Key challenges include how to integrate genomic data with metadata from multiple sources and how to generate efficient computational algorithms to enable robust conclusions.
- **Newer variants of concern:** Upsurge in the newly emerging variants (like in COVID-19) make it difficult to understand nature and trends of the newer variants through existing genomic surveillance tools.

Way Forward

WHO released 10-year strategy for genomic surveillance of pathogens that includes:

| GOAL	OBJECTIVE	STRATEGIC ACTIONS
Genomic surveillance is strengthened and scaled for quality, timely and appropriate public health actions within local to global surveillance systems	**Objective 1** Improve access to tools for better geographic representation	• **Advocate for the value of genomic surveillance** with policy makers • **Map and monitor** capability and capacity landscape • **Deliver contextualized and sustainable** technology solutions • **Stimulate innovation and research** to address local to global needs • **Shape a sustainable and quality market to maximize access**
	Objective 2 Strengthen the workforce to deliver at speed, scale and quality	• Roll-out training packages in **genomics and bioinformatics** • Promote **communities of practice and knowledge exchange** • Implement **external quality assessment programmes** • Strengthen programmes for **workforce development and retention**
	Objective 3 Enhance data sharing and utility for streamlined local to global public health decision-making and action	• Develop consensus on **data and meta data standards** • Establish **data sharing and access principles** • Ensure **data sharing agreements** • **Harmonize** norms, standards, benchmarks and reference materials • **Make the use of genomics routine** in surveillance practice
	Objective 4 Maximize connectivity for timely value-add in the broader surveillance architecture	• **Facilitate data, specimen and information sharing** • **Increase network linkages** at local, regional and global levels • Implement targeted collaboration with **One Health partners** • **Strengthen networks** in routine, epidemic and pandemic contexts
	Objective 5 Maintain a readiness posture for emergencies	• **Test the surge and stretch** of genomic surveillance systems • **Establish or sustain joint projects** to maintain capacities • **Implement inter- or after-action reviews** to strengthen practices
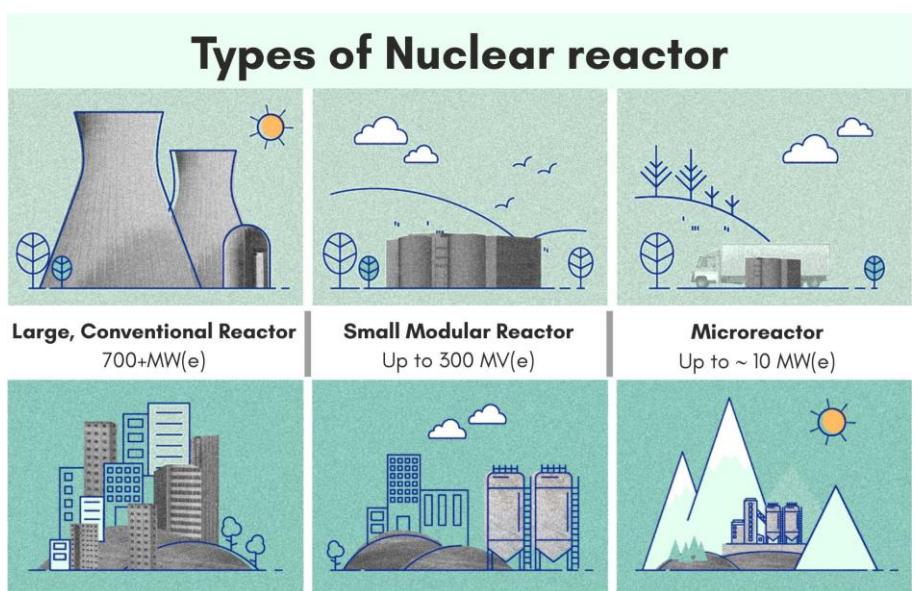
7.4. SMALL MODULAR REACTORS (SMRS)

Why in news?

Recently, Niti Aayog member and scientist V K Saraswat suggested that the **government should focus on setting up small modular reactors** as it would help meet the country's energy needs and also in replacing aging thermal power plants.

About Small modular reactors (SMRs)

- Small modular reactors (SMRs) are **advanced nuclear reactors that have a power capacity of up to 300 MW(e) per unit**, which is about one-third of the generating capacity of traditional nuclear power reactors.

Types of Nuclear reactor

Large, Conventional Reactor 700+MW(e)	Small Modular Reactor Up to 300 MV(e)	Microreactor Up to ~ 10 MW(e)

- **The SMR is relatively a nascent concept**, but they can make nuclear energy more scalable and flexible.
  - It is projected that **up to 21GW of SMRs could be added globally by 2035**, making up approximately 3% of total installed nuclear capacity.
  - According to the International Atomic Energy Agency (IAEA), **more than 70 SMR concepts are currently under development in 18 countries**.
  - The global market for SMRs is expected to be **$300 billion a year by 2040**.
- **Advantages of SMRs**
  - **Smaller footprint:** SMRs can be sited on **locations not suitable for larger nuclear power plants.**
  - **Affordable:** Prefabricated units of SMRs can be manufactured and then **shipped and installed on site.** This makes them more affordable to build than large power reactors**,** which are often designed for a particular location, sometimes leading to construction delays.
  - **Savings:** SMRs offer **savings in cost and construction time**, and they can be deployed incrementally to match increasing energy demand.
  - **Sustainable Development:** It can play a **key role in the clean energy transition**, while also helping countries address the Sustainable Development Goals (SDGs).

> **Microreactors**
> - **Microreactors** are small modular nuclear power plants that have a capacity of **fewer than 10 megawatts (MW).**
> - Although the technology has not been commercially demonstrated yet, several designs are moving through licensing in North America and Europe, with anticipated demonstrations in the next few years.
> - They are expected to operate for years without refueling including the need to generate power on a **small scale in remote locations, at deployed military installations, and in locations recovering from natural disasters**.

  - **Reduced fuel requirements:** SMRs have reduced fuel requirements. Power plants based on SMRs may require less frequent refuelling, **every 3 to 7 years**, in comparison to **between 1 and 2 years for conventional plants**. Some SMRs are **designed to operate for up to 30 years without refuelling**.
- **Concerns related to SMRs**
  - **Nuclear waste generation**: SMRs are inferior to conventional reactors with respect to radioactive waste generation, management requirements, and disposal options
  - **Economies of scale:** SMRs produce relatively small amounts of electricity in comparison to large nuclear power plants. SMRs will, therefore, cost more than large reactors for each unit (megawatt) of generation capacity.
  - **Lack of regulations:** Regulatory and other barriers preventing their construction are substantial making process of getting safety approvals for SMRs longer and more expensive.
- The **International Atomic Energy Agency (IAEA) has established the Platform on SMRs and their Applications**, a one-stop shop for countries to coordinate support related to all aspects of SMR development.
  - The IAEA is the **world's centre for cooperation in the nuclear field.**
  - It was **set up as the world's "Atoms for Peace" organization in 1957** within the United Nations family.
  - The Agency works with its **Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.**

Conclusion

SMRs hold the promise for successful commercial deployment by offering enhanced safety, security, and flexibility for all applications. **IAEA has established the Platform on SMRs and their Applications**, a one-stop shop for countries to coordinate support related to all aspects of SMR development

However, this must be advanced by enhanced and informed licensing that recognizes the advantages of the SMR safety design, fabrication quality, reduced public risk, and deployment flexibility.

7.5. NEWS IN SHORTS

7.5.1. QUANTUM KEY DISTRIBUTION (QKD)

- Bengaluru-based start-up QNu labs recently innovated advanced secured communication through quantum key distribution (QKD) systems.
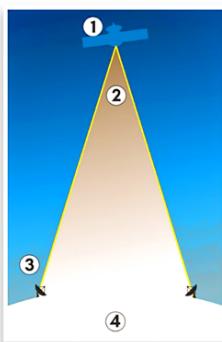
- QKD system is developed by QNu Labs **under aegis of Innovation for Defence Excellence (iDEX)**.
  - iDEX is **operational framework of Defence Innovation Organization** (DIO), a special purpose vehicle under Ministry of Defence.

- Objective of iDEX is **to create an ecosystem to foster innovation, entrepreneurship and technology development,** specifically in Defence and Aerospace sector.
- QKD is a secure **communication technology that uses quantum physics** to construct a cryptographic protocol.
  - It **allows two parties to generate a shared secret key** that can be used to encrypt and decrypt messages.
- **In traditional cryptography,** security is usually based on the fact that an **adversary is unable to solve a certain mathematical problem** while in QKD, **security is achieved through laws of quantum physics.**
- Two such laws are **Superposition and Entanglement.**
  - **Superposition** means that each quantum bit (basic unit of information in a quantum computer) can represent both a 1 and a 0 at the same time.
  - In **quantum entanglement**, subatomic particles become entangled (linked) in such a way that any change in one disturbs the other even if both are at opposite ends of the universe.

How does Quantum Key Distribution works?

Quantum key distribution allows user to agree on a way of transmitting their data without the worry that someone is listening in

- Sender instructs satellite to generate 2 entangled photons of particular quantum state
- Photons are beamed to both ground stations
- Sender and receiver compare the quantum states of the photons to check if they have been intercepted. If not they use the photons to create a code to encrypt the date
- Encrypted data can then be sent securely via conventional means

7.5.2. DRAFT GUIDELINES ON ANONYMISATION OF DATA (AOD)

- Ministry of Electronics and Information Technology (MeitY)**, through **e-Governance Standards and Guidelines,** has released **drafts on AoD Guidelines and Mobile Security Guidelines (MSG)** for public consultation.
  - These guidelines have been prepared by **Standardization Testing Quality Certification (STQC) Directorate and Centre for Development of Advanced Computing (C-DAC) Pune.**
- Data Anonymisation is a **processing technique that removes or modifies direct and indirect personally identifiable attributes** to eliminate or significantly reduce identifiability.
  - Data which has undergone the process of anonymization is referred to as **anonymized data.**

- **Purpose of AoD Guidelines:**
  - **Enhance privacy protection** through case-dependent data anonymisation while processing, publishing, storing or sharing data with other entities.
  - With integration of multiple services, implementation of anonymisation principles will **help design privacy cognizant systems.**
  - **Provide Standard Operating Procedures** to enable data anonymisation concept be implemented by various organisations and government departments.
- MSG have been **proposed to achieve mobile security goals** such as confidentiality, integrity, authentication, accountability, etc.
  - MSG **categorises mobile security into three sections i.e.** mobile device security, mobile communication security, and mobile services security.
  - It defined **three categories of mobile security control measures** (policy-based measures, technology-based, and user-oriented measures) to **protect privacy, sensitive data, and security of transactions.**

7.5.3. SMART INDIA HACKATHON (SIH) 2022

- **PM addressed Grand Finale** of SIH 2022.
- Launched in 2017, **SIH is a nationwide initiative** (by Ministry of Education) **to provide students a platform to solve** some of pressing **problems we face in our daily lives.**
  - It provides students a **platform to offer out-of-the-box ideas** and thus inculcate a culture of product innovation and a mindset of problem solving.
  - It is **open for both school (6th-12th) and College going students** under SIH Junior and SIH Senior respectively.
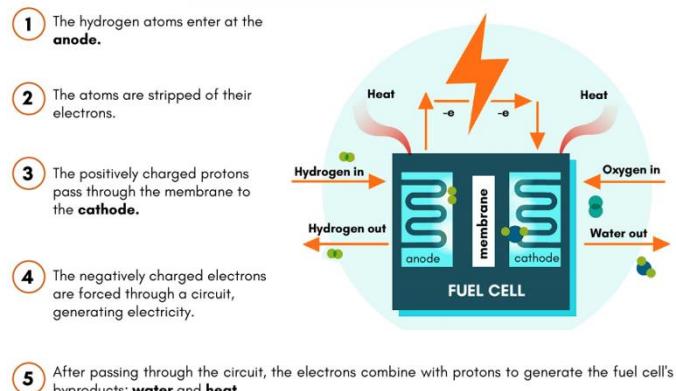
7.5.4. ITU'S- REGIONAL STANDARDIZATION FORUM (RSF)

- **Ministry of Communications hosted the International Telecommunication Union's (ITU) RSF** for Asia and Oceania region.
- ITU is the **United Nations specialized agency** for information and communication technologies – ICTs.
- RSF is a **platform for exchange of ideas, discussing standardization topics** like Sustainable Digital Transformation and **Role of ITU Standards, Harnessing Technologies** for Digital and Financial Inclusion in Emerging Markets, evolving Data Value Chain and Digital Health.

7.5.5. HYDROGEN FUEL CELL BUS

- India's first truly indigenously developed hydrogen fuel cell bus was launched recently.
- It is **jointly developed by Council of Scientific and Industrial Research** (CSIR) **and private firm KPIT Technologies Ltd.**
- Fuel cell is an **electrochemical energy conversion device** which **generates electricity**, **heat and water** by **using hydrogen and air (see image).**
- **Applications of Fuel Cell can be classified into 3 broad sectors:** Transport, Portable (military applications, Auxiliary Power Units, laptops etc.), Stationary (power to industrial/commercial/residential buildings etc.),
- **Benefits of Fuel Cell**
  - o **Lower operational costs** due to **higher efficiency** and **high energy density** of hydrogen.
  - o **Meet climate change goals** through **decarbonization** of transportation.
  - o **Noise-free operation and modular construction** allow its further application in small residential, automotive, portable electronic devices.
  - o **Overcome issues of smog and health problems** caused by air pollution.
  - o **Operating times** are much **longer than batteries.**
- **Challenges:** Lack of infrastructure for production, transportation, flammability and storage of hydrogen gas, High cost, Technological challenges like system size, management of air, heat and water etc.

How Fuel Cells Work

1. The hydrogen atoms enter at the **anode.**
2. The atoms are stripped of their electrons.
3. The positively charged protons pass through the membrane to the **cathode.**
4. The negatively charged electrons are forced through a circuit, generating electricity.
5. After passing through the circuit, the electrons combine with protons to generate the fuel cell's byproducts: **water** and **heat.**

7.5.6. ROSHINI
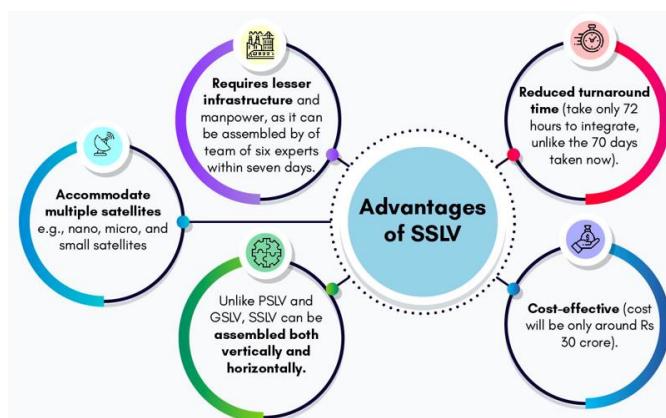
- It is **India's first Saline Water Lantern** which uses **sea water as electrolyte** between specially designed electrodes to power the LED lamps.
  - o **Developed by:** National Institute of Ocean Technology (NIOT), Chennai.
  - o Technology can also be used in hinterlands, **as any saline/normal water mixed with common salt can be used to power the lantern**

- **Significance:**
  - o **Cost-effective** and feasible to operate.
  - o Bring **'Ease of Living' to the poor and needy,** particularly fishing community.

7.5.7. SMALL SATELLITE LAUNCH VEHICLE (SSLV)

- ISRO's maiden small satellite launch vehicle (sslv) flight failed to deploy satellites. Satellites were **injected into a wrong elliptical orbit** (instead of circular).
  - o An orbit is **curved path that an object in space** (such as a star, planet, moon, asteroid or spacecraft) **takes around another object** due to gravity.
- **About SSLV**
  - o It is a **three-stage all solid vehicle** with the capability to launch up to 500 kg satellite mass into 500 km low earth orbit (LEO).
  - o It aims to **cater to the emerging market for the launch of small satellites** into LEOs.
 - o It is the **smallest vehicle** at **110-ton mass at ISRO.**

7.5.8. OBSERVATORY TO MONITOR SPACE

- **Digantara**, a space sector start-up of India, is **going to set-up India's first commercial Space Situational Awareness (SSA) observatory** in Garhwal region of Uttarakhand.
  - o It will be **able to track objects as small as 10 cm in size** orbiting the earth.
- SSA refers to **knowledge of space environment**, **assessment of any threats to space activities** and implementation of necessary mitigation measures to safeguard space assets.
- **Significance of SSA Observatory**
  - o **Help India track any activity or events in deep space** including that of space debris hovering over the region.
  - o Fill the **crucial gap in SSA observations as there is a lack of such facilities** between Australia and southern Africa.

- o **Reduce the potential for collisions between satellites and other spacecraft** by making more accurate predictions of their location, speed, and trajectory.
  - o Help to **monitor events occurring in deep space**, especially in geostationary, medium-Earth, and high-Earth orbits.
  - o **Give India indigenous capabilities to monitor space activity of military satellites** over the subcontinent, providing a strategic advantage.
- **Steps taken SSA**
  - o ISRO's SSA Control Centre, **"NETRA (Network for Space Objects Tracking and Analysis)"** in Bengaluru, to detect debris and other hazards to Indian satellites.
  - o **India and US** have **signed bilateral SSA arrangement.**
- **SSA covers three main areas**
  - o **Space Surveillance and Tracking** (SST) of man-made objects.
  - o **Space Weather** (SWE) **monitoring** and forecast.
  - o **Near-Earth Objects** (NEO) **monitoring** (only natural space objects)

7.5.9. JUPITER

- NASA's James Webb Space Telescope (JWST) captured new images of Jupiter.
- New images of Jupiter **presented its massive storms, colourful auroras, faint rings and two small moons** — Amalthea and Adrastea.
  - o **JWST, an infrared flagship observatory**, is an international collaboration between NASA, European Space Agency, and Canadian Space Agency **to probe cosmos to uncover history of the universe.**
- **About Jupiter**
  - o **Position:** It is the fifth planet from our Sun and is also the largest planet in solar system.
  - o **Rings:** It has several rings, but unlike Saturn, **Jupiter's rings are very faint and made of dust, not ice.**
  - o **Shortest day:** It has the shortest day in the solar system (takes only about 10 hours).
  - o **Moons:** Jupiter has 79 moons (Saturn has maximum at 82) and its four largest moons – Io, Europa, Ganymede, and Callisto.
  - o **Great Red Spot:** It has big storms like Great Red Spot, which has been going for hundreds of years. Recently, three smaller ovals merged to form **Little Red Spot**, about half the size of great red spot.
  - o **Auroras:** Jupiter's magnetic field also causes spectacular **aurorae at the planet's poles.** Auroras are **caused by interaction of energetic particles of solar wind with atoms of upper atmosphere.**

7.5.10. NASA POSTPONES LAUNCH OF ARTEMIS I MISSION

- NASA's Artemis mission is aimed at **exploring Moon with specific objective of getting human beings back on lunar surface** and possibly beyond, to Mars and elsewhere.
  - o **Artemis I mission was an uncrewed tested flight**, while Artemis 2 will have a crew.
  - o **Lunar landing** is only expected in **Artemis III**.
- Artemis 1 was going to **be the first flight of new Space Launch System (SLS) rocket** (one of the most powerful) **that will propel Orion spacecraft**, designed to meet demands of human missions to deep space.
- There has been **renewed interest on Moon** with several countries planning lunar missions in coming years.
  - o These include **Chandrayaan-3** (India), **Pathfinder Lunar Orbiter** (Korea), **Luna 25** (Russia), **SLIM** (Japan) etc.
- **Reasons for renewed interest**
  - o **Economic**: Helium-3 (an isotope of the element helium) is abundant on Moon, but rare on Earth. It is a potential fuel for nuclear fusion.
  - o **Base for future space exploration**: To test how life reacts to harsh conditions of space.
  - o **To study Earth**: as Moon and Earth share a common past.

7.5.11. EARTH RECORDS SHORTEST DAY

- According to a report, **29 July 2022 has set the record for the shortest day** as Earth completed a full spin in 1.59 milliseconds less than its standard 24 hours.
  - o Before this, the **Earth had recorded its shortest day on July 19, 2020**, when it completed a full spin in less than **1.47 milliseconds** than the **standard 24-hour duration**.
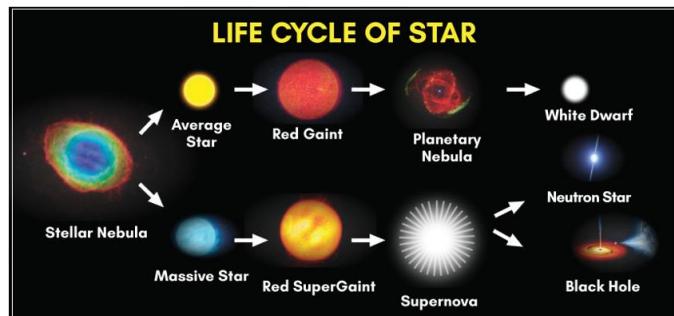
- Researchers still don't know the reason for the increased speed of Earth's rotation but they **speculate that processes in the inner or outer layers of the core, oceans, tides, or even changes in climate could be the reason.**
  - Some also believe that the movement of **Earth's geographic poles across its surface, or the "Chandler wobble" could also be the reason.**
    - ✓ The **Chandler wobble** is the change in the spin of Earth on its axis.
- **In general, Earth's spin is slowing down**, although only ever-so-gradually. **But over the last few years, Earth's spin is slightly faster**.
  - **To combat the long-term slowdown in the Earth's rotation** which is caused by the constant melting and refreezing of ice caps, leap second to our calendars were added occasionally.
  - Leap second was **first introduced in 1972 by the International Earth Rotation and Reference Systems Service.**
    - ✓ Leap seconds are also **used to measure the imprecise nature of observed solar time (UT1).**
  - 27 leap seconds have been added since 1972. The last leap second added was on December 31, 2016.
- Many researchers believe that if Earth continues to rotate at an increasing rate, **negative leap seconds would need to be introduced** to keep the rate of the planet orbiting the Sun consistent with the measurement from atomic clocks.
  - Atomic clocks are **designed to measure the precise length of a second**, the base unit of modern timekeeping.
  - With an **error of only 1 second in up to 100 million years**, atomic clocks are among the most accurate timekeeping devices in history.
- However, the **introduction of negative leap second can confuse smartphones, computers and communications systems.**
  - This would be **catastrophic for IT systems and software** that are reliant on time. Also, such time jumps will crash programmes or corrupt data owing to the inconsistencies in timestamps on the storage.

7.5.12. BETELGEUSE

- It is the **bright red supergiant** on the shoulder of Orion. A red giant is a dying star in the final stages of stellar evolution.
- In late 2019, Betelgeuse star **got fainter than ever before.**
- Now the researchers believe that in 2019 Betelgeuse **likely underwent an enormous surface mass ejection**

(SME) where it ejected **400 billion times more mass than a typical event on other stars.**
  - An SME happens when a star **expels large amounts of plasma and magnetic flux** into the surrounding space. However, the exact cause behind this SME is unclear.

LIFE CYCLE OF STAR

7.5.13. EXO-MOONS

- Scientists at **Indian Institute of Astrophysics** have **developed a model to trace habitable exo-moons with the help of the James Webb Space Telescope** (JWST).
  - Launched in 2021, JWST is **NASA's largest and most powerful space telescope** to probe the cosmos to uncover the history of the universe.
- **About Exo-Moons**
  - They are **natural satellites that revolve around exoplanets** (planets orbiting stars other than the Sun).
  - So far, **5000 exoplanets have been discovered** by using several telescopes (Kepler Hubble space telescopes etc).
  - However, the **natural satellites or exo-moons around any of these planets still remain untraced**.

7.5.14. PEN PLUS STRATEGY

- Africa has adopted the PEN Plus strategy to tackle **severe non-communicable diseases (NCD)** such as type 1 diabetes (T1D), rheumatic heart disease (RHD) and sickle cell disease.
  - Package of Essential NCD Interventions (PEN) was adopted by the WHO in 2010 to support the **decentralization of services to the primary care level.**
- "PEN-Plus" refers to the approach to **address severe NCDs** through an **integrated outpatient service at first-level hospitals**.

7.5.15. VISCERAL LEISHMANIASIS/KALA-AZAR

- The Government has set the **target to eliminate Kala-azar by next year** from the country.
  - out of 633 Kala-azar endemic blocks, 625 blocks have achieved the elimination target last year.

- It is a non-tropical disease caused by a **protozoan parasite of genus Leishmania and spread by sandfly bites.**
- is the **second deadliest parasitic disease** in the world after malaria.
- It affects the **spleen, liver and bone marrow.**
- In India, it is endemic to **Bihar, Jharkhand, Uttar Pradesh and West Bengal.**

7.5.16. TOMATO FLU (TOMATO FEVER)

- Tomato flu has been **reported from Kerala, Tamil Nadu, Haryana, and Odisha**.
- It is **characterised by fever, joint pain, and red, tomato-like rashes** usually seen in **children below age of five years and adults with weaker immunity.**
  - It is **caused by a virus** and shows symptoms similar to those of COVID-19 but is **not related to SARS COV-2.**
  - There is **no specific treatment or vaccine available** for disease.

7.5.17. LANGYA HENIPAVIRUS (LAYV)

- China has reported 35 cases of a novel **Langya Henipavirus**.
- Part **of genus Henipavirus**, it is a **zoonotic virus** first detected in 2018 with **shrews** as its most likely natural hosts.
  - It is also detected among **domestic goats** and **dogs**.
- **Symptoms**: Fever, fatigue, cough, loss of appetite etc. with health impacts such as Renal and Liver Failure.

7.5.18. LUMPY SKIN DISEASE

Recently, nearly 57,000 cattle across India were killed due to a viral infection called the Lumpy Skin Disease (LSD).

About Lumpy Skin Disease (LSD)

- LSD is a **vector-borne pox disease** that is **caused by Capripoxvirus** and is an emerging threat to livestock worldwide.
  - It is **genetically related to the goat pox and sheep pox virus** family.
- LSD **infects cattle and water buffalo mainly through vectors** such as blood-feeding insects.
  - Signs of infection include the appearance of circular, firm nodes on the animal's hide or skin that look similar to lumps.
  - **Infected animals immediately start losing weight** and may have fever and lesions in the mouth, along with a reduced milk yield.
- The disease **has been endemic in most African countries,** and since 2012 it has **spread rapidly** through the Middle East, Southeast Europe and West and Central Asia.
  - LSD was **reported for the first time in India in 2019** from Odisha.
- **The disease is not zoonotic,** meaning it does not spread from animals to humans, and humans cannot get infected with it.
- Recently**, Lumpi-ProVacInd** vaccine has been developed by **Indian Council of Agricultural Research (ICAR)** – National Equine Research Center, Hisar (Haryana) in collaboration with the **Indian Veterinary Research Institute**, Izzatnagar (Bareilly).
  - It is a **homologous, live attenuated vaccine** specifically targeted to protect cattle against LSD virus.

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

8. CULTURE

8.1. CHOLA ERA IDOLS

Why in news?

Recently, **Tamil Nadu Idol Wing CID** submitted documents to US officials through the Central government to **retrieve six exquisite Chola-era bronze idols**.

More on news
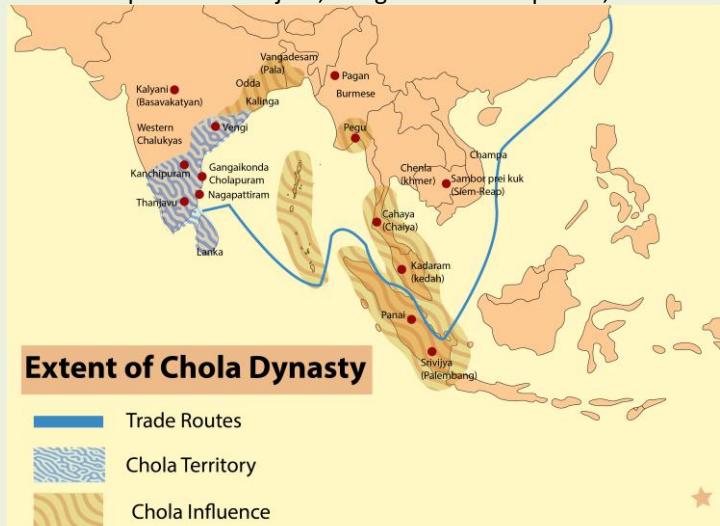
- The idols belong to **Nareeswara Sivan Temple** at **Veeracholapuram** in **Kallakurichi district**, constructed by **Rajendra Chola I** of **Chola Dynasty**.
- Six stolen idols include antique Panchaloha idols of **Tripuranthakam, Thirupurasundari, Nataraja, Dakshinamurthy Veenadhara, and Saint Sundarar** with his wife **Paravai Natchiyaar**.
  - Panchaloha idols are traditional **five metal alloys** prescribed by **Shilpa Shastras**.
  - They were made using **lost wax casting technique**.
- Stolen from India in 1960s, **Antiquities and Art Treasures Act, 1972** makes the export of such items without licence makes it a criminal offence.
  - **Mutual Legal Assistance Treaty (MLAT) in Criminal Matters** between India and U.S allows for mutual assistance on such matters.

About Chola Sculpture

- Chola period is well **known for its metal sculpture**. Chola bronzes sculptures were made **using the cire perdue or lost-wax casting technique** that is still practised today in India and elsewhere.
  - **It is a method of metal casting in which a molten metal is poured into a mold that has been created by means of a wax model**.
  - Once the mold is made, the wax model is melted and drained away.
- **Chola Bronze Nataraja sculpture,** dancing Shiva, the **presiding deity of Chola dynasty**, is world famous for its beauty and spiritual meaning. It has the following features-
  - Shiva **holds in his upper right hand the damaru (hand drum that made the first sounds of creation)**.
  - His upper **left hand holds agni (fire that will destroy the universe)**.
  - With his **lower right hand, he makes abhayamudra (gesture that allays fear)**.
  - **Dwarflike figure** being trampled by his right foot **represents apasmara purusha (illusion, which leads mankind astray)**.
  - Shiva's **front left hand**, pointing to his raised left foot, **signifies refuge for troubled soul**.

About Rajendra Chola I (1014-44 AD)

- Rajendra Chola I, also known as **Gangaikondacholapuram**, was son of **Rajaraja Chola** (985-1014 AD).
- He made contributions to **art, religion** and **literature** including **Gangaikondacholapuram temple,** built after victory over **Pala King Mahipala**.
  - He assumed titles **Parakesari** and **Yuddhamalla**.
- **Chola's extended their influence** from banks of **Ganges** to Southeast Asian countries (see **image**).
  - With the evolution of time, Chola dynasty had build great capitals like Tanjore, Gangaikondacholapuram, etc.

Extent of Chola Dynasty

	Trade Routes
	Chola Territory
	Chola Influence

NATARAJA SCULPTURE

Throughout the Chola dynasty, there was a constant improvement, advancement and refinement of art and architecture. While the Cholas ruled for a handful of centuries, their artistic influence and cultural contribution have stood the test of time and continue to endure to this day.

About Chola Art and Architecture (Dravidian Style)
- Chola art and architecture had the **influence of Pallavas and other contemporary art and architecture schools**, which in turn helped them to **elevate the Dravidian form to greater heights**.   - Chola temples were categorised in two groups – **Early Temples and Later Temples.**   **Early temples i.e. Vijayalaya temple** are influenced with **Pallava architecture** while **later temples** i.e. Brihadishwar temple of Thanjavur and Gangaikonda Cholapuram have **Chalukya influence.**   **Temples were surrounded by high boundary wall unlike nagara.**   - Under **Rajaraja Chola (985–1014 AD),** the massive **Brihadishwara temple at Thanjavur** was built.   - The temple has huge structure, square in plan, encompassed by a massive **colonnaded perimeter wall (prakara)** with shrines dedicated to deities of direction **(ashatadikpalas)**.   - Other prominent features include main entrance with a **tower (gopura),** an entrance porch, two adjoining **prayer halls (mandapas), vestibule (antarala), main temple tower (vimana), and inner sanctum (garbhagriha)** with many sculptures of Shiva and other personalities.   - His son **Rajendra Chola I (1014–1044 AD)** constructed the **Brihadishwara temple at Gangaikonda Cholapuram.**   - The temple's inner sanctum is accessed through a beautiful pillared hall (subsequently rebuilt).   - Its **three entrances are guarded by pairs of monumental guardian deities (dwarapalas).**   - The **Airavatesvara temple at Darusaram built by Rajendra Chola II (1143–1173 AD)**.   - All three temples, dedicated to Shiva, designated as **Great Living Chola Temples by UNESCO**, were inscribed on the **World Heritage List in 1987.**   - Chola paintings were drawn on **walls of the narrow passage** that surrounds the shrine of temples.   - Painting in temple show narration related to **Lord Shiva, Shiva in Kailash, Shiva as Tripurantaka, Shiva as Nataraja**, a portrait of the patron Rajaraja and his mentor Kuruvar, **dancing figures** etc.

8.2. NEWS IN SHORTS

8.2.1. ADICHANALLUR

Recently, Archaeological Survey of India (ASI) has **unearthed a gold diadem from a huge burial urn** while excavating the **museum site at Adichanallur**, Tamil Nadu.

Importance of Adichanallur Site

- Adichanallur is **located on the lower valley of the Tamirabarani river** in present-day Thoothukudi district in southern Tamil Nadu.
  - **Korkai, ancient seaport mentioned in Sangam literature,** is about 25 km from Adichanallur.
- It is a **megalithic site in Tamilnadu,** the first site to be **excavated in India by German explorer Andew Jagor** in 1876 and **later by Alexander Rea**, a former superintendent of the ASI, in 1902-03.
  - Experts believe, Adichanallur not only showcases **megalithic culture**, but also transitions to the **Iron age and the Sangam period**.
  - Earliest Iron Age sites in South India are Hallur, Karnataka and Adichanallur of Tirunelveli district, Tamil Nadu at around 1000 BC
- **Skeleton found at Adichanallur megalithic burial site** are said to be of **different ethnic origins**.
- Most skeletons were non- Indians. This indicates the presence of global traders.

8.2.2. INDIAN KNOWLEDGE SYSTEMS (IKS) INITIATIVE

- Raja mantri chor sipahi, posham pa, gilli danda etc. are among **75 indigenous games that will be introduced in schools** under IKS initiative.
- IKS is an **innovative cell under Ministry of Education** at All India Council for Technical Education (AICTE).
- It is established **to promote interdisciplinary research** on all aspects of IKS, **preserve and disseminate IKS** for further research and societal applications.
- It aims **to spread rich heritage and traditional knowledge** in field of Arts and literature, Agriculture, Basic Sciences, Engineering & Technology, Architecture, Management, Economics, etc.

8.2.3. ANANG TAL LAKE

- **Ministry of Culture** has declared **Anang Tal Lake as a monument of national importance** under Ancient Monuments and Archaeological Sites and Remains **(AMASR) Act, 1958.**
- Anang Tal Lake, dated back to 1060AD, is situated to **north of Jog Maya temple** and northwest of **Qutub Complex** in South Delhi.

- o It is ascribed to **Anangpal II** of **Tomar Dynasty** that ruled parts of present-day **Haryana and Delhi** between **8th and 12th century**.
- **Anangpal II** was instrumental in populating Indraprastha and made **Dhillikapuri (Delhi)** as the capital of **Tomar Dynasty**.
  - o He built **Lal Kot** (later merged into **Qila Rai Pithora** by **Prihviraj Chauhan**) and also believed to bring **Iron Pillar of Mehrauli from Udayagiri** in **Central India.**
  - o He was **succeeded by his grandson Prithviraj Chauhan**, who was defeated by Ghurid forces in Battle of Tarain.
- National Monuments are ancient monuments and all archaeological sites and remains which have been deemed/declared to be of national importance under:
  - o **Section 3** covering monuments declared by **Ancient and Historical Monuments and Archaeological Sites and Remains (Declaration of National Importance) Act, 1951.**
  - o Section 126 of States Reorganisation Act, 1956.
- **Archaeological Survey of India** is responsible for protection, conservation and maintenance of such monuments.

CRITERIA FOR DECLARATION OF MONUMENT AS NATIONAL IMPORTANCE

Ancient monument or archaeological site is **not less than 100 years old.**

It has **special historical, archaeological or artistic interest.**

Interested public do not have major objections to declare them as of national importance

8.2.4. UNESCO FELIX HOUPHOUET-BOIGNY PEACE PRIZE

- Former German Chancellor **Angela Merkel has won UNESCO Felix Houphouet-Boigny Peace Prize 2022 for her 'efforts to welcome refugees'.**
- It **honours living individuals and active public or private bodies or institutions.**
  - o It is awarded to those who have **made a significant contribution to promoting, seeking, safeguarding or maintaining peace**, in conformity with the Charter of the United Nations and the Constitution of UNESCO.
  - o This prize was established in 1989.
  - o **First Felix Houphouet-Boigny Peace Prize** was given to Nelson Mandela and Frederik W. de Klerk in 1991.

SMART QUIZ

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MONTHLY CURRENT AFFAIRS REVISION 2023 GS PRELIMS MAINS

16 JULY 5 PM

- Detailed topic-wise up-to-date contextual understanding of all current issues.
- Opportunities for discussion and debate through "Talk to expert" and during offline presentations in class.
- Assessment of your understanding through MCQs and Mains oriented questions after each topic.
- Two to three classes will be held every fortnight.
- The Course plan (60 classes) covers important current issues from standard sources like The Hindu, Indian Express, Business Standard, PIB, PRS, AIR,RS/LSTV, Yojana etc.

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हिंदी माध्यम में भी उपलब्ध

9. ETHICS

9.1. MANIPULATION OF SPORTS COMPETITIONS
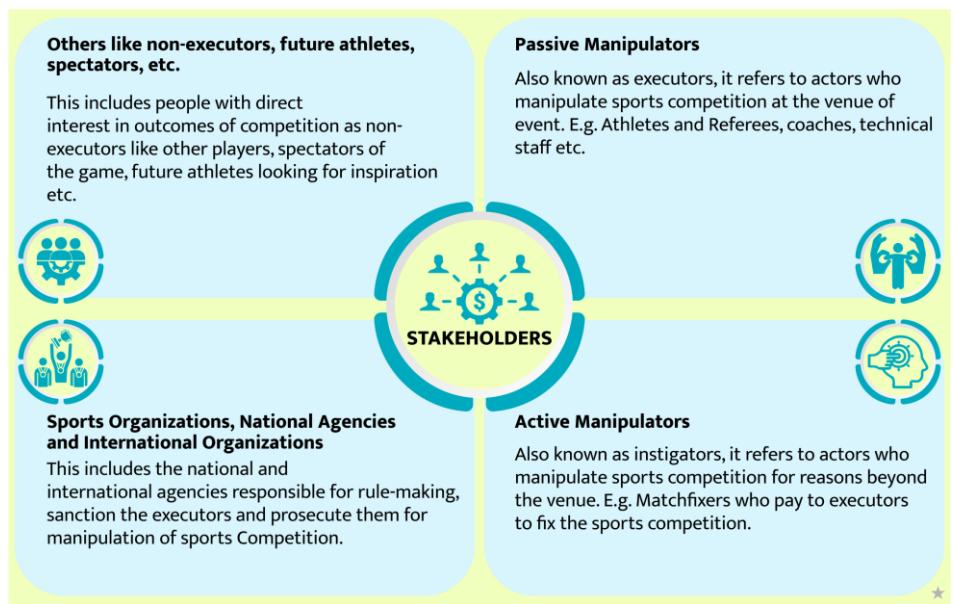
Why in News?

"Tennis coach Max Wenders banned for match-fixing", "The International Betting Integrity Association (IBIA) generated 986 alerts globally in different sports between 2017 and 2020.". These headlines highlight the growing instances of manipulation in sports. In this context, the **Interpol's Match Fixing Task Force (IMFTF**, created in **2011**), has called for **harmonized global efforts** to curb **competition manipulation**.

What is manipulation of sports competitions?

Sport (or sports) is defined as 'the competitive physical activities or skills of humans, through casual or organized participation, with the aim to use, maintain or improve physical ability and skills while providing entertainment to participants, and in some cases, spectators'.

Others like non-executors, future athletes, spectators, etc.
This includes people with direct interest in outcomes of competition as non-executors like other players, spectators of the game, future athletes looking for inspiration etc.

Passive Manipulators
Also known as executors, it refers to actors who manipulate sports competition at the venue of event. E.g. Athletes and Referees, coaches, technical staff etc.

STAKEHOLDERS

Sports Organizations, National Agencies and International Organizations
This includes the national and international agencies responsible for rule-making, sanction the executors and prosecute them for manipulation of sports Competition.

Active Manipulators
Also known as instigators, it refers to actors who manipulate sports competition for reasons beyond the venue. E.g. Matchfixers who pay to executors to fix the sports competition.

- The organized participation is governed by **various sports organisations** who **frame rules** and **patterns of behavior** which should govern the activity.
  - E.g., **Olympic Charter** codifying the **fundamental principles of Olympism**, the rules and bye-laws adopted by the **International Olympic Committee**; promoting the values of **excellence, friendship and respect** while protecting the **integrity and fairness of games** to keep the **unpredictability of outcome**.
- **Manipulation of sport competitions** attempts to **remove all or part of the unpredictability of outcome**, i.e., to control the outcome of a competition or alter the natural course of a sporting event, or part of it to obtain an undue advantage for oneself or for others.

What is the motivation for sports manipulation and how is it done?

- **Aim of Manipulation of Sports Competition**:
  - **To obtain a Sport Advantage illicitly** from an event for the benefit of a team, athletes, or club. E.g., to avoid relegation, to achieve a certain rank, to qualify for other tournaments etc.
  - **To obtain a Non-Sport Advantage** by using sports just as a tool to do so, i.e. direct financial benefit with no regard for the sporting result. E.g. use of sports for **corruption, bribery, fraud and money laundering** (amongst others).
- **Forms of Manipulation of Sports Competition:**
  - **Match-Fixing**: Any improper alteration of a competition to win money through betting on their own sport or to ensure that a third party wins their bet. E.g. the IPL match-fixing scandal in 2013.
  - **Insider Information**: Passing on private information (key tactics, injuries, etc.) which is limited to few (athletes, officials and support personnel) and can be used for betting purposes. E.g. passing information on pitch, team etc. in cricket.
  - **Doping**: Use of a banned substance or technique to improve athletic performance, especially in strength-based sports. E.g. use of blood doping technique by Lance Armstrong.
  - **Tanking**: Deliberately losing an event to gain an undue sporting advantage in a competition, like facing an easier opponent in the next round.
  - **Other forms of Manipulation of Sports Competition** include conflict of interests, bad governance, etc.

What are the ethical issues in manipulation of sports competitions?

- **Unfair competition:** It gives rise to unfair competition, discouraging honest sportspersons to follow the sports rules under trying circumstances.
- **Lack of Sportsmanship:** Manipulation of sports competition brings disrespect for the team, opponent, fans etc. with greed for money or fame taking away the positive and transformative power of sports.
- **Disappointment for the viewers:** People enthusiastically watch sports with an emotional attachment. News of sports manipulation may lead to lack of trust among the viewers and feeling of being cheated and resentment among the society.
- **Blow to a country's reputation:** It puts the country on the global map for match-fixing, doping etc. related violations.
  - E.g., in **November 2015**, the **Russian Athletics Federation** was suspended due to the state-organized doping system of athletes for national squad selections.

Long-term prevalence of sports manipulation practices could be detrimental to overall interest in sports.

What are the challenges in addressing the manipulation of sports competitions?

- **Rising size and network of sports betting market** with a more global and more complex structure due to emerging uses of technology, big data, and social media.
- **Delays in updating the list of forbidden substances** when compared to the emergence of new products and in publication of doping tests.
- **Targeting entourage of athletes** and **grooming** of **young players** for sports manipulation.
- **Emergence of Digital Cheating** (also called digital doping or e-doping or technological cheating/hacking) in E-Sports and Virtual gaming to manipulate data. E.g. in e-cycling competitions in 2019.
- **Limitations on the Jurisdiction of Sports Federations** in punishing the active manipulators.
- **Involvement of organized crime syndicates** due to increased possibility for exploitation for undue gain.
- **Lack of a uniform regulatory ecosystem across countries** making it difficult to punish active manipulators.
- **Issues of corruption in governance bodies**.

Way Forward

The increasing financial stakes, gains, for stakeholders and States alike from sports demand a **3 Pillar Strategy** for collective action against Manipulation of sports competition. This includes:

- **Intelligence and Investigations** to identify the manipulations, how (modus operandi) the manipulators do so and share it with other nations/bodies.
  - Having an **e-portal** for athletes, coaches and support staff to report such manipulations can help in it.
- **Awareness Raising and Capacity Building** to determine the principles for respectful behavior and tackle sports manipulation through **purely sporting means**, i.e., education to ensure integrity and transparency in the conscuts of an athlete.
  - It can also help in creating **cognitive dissonance** among elite athletes through visualization of how guilty they might feel when caught for sports manipulation.

> **Macolin Convention**
> - The Council of Europe Convention on the Manipulation of Sports Competitions, or the Macolin Convention is a **legal instrument** and the **only rule of international law** on the manipulation of sports competitions
> - It entered into force on **September 1, 2019** and has been signed by **32 countries** and ratified by **seven**.
>   - India is not a part of it.
> - It **requests public authorities** to co-operate with sports organisations, betting operators and competition organizers **to prevent, detect and sanction** the manipulation of sports competitions.
> - It proposes a **common legal framework** for an **efficient international cooperation** to respond to manipulation in sports.

- **Proper Regulation and Legislation** to
  - **Plug the legislative and institutional gaps** through a national framework against sports manipulation.
  - **Lay down disciplinary and criminal sanctions** of specific sports manipulation; and
  - **Ensure National and International cooperation, coordination, and exchange of information** among all key stakeholders at national, bilateral, and multilateral level. E.g., to Coordinate with INTERPOL's Match Fixing Task Force when conducting investigations.

9.2. TRIAL BY MEDIA: THE DICHOTOMY BETWEEN FREE SPEECH AND FREE TRIAL

Introduction

''The media, particularly the electronic and social media, are running "kangaroo courts."- Chief Justice of India N V Ramana. "Trial by media hampers judicial independence of courts and interferes in the trial process." – Judge in the Aarushi Talwar case. These statements bring into light ill-informed, biased, and agenda-driven debates in the media on issues pending in courts. This brings to the fore the issue of Trial by Media and the associated ethical considerations.

What is a Trial by media?

Media Trial is when various newspapers, magazines, television channels, and social media websites interpret facts of a particular case. Media then presents these cases via its medium to the general public, thereby influencing their opinion.

Some of the famous trials by the media in India were seen in the Sushant Singh Rajput suicide case and the Jessica Lal murder case.

Two sides of Media Trials

Trial by media has the potential to **bring to light cases where a miscarriage of justice has happened.** It thereby provides an **opportunity to provide justice** to victims on either side. E.g. the case of Lindy Chamberlin from New Zealand who remained falsely convicted for 8 years on the charge of killing her 2-months old baby in 1982.

> **What are media Ethics**
>
> In the context of the media, "Ethics" may be described as self-restraint, to preserve and promote the trust of the people and to maintain their own credibility and not betray the faith and confidence of the people.
>
> To uphold this idea of media ethics, all people involved in media have to adhere to some principles of Media Ethics.
>
> **PRINCIPLES OF MEDIA ETHICS**
>
> To seek truth and report it | Minimize harm | Act independently | Be accountable and transparent

On the other hand, **they violate the presumption of innocence and the right to dignity and the privacy of suspects**, the accused, victims, witnesses, and persons closely related to them.

Key stakeholders and their role in trial:

Stakeholders	Role in the trial
Accused and their family	• **Impact on individual & family:** Trial by media may positively or negatively impact the accused and his/her family. • **Vulnerability:** They often face social ostracization and difficulties in retaining employment, making them vulnerable to crime and exploitation.
Society	• **Media's responsibility towards society:** It is the duty of a journalist to display facts and present information accurately. But it is also the duty of a journalist to ensure that this does not interfere with the trial. • **Opportunity of Justice in a society:** Media brings the cases of misappropriation of justice to light. They have helped victims like the Late Jessica Lal and the Late Damini of the 2011 rape case in Delhi.
Media in general including social media and other forms	• **Broad spectrum of media:** With the advent of social media the spectrum across which trial by media has widened. It involves media trials by the general public over social media which is generally ill-informed and sensationalized. • **Influencing opinion:** The media trial influences opinion of general populace to a large degree. This manifests upon the victim in the form of comments, discrimination and like.
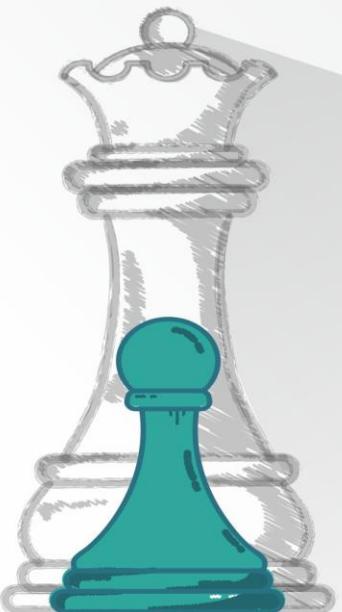
Ethical issues Involved in Media trial

- **Impedes right to fair trial:** Media trial impedes the right to fair trial and justice of a person as well as jeopardises the **rule of law**.
  o Media trials hinder and **obstructs the administration of natural justice.**
- **Misuse of freedom of speech and press:** There have been instances of insensitive language used in news debates which defames the accused as well as unnecessarily.
- **Dignity of Individual:** Media trial can hold the individuals guilty despite reasonable doubt. It thus impairs with the value and respect of the individual.
- **Trust on Government institutions:** Trial by media does not follow the due process of law and can reduce the public trust in institutions of governance like judiciary.
- **Violation of the ethical code of journalism:** Trials by media are seen as a violation of the international code of journalistic ethics.

Way Forward

- **Independent self-regulatory body:** An internal mechanism for adherence to guidelines strict ethical guidelines can be created. E.g., Internal ombudsman and media council of peers.
- **Creating discourse on ethics in digital media:** Media ethics needs to be rethought and reinvented for the media of today.
  o Generating awareness regarding responsibilities of persons acting as sources of digital media and at the same time, sensitization of consumers on how to effectively use digital media.
- **Using technology to our advantage**: Advent of technologies such as Artificial Intelligence and Blockchain could revolutionize the currently used processes. For example, a combination of the two can be used to verify real-time the authenticity of a given news item.
- **Encouraging a central role for civil society:** The advent of digital media has effectively led to the 'democratization' of media. This demands that civil society plays an integral role in regulation, supervision, and also the creation of media content.
- **Avoid prejudice:** The Media should objectively broadcast the news which implies that the media should avoid adjudicating upon any case but only adhere to the publication of the factual part of the case.

10. SCHEMES IN NEWS

10.1. SMILE SCHEME FOR SUPPORT FOR MARGINALIZED INDIVIDUALS FOR LIVELIHOOD AND ENTERPRISE

Why in news?

Recently, the **Social Justice and Empowerment Ministry** launched the **'SMILE-75' initiative for comprehensive rehabilitation of persons engaged in begging in 75 identified municipalities** as a part of the celebrations of 75 years of Independence.

| Objective	Salient Features
• To provide **welfare and rehabilitation to the transgender community and the people engaged in act of begging.** • It **focusses extensively on rehabilitation, provision of medical facilities, counseling, education, skill development, economic linkages etc**. with the support of State Governments / UTs / Local Urban Bodies, Voluntary Organizations, Community Based Organizations (CBOs) and institutions and others.	• **SMILE (Support for Marginalized Individuals for Livelihood and Enterprise) includes two sub-schemes** o **Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons** ✓ It provides **Scholarships for Transgender Students** studying in IX and till post-graduation to enable them to complete their education. ✓ It has provisions for **Skill Development and Livelihood under PM-DAKSH scheme.** ✓ Through **Composite Medical Health** it provides a comprehensive package in convergence with PM-JAY supporting Gender-Reaffirmation surgeries through selected hospitals. ✓ The **Housing facility in the form of 'Garima Greh'** ensures food, clothing, recreational facilities, skill development opportunities, recreational activities, and medical support etc. to the transgender community and the people engaged in the act of begging. ✓ The **Provision of Transgender Protection Cell in each state** will monitor cases of offences and to ensure timely registration, investigation, and prosecution of offences. o **'Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging'**. ✓ It aims to **facilitate people's exit from begging** and create enough opportunities and an ecosystem where a distressed person forced to beg finds an enabling environment for his/ her way out of destitution. ✓ **Any citizen of India engaged in the act of begging will be covered under the scheme.** • **Additionally, Skill development/vocational training will be provided** to attain capacity, capability and desirability so that they can sustain and live a life of dignity by engaging in self-employment. • **Funding:** The Ministry has allocated Rs. 365 Crore for the scheme from 2021-22 to 2025-26. • The **National Portal & Helpline will provide necessary information and solutions** to the Transgender community and the people engaged in the act of begging when needed. **Components admissible for Assistance under the Scheme for beggars:** Survey / identification; Mobilization of person engaged in begging; Rescue /Shelter Home; Comprehensive resettlement
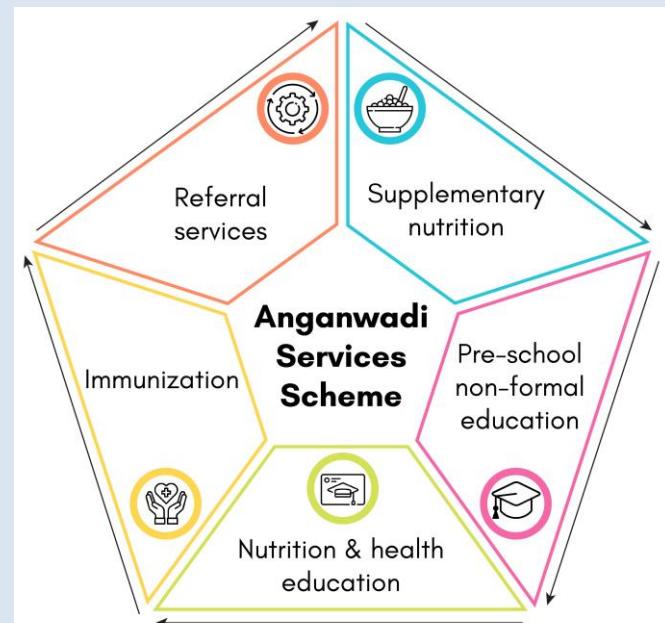
10.2. SAKSHAM ANGANWADI AND POSHAN 2.0

Why in news?

Ministry of Women and Child Development has issued Operational Guidelines regarding implementation of 'Saksham Anganwadi and Poshan 2.0' under National Food Security Act, 2013.

Key features

Objectives	Beneficiaries	Key features

• To contribute to **human capital development** of the country
• Address challenges of **malnutrition**
• Promote nutrition awareness and **good eating habits** for sustainable health and wellbeing
• **Address nutrition related deficiencies** through key strategies
	• **'Children** upto the age of **6 years**;
	• Pregnant Women and Lactating Mothers **(PW&LM)**
	• **Adolescent Girls** (14-18 years) in Aspirational Districts and North Eastern States
		• It is an **ongoing Centrally-sponsored programme.**
		• It is an **Integrated Nutrition Support Programme**.
		    o **Earlier the scheme was known as Anganwadi Services Scheme (ASS)**
		    o **Three of the six services under** are provided by through NHM & Public Health Infrastructure.
		• **Vision:** The programme seeks to address the challenging situation of malnutrition among children up to the age of 6 years, adolescent girls (14-18 years) and pregnant and lactating women.
		• **Important components:**
		    o **Nutrition Support for POSHAN and adolescent girls:** The targeted beneficiaries under the **Scheme for Adolescent Girls** have been revised to Adolescent Girls in the age group of 14 to 18 years in Aspirational Districts of States including Assam and North Eastern States instead of out of school girls in the age group of 11-14 years, as in the earlier Scheme.
		    o **Early Childhood Care and Education** or ECCE [3-6 years] and early stimulation for (0-3 years)
		    o **Anganwadi Infrastructure** including modern, upgraded Saksham Anganwadi
		    o **Poshan Abhiyaan:** The Abhiyaan is focusing on converting the agenda of improving nutrition into a Jan Andolan through involvement of Panchayati Raj Institutions/Villages Organizations/SHGs/volunteers etc. and ensuring wide public participation.
		• It will rest on the pillars of **Convergence, Governance, and Capacity-building.**
		• A programme to support **development of Poshan Vatikas at Anganwadi Centres** to meet dietary diversity gap and leveraging of **traditional knowledge and AYUSH practices** will be taken up.
		• **Millets should be mandatorily supplied** at least once a week.
		• **Beneficiary has to be registered** at the nearest Anganwadi Centre with Aadhaar identification.
		    o A **child's Aadhaar card shall not be mandatory** for availing the benefits under the Scheme. The benefits under the scheme can be accessed using the mother's Aadhaar card.
		    o **Assistance** shall be extended to a **beneficiary in obtaining Aadhaar Card**, in case the beneficiary does not possess Aadhaar identification.
		• The **District Magistrate** shall be the **Nodal Point in the district** for monitoring nutritional status and quality standards.
		• **Anganwadi Workers** shall **elicit community support and participation** in running the programme
		• **Poshan Tracker** application is being leveraged for dynamic **identification of stunting, wasting, under-weight** prevalence among children and **last mile tracking**

of nutrition service delivery. It will **enable real-time monitoring and tracking of all AWCs, AWWs and beneficiaries** on defined indicators.

Funding Pattern

Category	General	Salary	Supplementary Nutrition
States/UTs with Legislature	60:40	25:75*	50:50
NE/Himalayan States (including J&K)	90:10	90:10	90:10
UT Without Legislature	100:0	100:0	100:0

*Salary under Aganwadi Services Scheme is allowed only for selected staff of Aganwadi Services

- **Social Audit** shall be undertaken by stakeholders, such as the Poshan Panchayats, Mothers' Groups and VHSNCs
- The **evaluation** of the Scheme shall be conducted by a **third party** of repute to be **nominated by the Ministry of Women and Child Development.**

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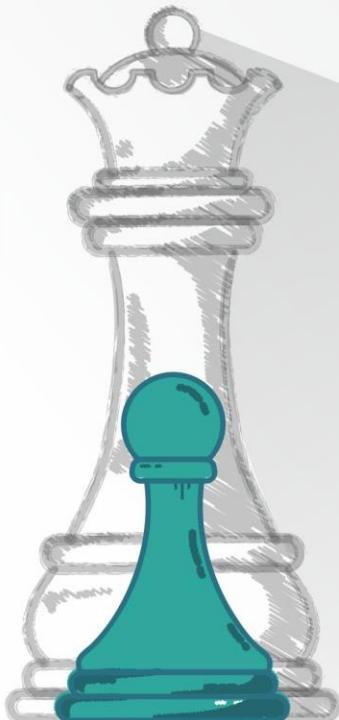
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11. APPENDIX: LIST OF NEW RAMSAR SITES

APPENDIX: LIST OF NEW RAMSAR SITES

TAMIL NADU
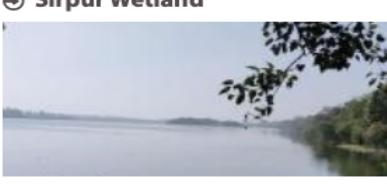
Name of Wetland	Key Features
Karikili Bird Sanctuary	⊕ **Man-made** wetland ⊕ Comprises two rain-fed non-perennial irrigation tanks. ⊕ Site was declared a Birds Sanctuary in 1972. ⊕ **Important Species:** oriental darter, spot-billed pelican, jungle cat, bonnet macaque, jackal, python, etc.
Pallikaranai Marsh Reserve Forest	⊕ **Natural** wetland ⊕ Freshwater marsh and partly saline wetland. ⊕ It serves as an aquatic buffer of the flood-prone Chennai and Chengalpattu districts. ⊕ **Important Species:** Russell's viper, glossy ibis, grey-headed lapwings, Pheasant-tailed jacana etc
Pichavaram Mangrove	⊕ **Natural** wetland ⊕ One of the largest mangrove ecosystems in India, located between the prominent estuaries of the **Vellar and Coleroon** Rivers. ⊕ Features littoral and swamp forest habitats. ⊕ Spawning and nursing ground for **commercially important prawns, mainly white prawn and tiger prawn.** ⊕ **Important Species:** a natural hybrid species- Rhizophora annamalayana, great white-bellied heron, spoon-billed sandpiper, spotted greenshank, olive ridley turtle etc.
Koonthankulam Bird Sanctuary	⊕ **Man-made** wetland ⊕ Consists of irrigation tanks interconnected by a network of canals built a few centuries ago and fed by the **rivers originating from the Western Ghats mountain** range. ⊕ An **Important Bird and Biodiversity Area** (IBA) on the **Central Asian Flyway.** ⊕ **Important Species**: Indian pond heron, Eurasian wigeon, spot-billed pelican, oriental darter, Northern pintail etc.
Gulf of Mannar Marine Biosphere Reserve	⊕ **Natural** wetland ⊕ **First Marine Biosphere Reserve** in South & South -East Asia. ⊕ Classified as **Marine National Park, Important Bird Area,** and **UNESCO Biosphere Reserve.** ⊕ Local communities are mainly Marakeyars. ⊕ **Important Species:** Dugong, whale shark, green sea turtle, hawksbill turtle, Indo-Pacific humpback dolphin etc.

⊕ **Vembannur Wetland Complex** 	⊕ **Man-made** wetland ⊕ Forms part of an **Important Bird and Biodiversity Area (IBA).** ⊕ Irrigation tank believed to have been constructed in the regime of Pandyan king Veeranarayana. ⊕ The tank and the Therrakal canal were designed to take water from **River Pazhayar** for irrigation purposes. ⊕ **Important Species:** Indian river tern, the spotted greenshank, the garganey, grey pelican, notable plants including Indotristicha ramosissima, Cyrtococcum longipes etc.
⊕ **Vellode Bird Sanctuary** 	⊕ **Man-made** wetland ⊕ Forms part of the **Central Asian Flyway.** ⊕ **Important Species:** Indian river tern, oriental darter, painted stork, plant species like Cayratia pedata, Tephrosia purpurea and Commelina tricolor etc.
⊕ **Vedanthangal Bird Sanctuary** 	⊕ **Man-made** wetland ⊕ Small irrigation tank in Vedanthangal village surrounded by rocky plains and low-ridged, denuded hillocks. ⊕ Site is an **Important Bird and Biodiversity Area (IBA)** and one of the oldest bird protected areas in India. ⊕ **Important Species:** black-headed ibis, Eurasian spoonbill, black-crowned night heron, painted stork etc.
⊕ **Udhayamarthandapuram Bird Sanctuary** 	⊕ **Man-made** wetland ⊕ Consists of human-made irrigation tanks, interconnected by an ancient network of canals and fed by the Mettur dam through the Koraiyar canal. ⊕ The southern part of the landscape is partly **Koraiyar River.** ⊕ **Important Species:** oriental darter, black-headed ibis, Eurasian wigeon, Northern pintail etc.
⊕ **Chitrangudi Bird Sanctuary** 	⊕ **Man-made** wetland ⊕ A crescent shaped sanctuary which lies within the community tank embankment. ⊕ A protected area since 1989 and declared as Bird Sanctuary, coming under the jurisdiction of Tamil Nadu Forest Department. ⊕ **Important Species:** spot-billed pelican, little egret, grey heron, large egret, open billed stork, purple, and pond herons etc.
⊕ **Suchindram Theroor Wetland Complex** 	⊕ **Man-made** wetland ⊕ Part of the Suchindrum-Theroor Manakudi Conservation Reserve. ⊕ Man-made, inland Tank which is perennial. ⊕ Declared an **Important Bird Area** and lies at the southern tip of the **Central Asian flyway** of migratory birds. ⊕ **Important Species:** Indian Cormorant, Spot-billed Duck etc.

Vaduvur Bird Sanctuary	⊕ **Man-made** wetland
	⊕ Located in the **Vaduvur Lake**, a large human-made irrigation tank, 25 kms from Thanjavur.
	⊕ **Important Species:** Indian Pond Heron, Eurasian Wigeon, Northern Pintail, Garganey etc.
Kanjirankulam Bird Sanctuary	⊕ **Man-made** wetland
	⊕ Declared a Protected area in 1989 and qualifies as an **IBA.**
	⊕ **Important Species:** babul trees, painted stork, white ibis, black ibis, little egret, great egret, forest birds like bee-eaters, bulbuls, cuckoos, starlings, barbets, etc.

MADHYA PRADESH

Name of Wetland	Key Features
⊕ **Sakhya Sagar wetland**	⊕ **Man-made** wetland
	⊕ Created due to damming of the **Manier River** in 1918 by the Maharaja of Scindias.
	⊕ The reservoir lies within the Madhav National Park.
	⊕ It is a mosaic of landforms including **open water and surrounding marshes, plantations and a small patch of agricultural land.**
	⊕ **Important Species:** mugger crocodile etc.
⊕ **Sirpur Wetland**	⊕ **Man-made** wetland
	⊕ Constructed by **Holkers**, the ex-rulers of Indore kingdom.
	⊕ Has stabilized and acquired near-natural characteristics in the last two centuries,
	⊕ **Important Species:** common pochard, Egyptian vulture, Indian river tern etc.
⊕ **Yashwant Sagar**	⊕ **Man-made** wetland
	⊕ A dam reservoir on Gambhir river.
	⊕ One of the two **Important Bird Areas (IBA)** in the Indore region as well as one of the most important birding sites in Malwa region of Madhya Pradesh.
	⊕ Mainly used for water supply to the city of Indore.
	⊕ **Important Species:** Sarus Crane etc.

ODISHA

Name of Wetland	Key Features
⊕ **Satkosia Gorge**	⊕ **Natural** wetland
	⊕ Established in 1976 as a wildlife sanctuary and declared as Satkosia Tiger Reserve in 2007, comprising two adjoining wildlife sanctuaries, the Satkosia Gorge sanctuary and Baisipalli sanctuary.
	⊕ Spreads along the gorge over the **river Mahanadi.**

	⊕ Mosaic of rivers, marshes and evergreen forests at the **meeting point of the Deccan Peninsula and the Eastern Ghats.** ⊕ **Important Species:** Plant species include asan, dhaura, simal, Indian thorny bamboo, Calcutta bamboo etc., animal species include red-crowned roofed turtle, Indian narrow headed softshell turtle, tiger and black-bellied tern etc.
⊕ **Ansupa Lake**	⊕ **Natural** wetland ⊕ An **oxbow lake** formed by **River Mahanadi** and the **largest freshwater lake of Odisha.** ⊕ **Important Species:** Rynchops albicollis, Sterna acuticauda, Sterna aurantia, Clarias magur, Cyprinus carpio, Wallago attu etc.
⊕ **Hirakud Reservoir**	⊕ **Man-made** wetland ⊕ The largest earthen dam built across **Mahanadi river** in Odisha started operating in 1957. ⊕ The reservoir is a source of- 480 MT of fish annually, around 300 MW of hydropower and irrigation of 436,000 ha of cultural command area. ⊕ **Important Species:** Common Coot, Lesser Whistling Duck, Great Crested Grebe, Red Headed Pochard etc.
⊕ **Tampara Lake**	⊕ **Natural** Wetland ⊕ One of the most prominent freshwater lakes in the State of Odisha situated in Ganjam district. ⊕ The depression on the ground gradually filled with rainwater from catchment flow and was called "Tamp" by the British and subsequently termed "Tampra" by the locals. ⊕ **Important Species:** Cyprinus carpio, common pochard and river tern etc.

JAMMU AND KASHMIR

Name of Wetland	Key Features
⊕ **Hygam Wetland Conservation Reserve**	⊕ **Natural** wetland ⊕ Falls within the **River Jhelum basin** and is recognized as an I**mportant Bird Area (IBA).** ⊕ Consequent to the high rate of siltation, the Wetland has lost its wetland characteristics to a large extent and in many places changed its profile into a landmass. ⊕ **Important Species:** Red Crested Pochards, White Eyed Pochards, Common Teal Coots, Grey Legs etc.
⊕ **Shallbugh Wetland Conservation Reserve**	⊕ **Natural** wetland ⊕ Located in the District **Srinagar**, UT of J&K. ⊕ The area has **extensive reedbeds** of Phragmites communis and Typha angustata, and rich growth of Nymphaea candida and N. stellata on open water. ⊕ **Important Species:** Geese, Bar Geese, White Heeled Duck, Shoveller, Red-Crested Pochard, White-Eyed Pochard, Common Teal, Pintail, Mallard, etc.

MAHARASHTRA

Name of Wetland	Key Features
⊕ **Thane Creek**	⊕ **Natural** wetland ⊕ Declared as **Thane Creek Flamingo Sanctuary.** ⊕ An important part of the wetland complex of the **Central Asian Flyway** of the birds and categorized as **an Important Bird Area (IBA).** ⊕ There are several sources of fresh water to the creek, of which **Ulhas River** is the largest. ⊕ **Important Species:** Fringed by mangroves on both banks & comprises around **20% of the total Indian mangrove species**, flamingos etc.

KARNATAKA

Name of Wetland	Key Features
⊕ **Ranganathittu Bird Sanctuary**	⊕ **Natural** wetland ⊕ Part of the **Kaveri River.** ⊕ Classified as an **Important Bird and Biodiversity Area (IBA).** ⊕ **Important Species:** mugger crocodile, smooth-coated otter, hump-backed mahseer, painted stork, spot-billed pelican, black-headed ibis etc.

MIZORAM
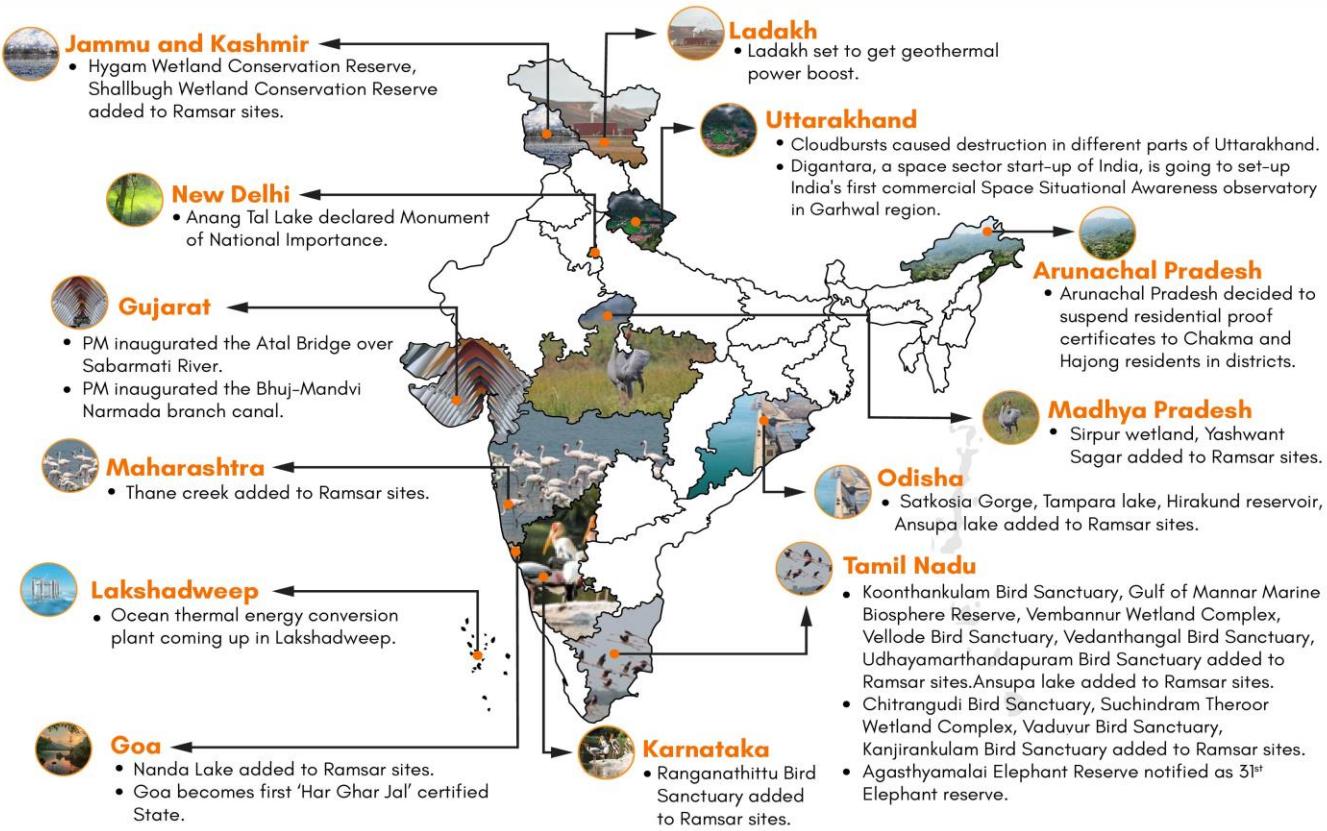
Name of Wetland	Key Features
⊕ **Pala wetland**	⊕ **Natural** wetland ⊕ **Largest natural wetland in the state of Mizoram.** ⊕ Revered by the local Mara people. ⊕ **Important Species:** sambar deer, wild pig, barking deer, Hoolock gibbon, Phayre's leaf monkey, slow loris, elongated tortoise, Asian brown tortoise, and black soft-shelled turtle etc.
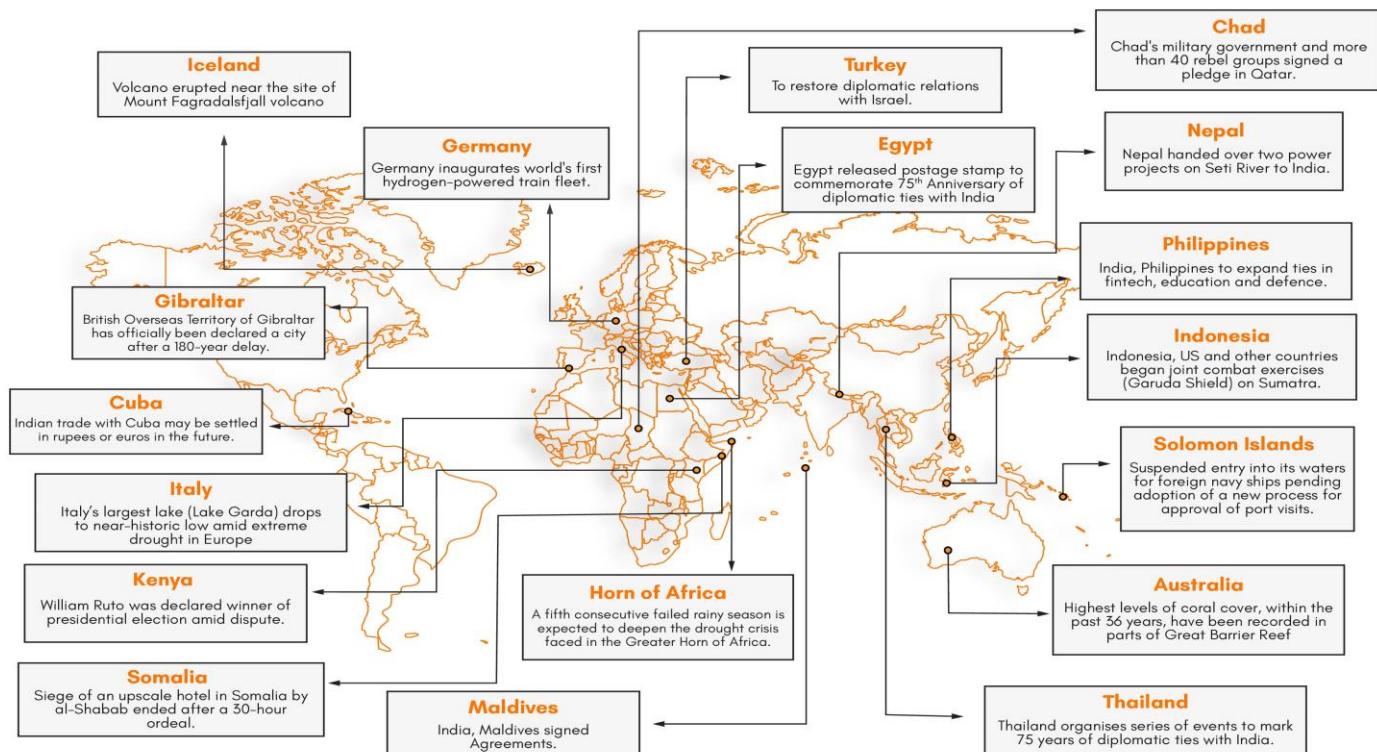
GOA

Name of Wetland	Key Features
⊕ **Nanda Lake**	⊕ **Natural** wetland ⊕ Comprises intermittent freshwater marshes that lie adjacent to one of the major tributaries of the **Zuari River.** ⊕ **Important Species:** black-headed ibis, wire-tailed swallow, common kingfisher etc.

Places in News: India

Jammu and Kashmir
- Hygam Wetland Conservation Reserve, Shallbugh Wetland Conservation Reserve added to Ramsar sites.

Ladakh
- Ladakh set to get geothermal power boost.

Uttarakhand
- Cloudbursts caused destruction in different parts of Uttarakhand.
- Digantara, a space sector start-up of India, is going to set-up India's first commercial Space Situational Awareness observatory in Garhwal region.

New Delhi
- Anang Tal Lake declared Monument of National Importance.

Arunachal Pradesh
- Arunachal Pradesh decided to suspend residential proof certificates to Chakma and Hajong residents in districts.

Gujarat
- PM inaugurated the Atal Bridge over Sabarmati River.
- PM inaugurated the Bhuj-Mandvi Narmada branch canal.

Madhya Pradesh
- Sirpur wetland, Yashwant Sagar added to Ramsar sites.

Maharashtra
- Thane creek added to Ramsar sites.

Odisha
- Satkosia Gorge, Tampara lake, Hirakund reservoir, Ansupa lake added to Ramsar sites.

Lakshadweep
- Ocean thermal energy conversion plant coming up in Lakshadweep.

Tamil Nadu
- Koonthankulam Bird Sanctuary, Gulf of Mannar Marine Biosphere Reserve, Vembannur Wetland Complex, Vellode Bird Sanctuary, Vedanthangal Bird Sanctuary, Udhayamarthandapuram Bird Sanctuary added to Ramsar sites.Ansupa lake added to Ramsar sites.
- Chitrangudi Bird Sanctuary, Suchindram Theroor Wetland Complex, Vaduvur Bird Sanctuary, Kanjirankulam Bird Sanctuary added to Ramsar sites.
- Agasthyamalai Elephant Reserve notified as 31st Elephant reserve.

Goa
- Nanda Lake added to Ramsar sites.
- Goa becomes first 'Har Ghar Jal' certified State.

Karnataka
- Ranganathittu Bird Sanctuary added to Ramsar sites.

Places in News: World

Chad
Chad's military government and more than 40 rebel groups signed a pledge in Qatar.

Iceland
Volcano erupted near the site of Mount Fagradalsfjall volcano

Turkey
To restore diplomatic relations with Israel.

Germany
Germany inaugurates world's first hydrogen-powered train fleet.

Egypt
Egypt released postage stamp to commemorate 75th Anniversary of diplomatic ties with India

Nepal
Nepal handed over two power projects on Seti River to India.

Gibraltar
British Overseas Territory of Gibraltar has officially been declared a city after a 180-year delay.

Philippines
India, Philippines to expand ties in fintech, education and defence.

Cuba
Indian trade with Cuba may be settled in rupees or euros in the future.

Indonesia
Indonesia, US and other countries began joint combat exercises (Garuda Shield) on Sumatra.

Italy
Italy's largest lake (Lake Garda) drops to near-historic low amid extreme drought in Europe

Solomon Islands
Suspended entry into its waters for foreign navy ships pending adoption of a new process for approval of port visits.

Kenya
William Ruto was declared winner of presidential election amid dispute.

Horn of Africa
A fifth consecutive failed rainy season is expected to deepen the drought crisis faced in the Greater Horn of Africa.

Australia
Highest levels of coral cover, within the past 36 years, have been recorded in parts of Great Barrier Reef

Somalia
Siege of an upscale hotel in Somalia by al-Shabab ended after a 30-hour ordeal.

Maldives
India, Maldives signed Agreements.

Thailand
Thailand organises series of events to mark 75 years of diplomatic ties with India.

Personalities in News

Personalities	About	Ethical Values exhibited by the personality
Lachit Borphukan	• Assam CM **urged all states to include chapter on Lachit Borphukan** in school textbooks. • He was a **general during 17th Century period of the Ahom dynasty** (Assam). • He is best known for the Battle of Saraighat on the banks of Brahmaputra, where he defeated the Mughals, in 1671. • Lachit was **appointed as 'Borphukan' by King Chakradhwaj Singha.** Borphukan is a position embedded with both executive and judicial powers.	**Courage and leadership** • As a military administrator, he successfully led the army of Ahoms against extremely powerful Mughals.
Durgadas Rathore	• Defense Minister unveiled a statue of Durgadas Rathore. • Also known as Veer Durgadas Rathore, he was a **chieftain of Maharaja Jawant Singh of Marwar (Jodhpur).** • He protected the **crown prince Ajit Singh**, infant at that time, from Mughal ruler Auranzeb in the **17th century.** • **He restored rule of Rathore dynasty over Marwar** by evicting Mughals from Jodhpur, **following death of Auranzeb in 1707.** ▪ He also supported the Auranzeb son Akbar in the war of succession.	**Fortitude and Loyalty** • He is credited with having single-handedly preserved the rule of the Rathore dynasty over Marwar. • He showed unflinching loyalty to motherland and absolute detachment from power by being keeping his word and gave the kingdom unhesitatingly to Ajeet Singh.

Aurobindo Ghose	• 15th August, 2022 marks the 150th birth anniversary celebration of Shri Aurobindo.
	• **Aurobindo Ghose**
	  ▪ Was involved in **nationalist politics** and the **revolutionary movement in Bengal with the Anushilan Samiti.**
	  ▪ **First principal of the National College in Calcutta (1906)** and started to impart national education to Indian youth.
	  ▪ **Arrested in May 1908** in connection with the Alipore Bomb Case.
	  ▪ His concept of the **Integral Yoga system** is described in his books, **The Synthesis of Yoga and The Life Divine.**
	  ▪ He established **Sri Aurobindo Ashram in Pondicherry in 1926.**
		Rationalism and Determination
		• His philosophy is based on facts, experience and personal realisations and spirituality was inseparably united with reason.
		• He spent his life working towards the cause of India's freedom, and for further evolution of life on earth.

Pingali Venkayya	• Nation paid homage to **Pingali Venkayya,** the **architect of India's National Flag.** • Born in **Krishna District** of **Andhra Pradesh**, he was a freedom fighter and a **Gandhian** who went on to become synonymous with the spirit of free and independent India. • He designed the new flag for the **National Congress Meeting** in **1921.** It was officially adopted by the Indian National Congress (INC) in **1931.** • It served as the **template** on which the present **National Flag** evolved.	**Dedication and Enthusiasm** • He showed immense dedication to the cause of freedom struggle and contributed significantly to it. • He was very fond of 'flags' as a means of symbolic representation of a nation. He even write a booklet," a National Flag for India".

Pandurang Sadashiv Khankhoje

- Lok Sabha Speaker will unveil statue of Pandurang Khankhoje in Mexico.
- He was **born in Wardha in Maharashtra.**
- He was **one of the founding members of Ghadar Party** (established by Indians living abroad in 1914).
  - Its aim was to **lead a revolutionary fight against British** in India.
- As a **professor at National School of Agriculture (Mexico)**, he was **part of efforts to bring Green Revolution in Mexico** and started studying cultivation of new varieties of high-yielding corn and wheat, with emphasis on drought- and disease-resistant varieties.

Scholar and Patriotism

- He consistently contributed through his research by creating systems of having fast-breeding, high-yielding varieties of maize, corn and brought agriculture out of its pauper status in Mexico.
- He fought at national and international front against British imperialism.

Amma Mani

- Google Doodle paid tribute to **Indian physicist and meteorologist Anna Mani.**
- **She was born in Kerala** and studied from Madras Presidency College, **Imperial College, London.**
- Also known as **Weather Woman**, she made significant contributions to **meteorological instrumentation, conducted research and published papers on solar radiation, atmospheric ozone and wind energy measurements.**
- She was a member of **International Ozone Association, Indian National Science Academy, American Meteorological Society,** among others.
- She retired as **Deputy Director-General of the IMD in 1976.**

Scientific aptitude and Dedication

- She contributed through her research in the field of solar radiation, ozone and wind energy instrumentation.
- She transcended the limited cultural spaces available to her and actively resisted coercive gender identities which limited women's potential as well as posited different intellectual capabilities in men and women.

PERSONALITY
DEVELOPMENT PROGRAMME

Starts: 11th Oct

CIVIL SERVICES EXAMINATION - 2022

Programme Features

- ★ DAF Analysis Session with senior faculty members of Vision IAS
- ★ Mock Interview Session with Ex-Bureaucrats/ Educationists
- ★ Interaction with Previous toppers and Serving bureaucrats
- ★ Performance Evaluation and Feedback

WEEKLY FOCUS
Topic Descriptions_August

| TOPIC	DESCRIPTION	LEARN MORE
Protection of Child Rights: An unfinished agenda?	Child Rights and Child protection is an area that is often neglected as children are at times considered as lesser human beings in the society. There is also seemingly a lot of ignorance among the populace on various child rights and ways and means of protecting the children. This document therefore seeks to explore the journey of evolution of child rights and how these rights have been protected and violated at the same time, particularly in India. It also discusses the requisites to protect children as well as to ensure their holistic development.	
Web 3.0_A revolution in the making	The continuous evolution of the Internet has opened unimaginable opportunities and challenges. Web 3.0 is the third iteration of the internet which combines a bouquet of disruptive technologies and is often touted as "Internet of Everything". The document aims to break down what is Web 3.0, and how it has evolved to impact the day-to-day business as well as to create new opportunities through virtual economies. It further aims to shed light on the future course of action to embrace the change safely and securely.	
Micro, Small, and Medium Enterprises (MSMEs): Backbone of the Indian Economy	Indian economy thrives through the means of enterprise creation as one of the prime movers of the economy. It is here that the Micro, Small and Medium Enterprises (MSMEs) play a vital role in spreading entrepreneurial culture through business innovations. But there are a multitude of factors that have constrained growth of this sector. This document provides an insight into the world of MSMEs in India and put forward the measures needed to empower and uplift this vibrant and dynamic sector of Indian economy.	
Hybrid Warfare: New age war warrants a new age response	Globalization, technological developments and the information revolution have made the world accept an order of change which the humanity has never experienced before. This order has influenced almost everything and the concept of war has not been an exception to that. This shifting paradigm of war calls for a deeper understanding of the 21st century concept of Hybrid Warfare. Through this document, we will know how this warfare is being manifested and is creating a world of uncertainties for countries including India. Is there a way out?	

SPACE FOR NOTES

SPACE FOR NOTES

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8 IN TOP 10 SELECTIONS IN CSE 2021

from various programs of **Vision Ias**

CIVIL SERVICES EXAMINATION 2020

2 AIR — **ANKITA AGARWAL**

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

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