



Updated Classroom Study Material

October - November 2021



MAINS 365 - UPDATION

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A NOTE FOR THE STUDENTS



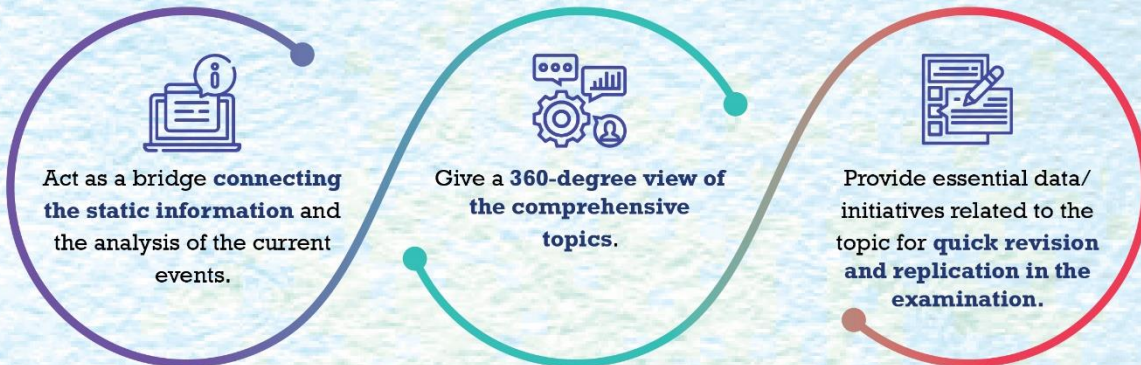
Dear Students,

Every year with Mains 365 documents, we aim to provide consolidated content keeping in mind the demand of the exam and the corresponding needs of the students. This necessitates keeping pace with changing pattern of the examination.

Over the course of last 3-4 years, the nature of questions in the Mains examination has changed significantly. Questions are becoming more conceptual, and more holistic in nature (i.e., having an amalgamation of both static and current parts),

In this context we have made following additions in the document:

📌 **Topic at glance:** Topic at glance have been added to the Mains 365 documents. These topic at glance seek to:



📌 **Infographics:** Infographics have been added in the document in a manner that they can readily be replicated in the examination through flowcharts, pie charts, maps etc., thereby improving the presentation of the content in the answers.

The document seeks to not only provide a one stop solution for Current Affairs but it also seeks to develop a coherent thought process required for effective and well presented answer. Therefore, the articles in the document are not only to be read for content but also for understanding and adopting good practices of answer writing.

We hope that the coverage of the content in an organized manner will assist you in performing well in the examination.

Knowing is not enough; we must apply. Willing is not enough; we must do.

-Johann Wolfgang von Goethe

All the best!
Team VisionIAS

1. POLITY

1.1. IMPACT OF COVID-19 ON FEDERALISM

Why in news?

The pandemic put both the unitary strengths and the federal assets of India's political structure to serious test.

Impact of COVID-19 on Federalism

• First Wave

○ Inaction by the states:

The beginnings of the pandemic found state governments being too unsure to take any initiative. There were possibly two broad reasons behind this.

✓ **Limited understanding of the virus** at the state level and the all-pervasive nature of the **virus that did not respect state boundaries.**

✓ There were also trepidations about what impact it could have on the political future of the ruling political dispensation **if steps taken to curb it went wrong.**

○ **Delayed action:** The states, after some time, turned to the Epidemic Diseases Act, 1897, which empowers them to deal with an epidemic-like situation. Many state governments used this law to issue State Epidemic Diseases COVID-19, 2020 regulations

○ Assertion of power by the Centre:

✓ **Political centralization:** The Centre took the unilateral decision of announcing a national lockdown through the power endowed upon it under the **National Disaster management Act (NDMA), 2005.** Under the Act, Centre issued compulsory guidelines and instructions to the states in matters such as the length of the lockdown, restrictions, and containment zoning.

✓ **Fiscal centralization:** Tax collection by states declined due to closure of various businesses. Moreover, India's federal design has a '**Central bias**' which was exacerbated by the pandemic. Few examples include

- **Compensation** to the states under the **Goods and Services Tax (GST)** was **delayed** for several months.
- The Centre emphasised more on rolling out **conditional loans to the states** (the Centre enhanced the borrowing limits of the states on the condition that the states acceded to carrying out certain fiscal and structural reforms) rather than unconditional relief grants.

• Second wave

○ **Decentralized policy:** During the second wave of COVID-19 in India, which is severe compared to the first wave, the Centre's response has seen a marked shift, with key areas such as vaccine procurement and distribution being decentralised.

✓ As the country faced acute vaccine shortages many state governments called for autonomy to procure vaccines from international markets. The Centre acceded but many states could not find any prospective bidders. This, along with deferential pricing of vaccines created a

Constitutional provisions for handling pandemic like situation

- **Article 39(a)** mentions the responsibility of the State to provide security to citizens by ensuring the Right to adequate means of Livelihood.
- **Article 41** imposes a duty on the State to "provide public assistance in cases of unemployment, old age, sickness, and disablement."
- **Article 42** makes provision to "protect the health of the infant and mother by maternity benefit."
- **Article 47** is about "raising the level of nutrition and the standard of living of people and improving public health."
- **The seventh schedule under Article 246** of the Indian Constitution deals with the division of powers between the Union and the States, and legislation can be made, respectively.
 - **Entry 28 and 81 of the Union List:** Quarantine, including all issues related to seamen's and marine hospitals and medical institutions.
 - **Entry 6 of the State List:** Health care, sanitation, hospitals, dispensaries, and prevention of animal diseases.
 - **Entry 26 and 29 of the Concurrent:** Power to make laws related to the health profession and the prevention of the extension from one state to another of infectious or contagious diseases or pests affecting people, animals, or plants.
- **Under Article 73 and 162** the executive power of the Union and states is "coextensive with the legislative power". Thus, from the constitutional scheme, **the state governments are expected to play the primary role in the management of healthcare, as well as law and order**, while the Centre is tasked to provide the overarching national leadership, facilitate coordination among key federating units, monitor the overall pandemic situation, and provide financial and other critical assistance to the states.

chaotic situation and became a contentious aspect of India's federal structure. It required the **intervention of the Supreme Court to end the Centre-state deadlock.**

Lessons learnt from the impact of COVID-19 pandemic on governance

- **Comprehensive national public health law:** The comprehensive public health law should include the following provisions to ensure health care to citizens:
 - The **role of the Union, state, and local governments** should be clearly defined without creating any conflicts.
 - **The Right to Health** should be explicitly **mentioned in the Indian Constitution.**
 - An institutional mechanism that is able to establish a **network with governments, research institutions, and health care providers should be included.**
 - 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.
- **Federal cooperation:** The most fundamental lesson from India's experience with the second wave of the COVID-19 pandemic, is that managing a grave national crisis requires healthy cooperation between the Centre and states.
- **Decentralised architecture of governance:** The war against the pandemic is actually fought at all levels, including the local. In the area of health, preventive healthcare is the responsibility of the local bodies. Hence, while the Centre and the states have significant roles in coordination and overall direction, local action is vitally important in any success against the pandemic.
- **Recommendations by the Parliamentary Standing Committee on Home Affairs**
 - **Amend the NDMA, 2005:** Even though the NDMA helped in timely response during the pandemic, **it is not meant for handling the pandemic/epidemic if it happens in future.** Therefore, it should be amended to effectively manage Covid-19 pandemic-like situations in future.
 - **Amend the outdated Epidemic Diseases Act, 1897:** To respond to challenges posed by the onset of pandemic in future.
 - **Increase public expenditures on health sector:** To strengthen infrastructure and help build strong and effective public health structure.
 - **Incorporate the lessons learnt and experience gained during the Covid-19 outbreak,** including Standard Operating Procedures, lockdowns, and public health management.

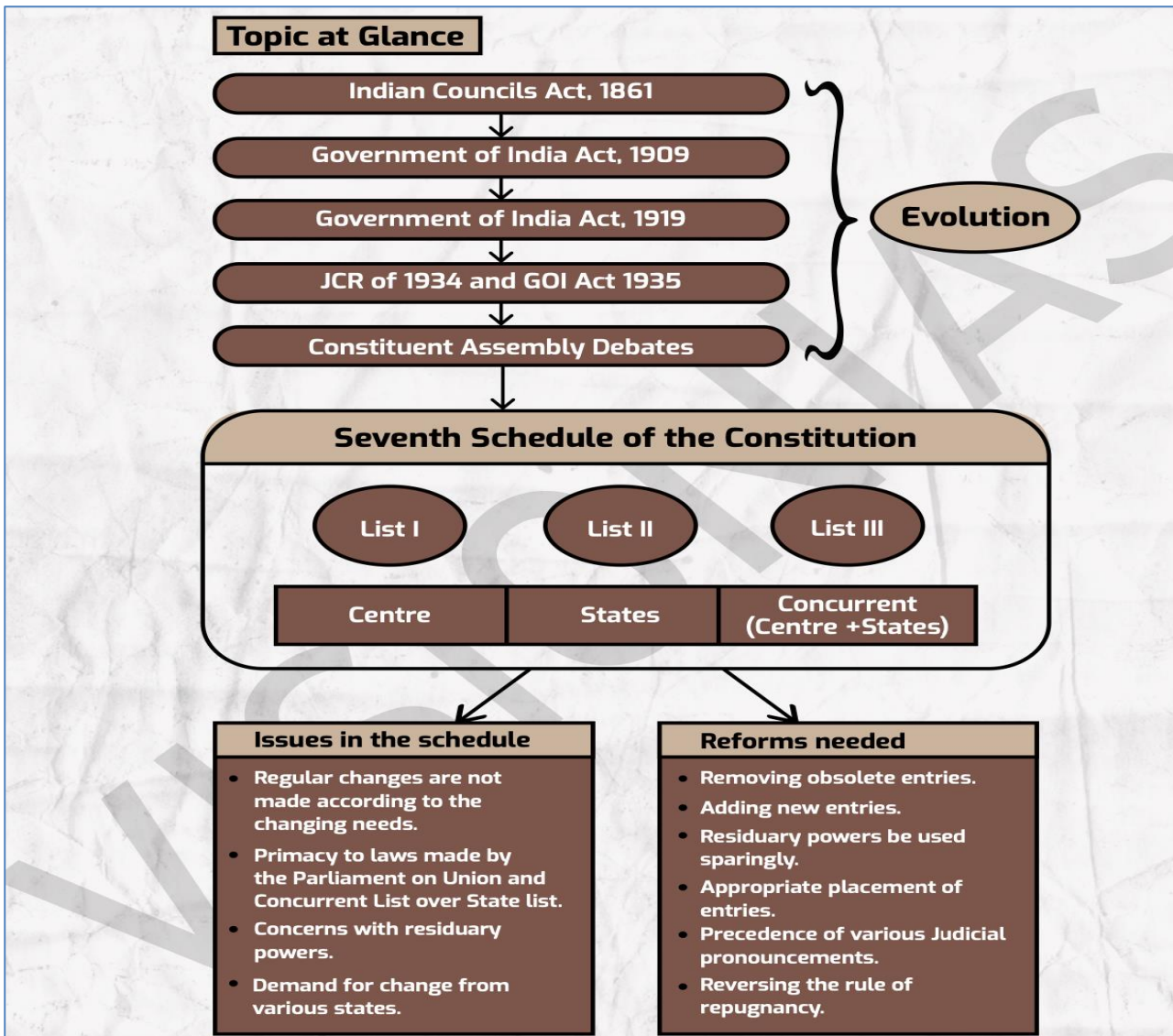
The role of third-tier governments

- During the **first wave, district-level interventions** in Agra (Uttar Pradesh), Bhilwara (Rajasthan), and Pathanamthitta (Kerala) were **exemplary in containing the spread of infections.**
- Similarly, **municipalities** in states like Maharashtra where the COVID-19 cases have been steep, also made **innovations in crisis management at different phases of the pandemic.** Various states have delegated substantial powers and responsibilities to these bodies in managing the pandemic.
- The local governments at the village level also **helped "in sustaining agricultural activities** by ensuring the labour supply and availability of critical food supply chains in villages."
- Various states have delegated substantial powers and responsibilities to these bodies in managing the pandemic. For instance:
 - **the Odisha government** delegated the sarpanch with the powers of a magistrate to control the movement of migrants and oversee physical-distancing norms.
 - **the Kerala government** allowed local bodies to do contact-tracing, conduct health camps and sanitation drives, and sensitise people on health protocols.

1.2. SEVENTH SCHEDULE

Why in News?

Fifteenth Finance Commission chairman NK Singh has called for a thorough review of the Seventh Schedule of the Constitution in the wake of current challenges of climate change and the pandemic.



About Seventh Schedule

- Article 246 confers legislative powers on the Parliament and the State Legislatures on the subjects enumerated in the Seventh Schedule.
- Broadly, entries that are related to **national importance** were allocated to the **Union** and entries of **local concern** were allocated to the **States**.
- As per Sarkaria Commission, **concurrent list subjects are neither exclusively of national concern nor of local concern** and hence occupy a constitutional 'grey' area.

Rationale behind the list system contained in the Seventh Schedule

- Unity and Integrity of India:** A strong central government could survive the **communal frenzy and manage the increasingly complex administrative problems** (like opposition from princely states) faced by the new nation.
- Enabling responsive governance:** Small governments are seen as encouraging political participation, bolstering the rights of minorities by protecting the rights of the individual against majoritarian impulses the shared accommodation of various views, and communitarian values.
- Balanced economic development:** The unstable financial position of the new Indian state also favoured centralization. Provincial autonomy was seen as a hindrance to equitable distribution of wealth and development.
- Others:** As per Joint Committee Report of 1934 it was considered **necessary to ensure that the provinces remained truly autonomous** and could determine their jurisdiction independently.
 - This is **indicative of the spirit of cooperation between the Union and the States** that the founders wanted to inculcate.

Need for Reforming the Seventh Schedule

- **State demands for greater autonomy**
 - **Erosions of division of functions:** For example, the **constitution of the Planning Commission** in 1951, **Shifting of the subjects like forest and education** from the state to the Concurrent List by the 42nd Amendment, etc.
 - **Grievances regarding the allocation of residuary powers with the Centre:** For ex: Rajamannar Committee in Tamil Nadu, 1969 and the Anandpur Sahib Resolution in Punjab in 1973 recommended transferring several entries to the State List, both from the Union and Concurrent Lists, and vesting residuary powers in the States.
- **Need for decentralization:** Despite the 73rd and 74th Constitutional amendments, except in a few states, there has been little progress at decentralisation—to both rural and urban local bodies.
 - The **functions assigned are unclear, funds uncertain and inadequate**, and decision-making functionaries are mostly drawn from the state bureaucracy.
- **Changing Governance need:** A subject that was vital for legislative allocation in 1950 may no longer be relevant in the present. Concerns such as climate change and emerging technologies amongst others, while not conceivable at the time of constitutional drafting have now become imperatives of governance.
 - **Centrally sponsored schemes should be flexible** enough to allow states to adapt and innovate.
- **Recommendations of Sarkaria Commission (1988)**
 - **Residuary powers** be transferred from the Union List to the **Concurrent List**, except for the residuary power to impose taxes which should be retained in the Union List.
 - **States should be consulted by the Centre** before the latter exercises its power over Concurrent List entries.
 - **Centre should limit the field it occupies with respect to Concurrent List** entries to only as much as is necessary for ensuring uniformity in basic issues of national policy.

Way Forward

- **Cooperation: Institutional structure** that requires **mandatory consultation between the Union and the states** in the area of legislation under the concurrent list.
- **Residuary powers:** They should be used **sparingly**, only as a last resort and not as the primary means for completing the exhaustiveness of lists.
- **Concurrent List:** Matters which are central to achieving demonstrable national interest (M M Punchhi commission, in 2010).
- There is a **need to undertake a periodic review of the lists**, focusing on
 - **Removing entries that are now obsolete** (such as Entry 34, List I: Courts of Wards for the estates of Rulers of Indian States, Entry 37, List III: Boilers etc).
 - **Adding entries as per present day needs of governance** and also to reduce the legislative domain for residuary powers to a minimum (such as Disaster Management, Consumer protection, Terrorism, Emerging technologies etc.).
 - **Appropriate placement of existing entries** (framework suggested by Vidhi Centre for Legal Policy can be adopted)
 - ✓ It consists of two older principles (**Ensuring the unity and integrity of India, Achieving balanced economic development**) derived from the Constituent Assembly Debates, as well as two new principles (**Promoting cultural autonomy and diversity, Enabling responsive governance**) that have emerged from India's post-independence experience.

1.3. INTER-STATE BORDER DISPUTES IN INDIA

Why in News?

Recently, the Assam and Meghalaya government has agreed to settle the long pending **inter-state border disputes** in at least **six areas**.

More on News

- Meghalaya was carved out of Assam, and it became a **full-fledged state in 1972**.



- With over **884 km** of border, there are **12** points of dispute between the two states including Langpih, Boko etc. in **Kamrup, Kamrup Metropolitan** and **Hailakandi** districts.
- These disputes stemmed from the Meghalaya government's refusal to accept the **Assam Reorganisation (Meghalaya) Act of 1969**.
- The recent decision came after the formation of **special regional committees** by both states to resolve the issue.

Indian Administrative Divisions and its Inter-state border disputes

The **State Reorganization Commission (SRC)** of **1953** divided Indian Territory into **14 states** and **6 Union Territories (UTs)** on linguistic and other basis. Today, through subsequent reorganizations, the total number of administrative divisions in India is **28 states** and **8 UTs**. This division is not without cracks in certain borders-

- The reorganization of the State of Assam, starting from Nagaland in 1963 gave rise to **4 inter-state border disputes** in Northeastern region, including **Assam-Meghalaya dispute**-
 - **Assam-Nagaland dispute** over Naga Hills and all Naga-dominated area in North Cachar and Nagaon districts, which were part of Naga territory under 1866 notification from British.
 - **Assam-Mizoram dispute** over boundaries in southern Assam's Barak Valley and the Lushai Hills, based on two British-era notifications of 1875 and 1933 with Mizoram demand on boundary as decided in 1875.
 - **Assam-Arunachal Pradesh** dispute over forested tracts in the plain areas of border.
- Apart from it, some other inter-state border disputes also exist in India, either **active** or **dormant**, such as:



Active	Dormant
<ul style="list-style-type: none"> • Haryana-Himachal Pradesh over Parwanoo region near Panchkula, • Maharashtra-Karnataka over Belgaum district with a large Marathi-speaking population. It was part of Bombay presidency before coming under Karnataka in 1956, and • Himachal Pradesh-Ladakh over Sarchu, lying along Leh-Manali highway. 	<ul style="list-style-type: none"> • Odisha-West Bengal had issues in the past along its mainland boundaries and over Kanika Sands Island in the Bay of Bengal, • Haryana-Punjab over Chandigarh, • Karnataka-Kerala over Kasaragod, part of Kerala with many Kannada-speaking people, • Gujarat-Rajasthan over Mangadh Hill.

What are the reasons which led to development and prevalence of Inter-state border disputes?

- **British Colonial policy** to create and recreate boundaries based on administrative convenience or commercial interests leading to present day claims and counter claims in regions like Northeast.
- **Lack of implementation of recommendation on border disputes**. E.g., Nagaland rejected Sundaram Commission report on its dispute with Assam. Similarly, Meghalaya rejected the Y.V. Chandrachud Committee report on its dispute with Assam.
- **Failure of constitutional mechanisms** to address the border disputes.
 - Under **Article 131 (c)**, the **Original Jurisdiction** of the Supreme Court extends to any dispute between two or more states involving legal rights (exclusively). But either the solutions come at a slow pace or states don't cooperate. E.g.
 - ✓ The **Assam-Arunachal Pradesh dispute** has been before the **Supreme Court since 1989**.
 - ✓ In the **Assam-Nagaland dispute**, the one or both states expressed reservation on the Supreme Court appointed commission report or **not accepted Supreme Court appointed mediators report respectively**.

- Similarly, **Article 263** provides for **Inter-State Council**. Under **Article 263 (a)**, it is competent enough to **inquire and advice** upon **disputes between states**. But it was appointed only after Sarkaria Commission recommendations in 1990.
- **Disappointment from Zonal Councils** set up under the States Re-organisation Act, 1956 and North Eastern Council under the North Eastern Council Act, 1971. Like Inter-State Council, the **meetings of zonal councils are less frequent and mainly revolve around other issues**.
- **Limitations on Union Government interventions** as it can act as a facilitator for amicable settlement of the dispute only with willing cooperation of the State Governments concerned.
- **Political opportunism** of using inter-state disputes for vote bank politics.
- **Other Reasons:** Threat perception of indigenous people from outsiders migration; economic competition between states for resources/land, Complexities of terrain or geographical features like forests, rivers etc. to properly identify and mark boundaries.

Consequences of Inter-state disputes

Social	<ul style="list-style-type: none"> ● Violence between States. E.g. recently, the Assam-Mizoram dispute turned into a violent clash with the death of at least 5 police personnel. ● Threat to Social Harmony in the region due to damage to the social fabric of society.
Economical	<ul style="list-style-type: none"> ● Lack of Growth and Development in the disputed regions. ● Unwanted cost escalations for people and businesses due to additional security deployment at disputed borders.
Political	<ul style="list-style-type: none"> ● Domino effect or chain reaction at other disputed borders or in other inter-state disputes such as river water, migration of people etc. due to trust deficit between states. ● Rise of secessionist tendencies and groups which pose a threat to internal security. For instance, it can lead to confluence of groups with enemies of India including hostile neighbors.

Way Forward

- **Set up State committees** to work with Survey of India and other neutral agencies for **land surveys**.
- **Maintain peace and tranquility along disputed areas** by limited presence of police personnel and **use of technology** like UAV and satellite imagery for vigilance.
- **Creating no-man's land along the border** and remove the encroachments from both sides. It curtails economic and social interests behind the dispute.
- **Frequent meetings of Inter-State Councils** and **Zonal Councils** for **convergence of interests** between states and suggest **institutional solutions** to benefit both by dispute resolution.
- **Time-bound resolution of border dispute cases** and mechanism to implement its orders or recommendations of court-monitored commissions/mediators or tribunals.
 - For instance, **tribunals** can be established to hear inter-state border disputes and interpret the old legal documents (e.g. in Assam-Mizoram dispute) to reach a solution.
- **Creation of conducive environment by Union Government** to facilitate the coming together of states, based on the **spirit of cooperative federalism**, for agreement on mediation or implementing the existing recommendations from committees or **Joint Administration**.
- **National parties could use their party machinery to reach a political understanding**, helping to avoid its repercussions in social and economic sphere, keeping the boundaries only on land rather than to be drawn in people minds.

1.4. CBI VS STATES

Why in News?

Central Government told the Supreme Court that West Bengal government **does not have any “absolute” power to keep the Central Bureau of Investigation (CBI) from investigating crimes inside the State**.

More about News

- Under **Article 131 of the Constitution**, the West Bengal Government had **challenged the CBI's jurisdiction** to register FIRs and conduct investigations in the State in numerous cases as it had **withdrawn “general consent”** (refer to the box) **to the CBI** in 2018.
 - Article 131 deals with **original jurisdiction of the Supreme Court, where the apex court deals with any dispute between the Centre and a state**; the Centre and a state on the one side and another state on the other side; and two or more states.

- **Eight states have currently withdrawn consent to the CBI** like Maharashtra, Punjab, Rajasthan, etc.

Why such issues emerge in a case of Cooperative Federalism in India?

Cooperative federalism is the horizontal relationship between union and states and shows neither is above the other. However, various issues have been emerging in ensuring Cooperative Federalism due to following reasons:

- **Concurrent jurisdictions:** Bodies like CBI, Narcotics Control Bureau, etc. require in multijurisdictional crimes, yet its concurrence with the local police force and pre-emptions cause re-current federal issues.

- For example, **'Police' is a state subject** under 7th Schedule (List II) of the Constitution, conferring, on the States, exclusive domain to the state to make laws regarding the same. However, the Delhi Special Police Establishment (DPSE) Act 1946 which establishes the **CBI** continues to function as a **central agency** carrying out its functions as **'Police'**.

- **Centralisation of power:** Such centralisation creates trust deficit between Centre and States. However, at the same time, a weak central authority may not be in the interest of the nation as it would be incapable of ensuring peace, of coordinating vital matters of common.
- **Complexity of Article 131:** Over the years, the Supreme Court has taken heterogeneous decisions on whether a state can challenge the Centre under Article 131. For example
 - In **State of MP v Union of India (2011)**, the Supreme Court held that validity of central laws can be challenged under Article 32 of the Constitution and not under Article 131.
 - In **State of Jharkhand v State of Bihar (2014)** the Supreme Court disagreed the above judgement and held that Article 131 could be used to examine the constitutionality of a statute.
- **Lack of independent institution to resolve federal issues:** Sarkaria Commission suggested setting up of an Inter-State Council Secretariat. But as it was set up within the Union home ministry, it ceased to be an independent body to foster coordination, manage intergovernmental bargaining and conflict resolution.
- **Government by different political parties:** When different political parties form governments at the Centre and State, often their interests don't align resulting in federal conflicts.

Way forward for ensuring cooperative federalism

- **Implementing recommendations of Sarkaria Commission and Punchhi Commission:** Major recommendations include
 - the **office of the Governor should be apolitical**;
 - extending **the mandate of the Inter-State Council** beyond advice and recommendations;

ABOUT CBI

FEATURES

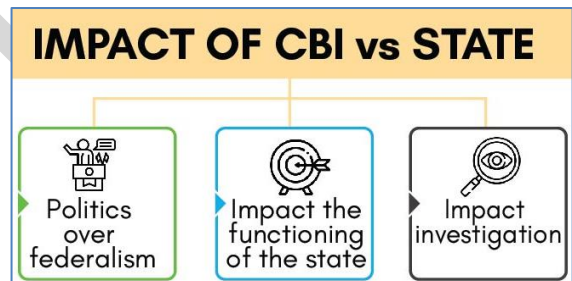
- It is the **main investigation agency of the central government** for cases relating to corruption and major criminal probes.
- It is **not a statutory body**.

CBI DIRECTOR

- The Lokpal Act 2013 prescribed that the CBI director shall be appointed on the recommendation of a committee comprising the **Prime Minister, Leader of the Opposition in the Lok Sabha and Chief Justice of India or a judge of the Supreme Court** nominated by him.

INVESTIGATION PROCEDURE

- The Central Government can authorize CBI to investigate such crime in a **State only with the consent of the concerned State Government**.
- **Sections 5 and 6 of the DPSE Act** deal with the requirement of consent of the state governments.
- **General consent for the CBI**
 - Under DPSE Act, CBI must **mandatorily obtain the consent** of the state government concerned **before beginning to investigate** a crime in a state.
 - The consent of the state government can be **either case-specific or general**.
 - A "general consent" is normally given by states to **help the CBI in seamless investigation of cases of corruption** against central government employees in their states.
 - In the absence of which the **CBI would have to apply to the state government in every case**, and before taking even small actions.
- **Extra territorial operation:** The concept of CBI is more advanced involving specialized information, technical knowledge whilst incorporating extra territorial operation.
The **Supreme Court and High Courts, however, can order CBI to investigate** such a crime anywhere in the country without the consent of the State.



- guidelines to prevent misuse of the **President's veto of the legislation**;
- **include states** when the Centre enters into any international agreements.
- **Keeping states on board in central decisions:** Transparency about current macro-economic scenario including appraisal of revenue projections as well as frequent consultations with state government, legally guaranteed gradual widening of the fiscal capacity of the states can build up trust between federal units of government.
- **Electoral reforms:** For creating a level playing field for the regional political parties and regional leaders would facilitate more competitive political contest between the national and regional political forces.
- **Specific recommendations for bodies like CBI:**
 - **Following the European principle of subsidiarity**, framing definite grounds on which state governments can restrict general consent or transfer cases to CBI for a higher-level investigation can aid in reducing the friction between the central and state governments.
 - Giving **statutory recognition to CBI** will provide it with constitutional recognition independent of its existence from DSPE Act.
 - A comprehensive system involving the **co-operation of legislature, executive and judiciary** can revamp and revive the lost glory of CBI.

1.5. ALL INDIA JUDICIAL SERVICE (AIJS)

Why in news?

Recently, the Central Government is preparing to give a fresh push to the establishment of an **All India Judicial Service (AIJS)** for the lower judiciary on the lines of the Central Civil Services.

Background of AIJS

- The idea of a centralised judicial service was first mooted in the **14th Law Commission's 1958 'Report on Reforms on Judicial Administration'**.
- The AIJS is an initiative to **reform the judiciary by centralising the recruitment of judges** at the level of **additional district judges and district judges** for all states.
- The **42nd Constitutional amendment in 1976 amended Article 312 (1)** empowering Parliament to make laws for the **creation of one or more All-India Services, including an AIJS**, common to the Union and the States.
- In **2006**, the **Parliamentary Standing Committee** on Personnel, Public Grievances, Law and Justice in its 15th Report backed the idea of a **pan-Indian judicial service**.
- **Judiciary's view on AIJS:**
 - In 1992, the Supreme Court in **All India Judges' Association v. Union of India** directed the Centre to set up an AIJS. Further, the creation of AIJS was considered and recommended by the first national judicial pay commission, better known as the **Justice Shetty Commission**.

Current recruitment method of district judges:

- **Articles 233 and 234** of the Constitution of India deal with the **appointment of district judges** and place it in the domain of the states.
- The selection process is **conducted by the State Public Service Commissions (SPSCs)** and the **concerned High Court**, since High Courts exercise jurisdiction over the subordinate judiciary in the state. Panels of High Court judges interview candidates after the exam and select them for appointment.
- All judges of the lower judiciary up to the level of district judge are selected through the **Provincial Civil Services (Judicial) exam**. PCS(J) is commonly referred to as the judicial services exam.



- However, in 1993 review of the judgment, the court left the Centre at liberty to take the initiative on the issue.
- **In 2017**, the Supreme Court took suo motu cognizance of the issue of appointment of district judges, and mooted a **“Central Selection Mechanism”**.

Challenges in creation of an AIJS

- **May fail to address the issue of vacancies adequately:** Most of the vacancies are present at subordinate level and not at the level of district judges.
 - According to the **Supreme Court’s 2018-19 annual report**, Uttar Pradesh has the highest vacancy in the country contributing to 27.58% of overall vacancy, followed by Bihar at 13.05%.
- **Language barrier:** Judicial business is conducted in regional languages, which could be affected by central recruitment.
- **Against federalism:** If the fundamental power of the States to make rules and govern the appointment of district judges is taken away.
- **Threatens judiciary’s independence:** Creation of AIJS would lead to an erosion of the control of the high courts over the subordinate judiciary.
- **Restricts promotional avenues for State officers:** Avenues for promotion would be curtailed for those who had already entered through the state services if officers at senior levels are taken through AIJS.

Way forward

- **Clear up the language barrier problem:** Applicants can fill in with the desired listing of the state that they need to join. And a small language-associated check may be taken earlier than or for the duration of the interview.
- **Adequate funds:** To significantly reduce delay such as improving poor court infrastructure, adopting technological interventions, or appointing court managers.
- **Engaging stakeholders:** ○ develop consensus and to arrive at a common ground.
- **Career growth prospects:** Career growth expectations of lower court judges need to be created. Currently, more than half of high court judges are recruited from the bar, lowering the chances of progression for career judges.
- **Capacity-building of lower court judges** in the form of continuing legal education is essential.



1.6. INTERNAL PARTY DEMOCRACY

Why in News?

Recent furore over factionalism in the ruling Congress in Punjab and the question regarding the leadership of the party at the national-level in recent months has made it important to understand the larger issues of **inner-party democracy in political parties (PP) in the country**.

About Political Parties and Inner Party Democracy

- A political party is an **organised group of citizens** who hold **common views on governance** and act as a political unit that seeks to obtain control of government with a view to further the agenda and policy they profess.
- Though, the Constitution of India provides for co-operative societies which is a fundamental right under Article 19 (1)(c), but the **Right to form political parties is not**.

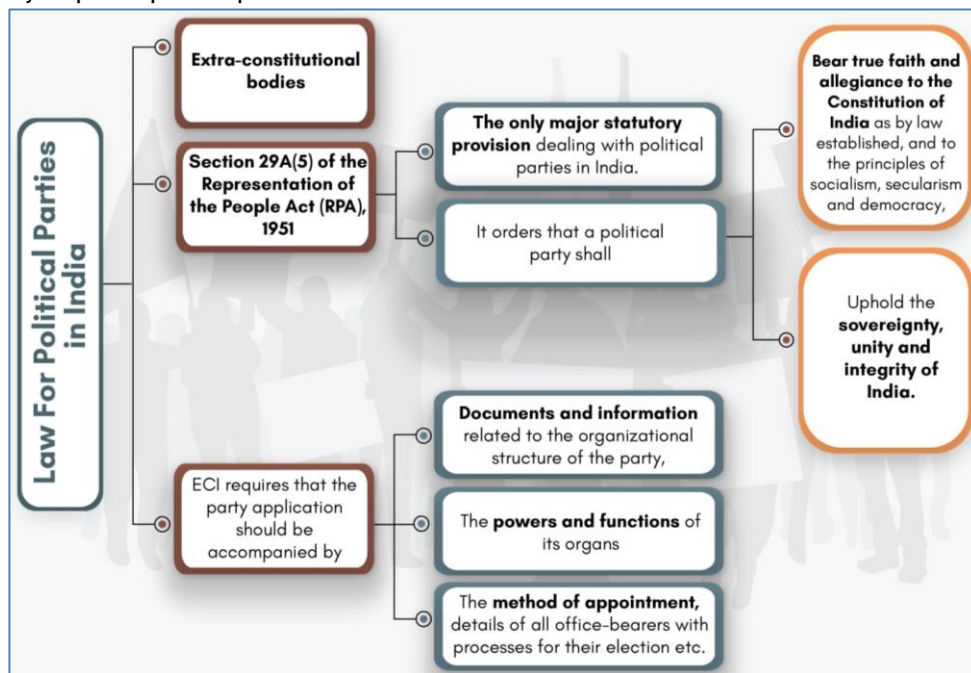
- **Internal democracy** in political parties refers to the level and methods of **including party members in the decision making and deliberation within the party structure.**

Significance of internal party democracy in Indian democratic system

- **Political parties maintain a link between the people and their representatives:** Therefore, any issues within political parties may harm the interests of the people itself.
- **Democratic accountability of a political party**
 - **Rights of citizens to equal political opportunity:** Opaque procedure for determining the leadership and composition of the parties adversely impacts the constitutional right of all citizens to equal political opportunity to participate in politics and contest elections.

○ **Elitism:** Party members with adequate social and financial resources are given primacy while distributing tickets for contesting elections.

○ **Criminalisation of politics:** Many candidates with criminal background as party nominees has come to the forefront in the



recent times. This may get rectified with growth in inner-party democracy.

- **Efficient functioning of parliamentary democracy:** Transparency and accountability in the inner functioning of the political parties is at the core of the parliamentary democracy in the country.

Challenges in ensuring Party Democracy

- **No Law regulating appointments:** Though RPA disqualifies a sitting legislator or a candidate on certain grounds, there is nothing regulating the appointments to offices within the party. A politician may be disqualified from being a legislator, but (s)he may continue to hold high positions within his/her party.
- **Inadequate power with Election Commission of India (ECI):** The ECI is also not equipped to regulate the functioning of the political parties. In the case of 'Indian National Congress vs Institute of Social Welfare & Others' of 2002, the Supreme Court held that the **ECI cannot take punitive action against** registered political parties **for violating the principles of inner-party democracy**
 - The court, acknowledging the de-registering powers of the registering authority, maintained that the issue of political parties is different from other forms of registration.
- **Resistance by Dynastic, caste and religion parties:** Most of the parties are openly caste- or religious-based and also their finances are dubious and opaque. Almost all parties are **family fiefdoms** and there are no periodical in-party elections in Indian parties.
- **Elitism in parties:** Leadership in political party is mostly decided by a coterie of party functionaries who holds sway over the party administration.
 - Even when elections take place in which the members of the national organisational or decision-making body of the party participate, **the pre-determined choice of the party elite is merely supported by the other members.**

Way Forward

- **Constitutional status to political parties:** For, example, **Germany** gives constitutional status to political parties. As per its law, their internal organisation must conform to democratic principles. This could be emulated in India as well.

- **Responsible body within Political parties:** For example, in the U.K., the Conservative Party has a Central Council and an Executive Committee which **elects its President, a Chairman and Vice Chairmen at its annual meeting.**
- **Transparency in funding:** They must publicly account for their assets and for the sources and use of their funds.
- **Rethink anti-defection law:** It should be amended to provide enough room for legitimate dissent by a party member.
- **Others:**
 - **Dinesh Goswami Committee, the Tarkunde Committee and Indrajit Gupta Committee,** has strongly argued for more transparent working of the political parties in the country.
 - **The 1999 Law Commission Report** strongly recommended the introduction of a regulatory framework for governing the internal structures and inner party democracy of the political parties.
 - **Draft Political Parties (Registration and Regulation of Affairs) Act, 2011** aims to regulate the **constitution, functioning, funding, accounts and audit, and other affairs** of and concerning political parties participating in elections.

1.7. THE GLOBAL STATE OF DEMOCRACY 2021

Why in news?

Recently the **International Institute for Democracy and Electoral Assistance (International IDEA)** released the report titled ‘The Global State of Democracy 2021: Building Resilience in a Pandemic Era’.



More on news

- The report is based on **events that have impacted the global democratic governance since the start of the pandemic.**
- **Founded in 1995** by 14 Member States, the International IDEA is the **only intergovernmental organization with the mission to support sustainable democracy as its sole mandate.**
 - **India** joined the organisation in **1995.**

Key findings

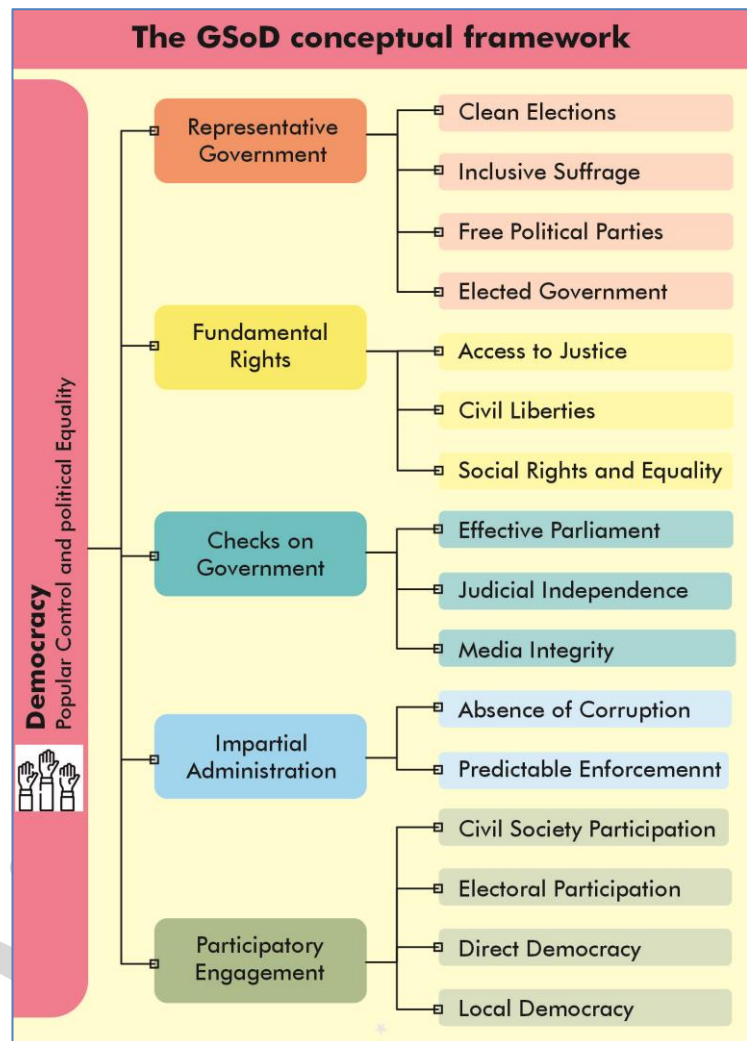
- **Challenges**
 - **More democracies than ever are suffering from democratic erosion.** In 2020, 43% of democracies had suffered declines in the previous 5 years.
 - ✓ Some of the **most worrying examples** of backsliding are found in some of the **world’s largest countries (Brazil, India) and the United States. India imposed the highest number of internet shutdowns last year.** Perhaps the greatest blow to democratic ideals was the fall of the people’s government in Afghanistan.
 - **Deepening authoritarianism** due to the pandemic closing their already reduced civic space.
 - **Decreasing trust in electoral integrity:** For example, the former US Administration’s allegations during the 2020 US presidential election have had spillover effects, including in Brazil, Mexico, Myanmar and Peru, among others.
 - **Impact of pandemic:** The uneven global distribution of Covid-19 vaccines, as well as anti-vaccine views, undermine the uptake of vaccination programmes and risk prolonging the health crisis and normalizing restrictions on basic freedoms.
 - **The weakening of media integrity: Globally, Media Integrity is in decline.**
- **Opportunities**
 - **Democratic adaptation and modernization:** The pandemic forced many democratic institutions, to make more use of digital tools and collaborate more with other agencies, including health authorities.

Such reforms, if maintained beyond the pandemic, can help make democratic institutions more agile and responsive to citizen needs, particularly in the electoral arena.

- **The explosion of civic activism:** People around the world continue not only to believe in the ideal of democracy but also to vocally demand it. 85% of the respondents in one recent global poll said that having a democratic system was either 'fairly good' or 'very good'

✓ **Pro-democracy movements:** Throughout 2020 and 2021, pro-democracy movements have braved repression in many places, such as Belarus, Cuba, Eswatini, Hong Kong and Myanmar.

- **Striding along the democratization path:** For example, in Zambia, the opposition leader sailed to victory in August 2021, despite the incumbent party's strong-arm tactics.
- **Involvement of private sector:** A new legislation is designed to make human right mandatory for companies established or operating in European union
- **Poor handling of pandemic by authoritarian regime:** Authoritarian regimes have not been better than democracies at fighting the pandemic, even without accounting for the lack of data transparency in most non-democracies.



Way ahead

To curb rising authoritarianism and reverse this course, the report calls for a global alliance for the advancement of democracy through a three-point agenda:

- **Deliver:** Government institutions, in close consultation with civil society, must take the lead in recrafting social contracts.
 - They should **address the varied inequalities exacerbated by the Covid-19 pandemic, prioritize corruption eradication, and ensure that environmental sustainability principles** are mainstreamed into policy development.
- **Rebuild:** Government institutions, political parties, electoral management bodies and media should prioritize **(re)building the mutual trust between citizens and their representatives** that characterizes the strongest democracies.
- **Prevent rising authoritarianism and democratic backsliding by investing in democracy education at all levels** of schooling.

1.8. MEMBER OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME (MPLADS)

About MPLAD



- » The MPLADS, a central sector scheme, is one of the steps taken to address the issue of inequity in development.
- » Yearly allocations are provided for undertaking developmental works within an electoral constituency.

Key features

About the fund	The annual MPLADS non-lapsable fund entitlement per MP constituency is Rs. 5 crore (now revised to 2 crore). It is released in the form of grants in-aid directly to the district authorities on receipt of requisite documents.	
Work to be recommended	Mps	Can recommend
	Members of Lok Sabha (LS)	Within their Constituencies
	Elected Members of Rajya Sabha (RS)	Within the state of Elections (with select exceptions).
	An elected MP can contribute MPLADS funds to a place outside that State/ UT, or outside the constituency within the State (or both) for eligible works up to a maximum of Rs. 25 Lakh.	
	Nominated Members of LS and RS.	Works anywhere in the country.
Special Provisions for Scheduled Castes (Scs)/ Scheduled Tribes (STs)	<ul style="list-style-type: none"> » Mps are to recommend every year, works costing at least 15% of the MPLADS entitlement for the year for areas inhabited by SC population and 7.5% for areas inhabited by STs population. » In case there is insufficient tribal population in the area of Lok Sabha Member, they may recommend this amount for the creation of community assets in tribal areas outside of their constituency but within their State of election. » In case a State does not have STs inhabited areas, this amount may be utilized in SCs inhabited areas and vice-versa. 	
Calamity of severe nature in any part of the country	» An MP can recommend works up to a maximum of Rs.1 crore for the affected district. Whether a calamity is of severe nature or not, will be decided by the Government of India.	



MEMBER OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME (MPLADS) AT- A- GLANCE

Way Forward



- » Need based projects by conducting surveys across the constituency.
- » Lapsable fund to tackle the issue of large unspent balances.
- » Periodic impact assessment study
- » Others: Community monitoring, awareness, proper maintenance of the assets

Challenges in successfully implementing the MPLADS

- » Corruption and mis appropriation
- » Inadequate and biased utilisation
- » Poor monitoring by District Authorities
- » Against decentralised governance due to lack of power to local bodies
- » Against separation of power
- » Other issues: Lack of adequate information available to MPs, no proper mechanism to ensure constituent participation in order to determine locally felt need, etc.



1.9. ROLE OF PANCHAYATS IN SERVICE DELIVERY

Why in news?

Recently, in a workshop organised by Ministry of Panchayat Raj, **Mysuru Declaration on Service Delivery by Panchayats was signed.**

More on news

- **Mysuru Declaration** was signed by participants from 16 States and resolved to **roll out the Common Minimum Service delivery by Panchayats** across the country from April 1, 2022.
- The declaration **recognises Citizen Centric Services** that could be provided by the Panchayats **as the Heart of Governance.**
 - It **aims to foster institution-building at the grassroots level** that empowers and delivers services for citizens thereby improving quality of life specifically for the vulnerable and marginalized sections of society.

What make Panchayats suitable for effective delivery of public services?

Panchayats have been mandated for economic development, strengthening social justice and implementation of Central and State Government Schemes including those **29 subjects listed in the Eleventh Schedule** of the Constitution. In this context, Panchayati Raj Institutions (PRIs) are responsible for delivery of basic services as enshrined under **Article 243G** specifically in the areas of Health & Sanitation, Education, Nutrition, Drinking Water.

The PRIs by design has **many positive features** for the effective delivery of essential services. This includes:

- **Participatory Governance:** Gram Sabhas have been empowered to prepare and implement plans at the local level.
- **Social Inclusion:** Constitutionally mandated reservation for women (1/3rd seats) and other marginalised communities such as SCs and STs in Panchayats ensure their participation.
- **Accountability:** Regular elections to Panchayats and empowerment to Gram Sabha to undertake Social Audit under certain programs such as MGNREGA.
- **Responsiveness:** Due to its proximity to voters, locally elected representatives know their small constituency better and are in advantageous position to provide better services.
 - As per NITI Aayog, **Localising of SDGs** i.e. their implementation at the sub national or grassroots level is essential for achieving the SDG targets for provisioning of basic services.
- **Bottom-up approach:** The Gram Panchayats are constitutionally mandated for preparation of Gram Panchayat Development Plans (GDP) that are in convergence with schemes of all related Central Ministries / Line Departments related to 29 subjects.
- **Functional Transparency:** Public disclosure to the Gram Panchayats (GP) regarding funds made available under various schemes.

Major Initiatives taken by the government to enhance capacities of PRIs

- **Rajiv Gandhi Panchayat Sashaktikaran Abhiyan (RGPSA)** to enhance the capacities and effectiveness of GPs and Gram Sabhas, promote people's participation in panchayats, strengthen the institutional structure for capacity building of panchayats etc.
- **Model Citizen's Charter:** It details different categories of services rendered to the citizen by the Panchayat, the conditions for such service and the time limit for such service and aligning actions with localised Sustainable Development Goals (SDGs).
- **Sabki Yojna Sabka Vikas:** An intensive and structured exercise for planning at Gram Sabha through convergence between Panchayati Raj Institutions (PRIs) and concerned departments of the State.
- **Mission Antyodaya:** It seeks to converge government interventions with Gram Panchayats by pooling human and financial resources.
- **eGramSwaraj:** A web-based portal which unifies the planning, accounting and monitoring functions of Gram Panchayats.

Roadblocks for PRIs in effective delivery of services

- **Elite Capture:** Powers and resources devolved to local bodies are frequently captured by the powerful upper caste people.
- **Proxy Representation:** There is a presence of Panch-Pati and Proxy representation in case of women and SC/STs representatives respectively.

- **Fund (lack of fiscal decentralization):** Mostly they lack their own revenue funds and over 90% of the funds that PRIs handle are tied to some schemes (mostly central schemes) reducing PRIs to simple agents of higher-level governments.
- **Functions (lack of clarity in devolved functions):** and paucity of adequate qualified functionaries has allowed concentration of powers with the states.
- **Functionaries (poor human resources):** Absence of any secretarial support and lower levels of technical knowledge, manual auditing.
 - **Non-availability of information at the local level:** It leads to adhocism in prioritisation of schemes/ programmes, poor decision-making, and narrow participation of people in the process.

Measures needed to make the local governments really effective in service delivery

- **Ensuring participatory local level planning** by the PRIs to identify needs, levels of delivery and the enhancements desired by the people in each sector.
- **Assigning clearly demarcated roles** to the PRIs through activity mapping.
- **Confining centrally sponsored and State schemes to a small number of important programmes** to achieve declared national and State goals and also providing adequate space for the PRIs to participate in these schemes.

Best Practices in service delivery by Panchayats	
Kerala : Flattening the curve during COVID	Robust system of effective devolution helped the Kudumbashree programme to function in association with the panchayats.
Bearhatty Gram Panchayat, Tamil Nadu : Social Security Benefits	Special initiatives to enlist all eligible beneficiaries and help them access their social security entitlements.
Dakshina Kannada Zilla Panchayat, Karnataka: Total Sanitation Campaign	High involvement of the Anganwadi Coordination Committee and the Locals, Strong monitoring system, Active SHGs.
Dibrugarh Zilla Parishad, Assam : Vision Document Initiative	Document gives proper perspective of development of the district and includes good administrative practices such as, ensuring transparency of functioning and priority to schemes that address urgent needs of people in the local area.
Gerethang - Labing Gram Panchayat, Sikkim: Service Delivery under Participatory Democracy	Innovative Administrative Practices such as Composite Village Administrative Centre, Single Window System, Motivation of Youth and Multi-Purpose Cooperative Societies (MPCS)

- **Undertaking a well-structured process of administrative and fiscal devolution** that matches the resource availability at each level of the panchayats with functions assigned to it.
- **Providing capacity to the PRIs** in the widest sense of the term to perform their responsibilities efficiently;
- **Leveraging technology:** Digitalisation and Information and communication technology (ICT) intervention such as Geographical Information System (GIS) and satellite imagery to track project implementation has vast potential to ensure more accountable, responsive and citizen- friendly PRIs.
 - **Fifteenth Finance Commission has also recommended to enable online auditing** of accounts and their consolidation at the State and all-India level.

Conclusion

The bottom-up pressure from the people demanding efficient delivery of public goods is increasing on the State executive. It can be effectively met only with deeper decentralization. The digital penetration and connectivity in rural areas is reducing the rural-urban information gap and pushing the administration at the local level to function in an effective way.

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

Why in News?

2021 marks the 25th year of enactment of PESA.

About Panchayats (Extension to the Scheduled Areas) Act or PESA Act, 1996



- » **Article 243M** of the Constitution exempts the **Fifth Schedule** areas from **Part IX** of the Constitution, however, the **Parliament is empowered to extend its provisions to the Scheduled and Tribal Areas by law.**
- » PESA Act, also called a 'Constitution within the Constitution', extends the Provision of Panchayati Raj (Part IX) of the Constitution to the **Fifth Schedule areas** of **10 States** under **clause (1) of the Article 244** with certain modifications and exceptions.
 - » The 10 states: Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Telangana.
- » The **Ministry of Panchayati Raj** is the **nodal Ministry** for implementation of the provisions of PESA Act.

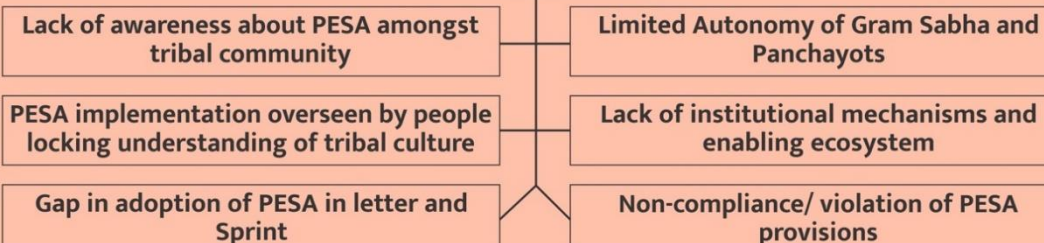
Major Powers of Gram Sabhas Under PESA

- » Power of mandatory consultation in matters of land acquisition prevent alienation of land and restore alienated land
- » To control institutions and functionaries in all social sectors and local plans
- » To manage minor water bodies, ownership of minor forest produce
- » Regulate and restrict sale/consumption of liquor, manage village markets, control money lending to scheduled tribes
- » Resettlement and rehabilitation and prospecting licenses/ mining leases for minor minerals



PANCHAYATS (EXTENSION TO THE SCHEDULED AREAS) ACT, 1996 AT- A- GLANCE

Challenges in PESA Implementation



Way Forward

- » **Implement Municipalities Extension to the Scheduled Areas (MESA):** Bhuria Committee recommended PESA and MESA for extending the provisions of 73rd and 74th amendments to V (Fifth) schedule areas. But urban tribal areas are yet to have MESA
- » **Framing of PESA Rules:** The remaining states must frame the PESA rules expeditiously and implement based on the **Ministry of Panchayati Raj model rules of 2009.**
- » **Convergence of PESA with other regulations** including Forest Rights Act (2006), Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (2013), etc. to protect tribal rights/culture.
- » **Other Steps:** Create New Tribal Community Development Model, reduce Land alienation among tribes and focus on greater social development (health and education) for capacity building of tribal communities.



1.11. CHANGING ROLE OF CIVIL SOCIETY IN EMERGING INDIA

Why in news?

Recently, National Security Adviser (NSA) Ajit Doval said that if civil society can be subverted, divided and manipulated it will “hurt the interest of the nation”.

More about the news

- NSA emphasised that the **civil society is the new frontiers of war** or the **fourth-generation warfare**, and it is the **responsibility of the police to protect** people from being subverted, divided and manipulated.
 - **Fourth-generation warfare** refers to **any conflict where the State loses its monopoly on war** and is fighting non-state actors, such as terror groups or insurgents.
 - **First-generation warfare** refers to a formal battlefield war, second-generation to artillery fire, and third generation to speed, surprise and infiltration of an enemy’s military.
- In this regard, **India needs the effective role of civil society in the making of new India**. All the new initiatives of the government require the participation and awareness of people and there is no better organisation than the civil society to achieve this objective.

What is civil society and their roles?

- According to World Bank, **civil society refers to the wide array of non-governmental and not for profit organizations** that have a presence in public life, express the interests and values of their members and others, based on ethical, cultural, political, scientific, religious or philanthropic considerations.
- In a civil society **people voluntarily come together to achieve the desired objective of welfare** of the society or to raise the problems of people before the state.
 - For instance, **Kudumbashree**, a community organization of Neighborhood Groups (NHGs) of women in Kerala, has been recognized as an effective strategy for the **empowerment of women in rural as well as urban areas**.

How with the Emerging India the role of Indian Civil society is changing?

- **Political accountability:** NGO like Association for Democratic Reforms have decided to approach the Centre for expediting implementation of all electoral reforms, election management reforms, democratic reforms which are pending for more than two-and-half-decades.

- **Accountable governance:** Civil society has gone beyond its traditional role of watchdog to using the government’s mechanisms like social auditing, monitoring outcomes of programmes to **hold it accountable**. Example- Mazdoor Kisan Shakti Sangathan (MKSS) for RTI Act.

- **Empowering local communities:** For example, NGO’s like Childline India Foundation, World Vision, Arambh India have played important role in raising awareness on child sexual abuse.

- **Economic reforms:** The National Rural Employment Guarantee Act, the Forest Rights Act, the Right to Education Act, the upcoming Right to Food Bill, and the Land Acquisition Act are examples of such laws.

- **Strong environment movement:** For instance, at state level, the local activists are working to save Chilika Lake, Khandadhar Fall Protect, Olive Ridley Tortoise, Coastal Beach Protection Movement etc.



Challenges in front of Civil Society in realising their full potential

- **Technological:** Majority of Indian citizens **lack digital literacy** and online safety is an alien concept to many who may have digital literacy. **Language, accessibility barriers**, limited data and infrastructural systems further compound the scenario.
- **Economical:** The dependency on donations tied to specific projects makes it difficult for many NGOs to have continuity and coherence in their actions.
- **Social:** They are the driving force in slowing down the agenda of liberalisation and clearance of corporate projects, designed to benefit the people in large. **Lack of awareness** among the masses about existence and functioning of the civil society organisations.
- **Political:** In 2015, the centre increased e-filing requirements. Centre cancelled 10,069 FCRA (Foreign Contribution Regulation Act) registration in 2015 and another 4,943 in 2017.
- **Security:** Intelligence Bureau (IB) inputs have shown that foreign funds entering India were used to fund activities that destabilise national peace and security. The inputs even indicated that the money was used to train naxals

Way forward

- **Accountability:** Civil Society Institutions (CSIs) need to be held accountable for their acts of omission and commission which have enormous social and environmental consequences.
- **Evolve multiple sources of funding:** This will help to reduce dependence on rich donors. CSIs must accept and practice the highest standards of financial reporting and disclosure and hold themselves open to public audits, social audits.
- **Role of morality and ethics in hiring:** CSIs could work towards **attracting the best of talent**, but those who get employment in CSIs must first perform at least three years of voluntary service with just a living wage stipend, working with poor or disadvantaged communities in rural or urban low-income areas.
- **Technology-based interventions at scale:** For example, the government and private sector service providers need to prioritise the availability of digital infrastructure and connectivity while civil society integrates programmatic responses into government priorities.

1.12. DIGITAL SOVEREIGNTY

Why in News?

At Sydney dialogue, prime minister said that digital age is raising new questions on sovereignty, governance, ethics, law, rights, and security.

About digital sovereignty

- Digital sovereignty is the **right of a state to govern its network to serve its national interests**, the most important of which are security, privacy and commerce.
- Today, the **market for digital products and services is dominated by American and Chinese multinational corporations**.
- It has become a **concern for many policymakers** who feel there is too much control ceded to too few places, too little choice in the tech market, and too much power in the hands of a small number of large tech companies.

Significance of Data Sovereignty

- **To check the economic dependence:** Perceived market dominance of technology companies from US and China may lead to new forms of hegemony and exploitation (described as digital imperialism or digital colonialism).
 - GAFAs (Google, Apple, Facebook and Amazon) and NATUs (Netflix, Airbnb, Tesla and Uber) as they possess data of billions of users around the world.

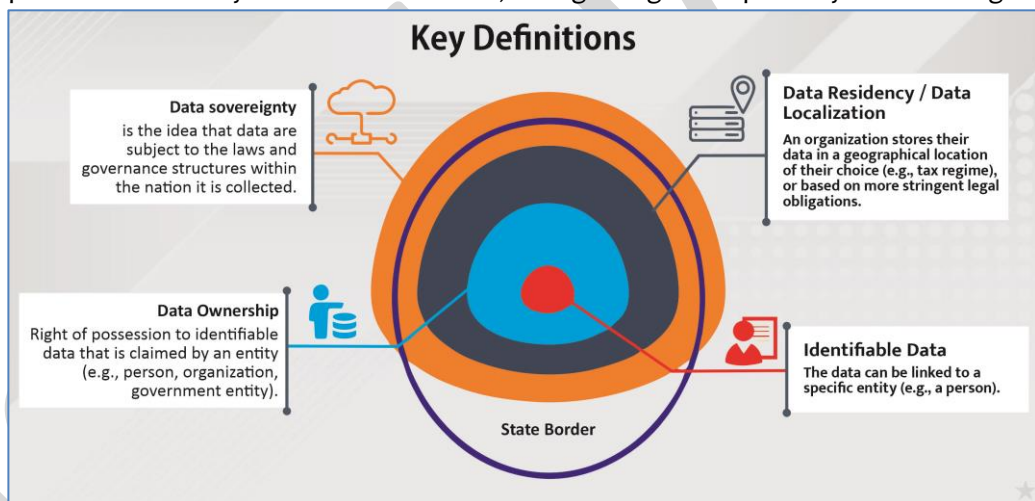
Global experiences

- **EU's General Data Protection Regulation (GDPR)**
 - Under the terms of the GDPR, any organization no matter where it is based, must abide by a set of **data management rules if it wants to trade with customers in EU countries**.
 - Those rules make it possible for individual citizens to take more control of how their data might be used.
- **European cloud service Gaia-X**, which was announced jointly by France and Germany in 2019.
 - It plans to **connect small and medium-sized cloud providers in Europe** that allows them to offer an alternative to the world's biggest (often US-based) cloud service providers (e.g., Amazon, Google, Microsoft).

- **Reduce technological dependence:** To identify and reduce dependencies on foreign data infrastructure, tackle unfair competition in digital markets, and address vulnerabilities w.r.t emerging technologies, 5G and artificial Intelligence.
- **Guaranteed access to data:** Digital Sovereignty is also needed for the political autonomy of nations, the innovativeness of businesses, and the freedom of research institutions so that relevant technologies and data must be available through guaranteed access, even in times of crisis.
- **Internal security and unity of countries** – One prime concern about the storage of personal data and its future trade, is that it could be used to create threats to the internal security of any country, since the selling of such data to an enemy country could lead to the possibility of accentuating ethnic conflicts in the country. Non-state actors can also misuse data for achieving their objectives.
- **Citizens’ behaviour** – The aspersion around storage of personal data is that it could be used for altering the behaviours and opinions of citizens.

Challenges to Digital Sovereignty

- **Lack of global rules:** WTO’s legal architecture was inked in the pre-internet era and not designed to sufficiently regulate the nature of present-day data flows.
- **Multi-stakeholder internet governance:** It continues to explicitly reject established government-dominated international institutions and seeks to replace them with the principle of transnationalism.
- **Against liberal democracy:** **Data localization** measures support **surveillance** and social and political control.
- **Act as trade barrier:** Some of the provisions of the new generation trade agreements consider tighter privacy laws and policies in a country as a barrier for trade, disregarding the superiority of human rights laws over any other law.
- **Rise of transnational networks:** Complexity of nested responsibilities and the global reach of networks cannot be addressed properly within national jurisdictions.
 - Legislative procedures are too slow to keep up with the pace of innovation of digital technologies and the associated business models.



Way Forward

- **Identifying dependencies and weaknesses** on foreign technologies and digital services is the first step towards defining the capacities that will be needed to develop to enhance digital sovereignty.
 - The following five areas are key in this respect: cloud and data infrastructure; business-to-government data (B2G); business-to-consumer data (B2C); 5G connectivity; and AI
- India and digital sovereignty**

 - **India’s digital sovereignty vision has three pillars:**
 - A push to **leverage data as a key tool of economic growth and development** by asserting regulatory oversight over the practices of multinational private actors;
 - A domestic push backed by a global diplomatic gambit to **prevent the inequitable construction of digital trade rules;**
 - Leveraging of **data security in bilateral security disputes.**
 - **Steps taken in India**
 - **Personal Data Protection Bill, 2019** that seeks to provide for protection of personal data of individuals and establishes a Data Protection Authority for the same.
 - **RBI directions to all system providers** to ensure that entire data relating to payment systems operated by them is stored in a system only in India.

- **Empower:** with a view to harnessing untapped potential and to remove barriers in the digital single market, pursue an ambitious strategy on data, and boost investment in research and development and in digital skills for the workforce.
- **Engage internationally** to boost partnerships and cooperation for the global governance of data, digital markets, emerging technologies, and international data flows.
- **Data localisation**—government measures that compel companies to store digital data locally within their jurisdiction—as the sovereign response to transborder connectivity.

1.13. PUBLIC PROCUREMENT AND PROJECT MANAGEMENT

Why in News?

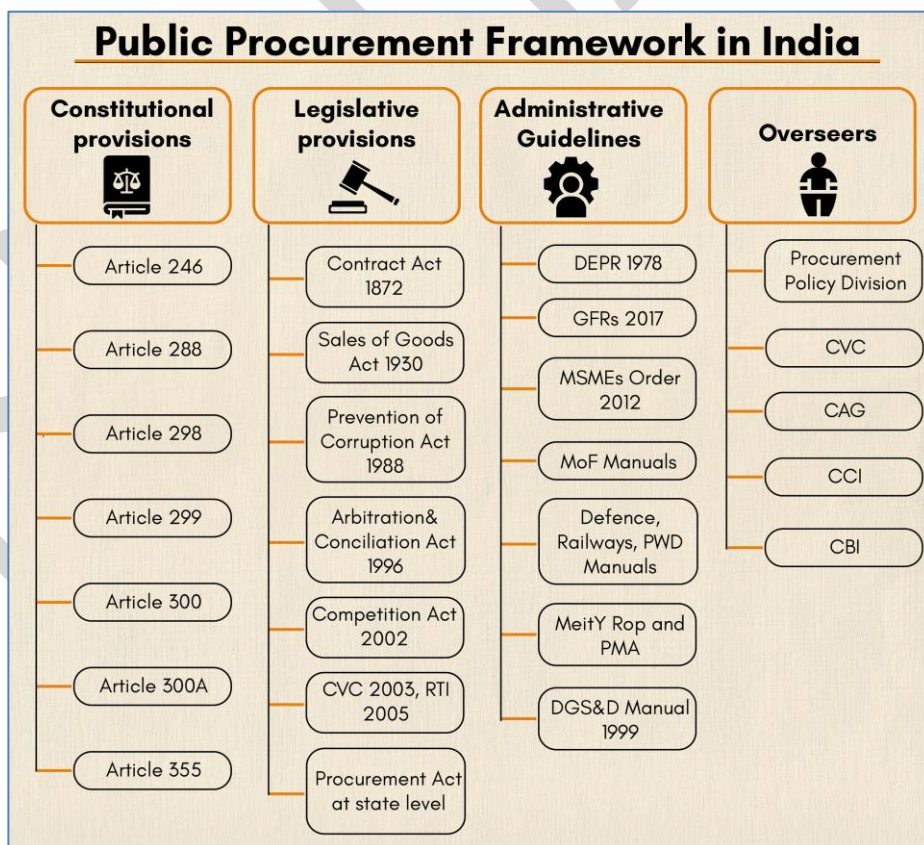
Recently, the Department of Expenditure, Ministry of Finance released guidelines for reforms in Public Procurement and Project Management.

Public Procurement and Project Management (PPPM) Framework in India

- PPPM includes the **procurement of goods and services by public entities** and execution of different projects. E.g., the goods or services purchased by government entities for public service delivery.
- Presently, the **General Financial Rules (2017)** and the **Ministry of Finance Procurement Manuals** act as **general guidelines** to be followed by all agencies with freedom for agencies to have its **own procurement rules complying with general rules**.
 - E.g., the Ministry of **Defence, Railways**, etc. with almost **50%** of their respective **budget** spent on **public procurement** have their own procurement guidelines such as Defence Acquisition Procedure 2020.
- The new guidelines are released as ‘**general instructions**’ under the **General Financial Rules (GFR), 2017**.

Why was a need felt to tweak the framework?

- **Absence of a comprehensive law:** despite such large sums of public money and their vital role, India lacks a comprehensive law to promote competitive, transparent, and efficient PPPM.
- **Growing share of public procurement:** Competition Commission of India estimates public procurement in India to be 30% of the GDP (in 2013).
- **Complex regulatory framework:** Three-tiers of governance with diverse ministries and objectives, large number of statutory bodies, autonomous institutions, PSUs etc. with different needs.
- **Inefficiency of Least Cost Selection (or ‘L1’) method:** Under this method, the lowest bidder is selected for the PPPM. However, when it comes to high impact and technologically complex procurements, this method leads to sub-optimal delivery, non-performances, higher life cycle cost, delays, and arbitrations.
 - E.g., **Quality Council of India** study of highway development sector highlighted that the L1 method **fails to consider quality and performance**.



Key Provisions under latest Guidelines

- **Efficient implementation strategy**
 - **Quality cum Cost Based Selection (QCBS):** an alternative to traditional L1 system for better Project execution and quality assurance.
 - **Allowing Fixed Budget-based Selection (FBS):** For consultancy service and **Consultant substitution** only in compelling or unavoidable circumstances.
 - **Detailed Project Reports and Feasibility Study/Ground Survey** before undertaking a project; Inclusion
- **Procedural Clarity:** Clear expression of Technical and Financial eligibility criteria for bidders; Engineering, Procurement and Construction (EPC) contracts to specify broad technical specifications and key output parameters; defined role of Project Management Consultant (PMC), etc.
- **Digital Thrust:** Open Online Tendering as default; Implementation of Electronic-Measurement books (e-MBs) and its integration with IT-enabled project monitoring system, etc.
- **Strict payment timelines:** Such as **75% of ad-hoc payments within 10 working days** of bill submission; Interest on payment delay etc. to improve liquidity at contractors especially Micro, Small and Medium Enterprises (MSMEs).
- **Dispute Reduction:** through critical review arbitration/court award and appeal against award only on genuine merit by Public Authorities.

WTO Agreement on Government Procurement (GPA)

- It is a **plurilateral agreement** (i.e., applying to a number of WTO Members but not all) to ensure **open, fair** and **transparent** conditions of competition in the government procurement markets.
- It guarantees **national treatment** and **non-discrimination** for the suppliers of parties to the Agreement with respect to procurement of covered goods, services, and construction services as set out in each party's schedules
- **India is not a party** to it but an **observer government** from **2010**.

What are the challenges that remain in PPPM?

- **Inefficient use of resources:** Due to frequent cost overrun, project delays and wastage of resources.
- **Corruption:** Poor transparency and accountability resulting in unfair practices to limit the competitions at various levels. E.g. Anti-Competitive Practices by Suppliers such as **market sharing and cartel formation, bid rigging** and collusive bidding, abuse of dominance etc.
- **Poor Decision-Making:** Due to complex procedures, the bureaucratic hassles, etc.
- **Lack of Competitive Neutrality:** No level playing field due to preference to public providers.
- **Other Constraints:** Information Asymmetry among private institutions, especially at MSEs level; unavailability of sufficient procurement professionals; and Poor Grievance Redressal mechanism.

Way Forward

Building on existing Rules and procedure, India need reforms in whole public procurement and project management with features, practices, incentives /disincentives etc. as:

- **Legislative backing to the General Financial Rules:** To ensure a transparent, accountable, and competitive procurement regime.
- **Enhancing transparency & accountability:** Introduction of a **Debriefing Procedure** to let unsuccessful bidders know why they were not successful as part of 'Right to Know'. Also, **incorporate Integrity Pacts** where possible and appoint more Independent External Monitors (first approved by CVC in 2016 for 132 procuring entities).
- **Simplify existing procedures:** To provide flexibility on use of discretion. Ensure close coordination between CCI and Governments/ Departments/ PSUs to detect and deter unfair practices. Revamp and strictly enforce blacklisting rules for corrupt firms.
- **Alternative procurement mechanisms:** E.g. Promotion of E-procurement methods such as Central Public Procurement Portal and Government e-Marketing (GeM) portal.
- **Periodic awareness and training** of procurement officials in all aspects of public procurement for capacity building at various governance levels.

2. INTERNATIONAL RELATIONS

2.1. INDIA IN THE EMERGING WORLD ORDER

Why in news?

At a time when global, regional and national politics is undergoing a churn, some of India's finest public intellectuals and foreign policy experts have come together to outline the contours of the new world order and what India should do to achieve its objectives.

Various facets of the changing world order

- **Secular diffusion of power:** World today is **less structured and ordered**; neither unipolar, as it was after the end of the Cold War, nor yet multipolar.
 - The relative decline of the United States is not just because of the emergence of China, but also because of significant emerging powers such as India, South Korea in Asia; Nigeria and South Africa in Africa; Besides, there are existing centres of power which continue to wield significant economic and military power such as Japan, Australia, Germany, Russia and European Union.
- **Missing international cooperation:** The lack of a coherent international response to the COVID-19 pandemic and the climate change is proof of an absence of international order and of the ineffectiveness of multilateral institutions.
- **Retreat from Globalisation:** There is an upsurge in narrow nationalism and regionalisation of trade across the world accelerated by technological changes such as cloud computing, 3-D printing and artificial intelligence. The technologies have made manufacturing less dependent on cheap labour in the developing world and on-shoring a viable option in some industries.
- **Shifting geopolitical and economic centres of gravity:** Rise of China and others, and structural China-United States strategic rivalry have shifted the geopolitical and economic centres of gravity from the Atlantic to Asia.
- **Newer global threats:** We are entering a new polarised information age, and face ecological crises of the Anthropocene, making climate change an existential threat.

A **key challenge** in this decade will be India's ability to retain its credibility as a significant countervailing power to China, and leveraging this to mobilise international support for its emergence as a major power.

Opportunities for India

The way forward for India is **based on the core strategic principles in Non-Alignment 2.0** that are: independent judgement, developing our capacities, and creating an equitable and enabling international order for India's transformation. These can be elaborated as under:

- **Expanding India's strategic autonomy:** This entails keeping decision making on major issues in our own hands while also working with all other powers on our concerns. The ideal position for India in the India-US-China triangle would be to have better bilateral relations individually with both the US and China, than they have with each other.
- **Increasing security congruence with the U.S.** could enable cooperation in fields significant for India's transformation: energy, trade, investment, education and health.



Other areas in which India and the U.S. could increase cooperation are: climate change and energy, on tech solutions for renewable energy, and on digital cooperation.

- **Building Issue-based Coalitions:** Several middle powers such as Japan, Australia are India's natural partners. On broader issues such as climate change, counter-terrorism and maritime security, therefore, it should be possible for India to create larger issue-based coalitions with them.
- **Focussing on maritime security:** At sea, the balance is today more favourable to us than on the continent. Experts suggest the creation of a Maritime Commission, a Bay of Bengal Initiative with partner countries giving high priority to ensure the safety and security of the sea-lanes.
- **Reinvigorating regional institutions such as SAARC** which project India to be the primary source of both prosperity and security in the subcontinent and the Indian Ocean Region.
- **Self-Reliance:** India could benefit at the margins from the unscrambling and relocation of existing supply chains in Asia, but its ability to do so will depend on addressing long-standing challenges that have made it a less attractive destination for foreign investment in manufacturing as compared to other Asian countries such as Vietnam or Bangladesh.
- **Preventing Domestic Politics Affecting Foreign Policy:** In this context, Domestic policies should reflect inclusivity, reducing inequalities, and delivering core responsibilities of health, education and public security to all its citizens. Also, there is a need to realise that India's innate cosmopolitanism is derived from its extraordinary diversity.

Conclusion

The foundational source of India's influence in the world is the power of its example. This rests on four pillars: domestic economic growth, social inclusion, political democracy, and a broadly liberal constitutional order. If these integral pillars remain strong, India can emerge more prosperous and influential in the years ahead.

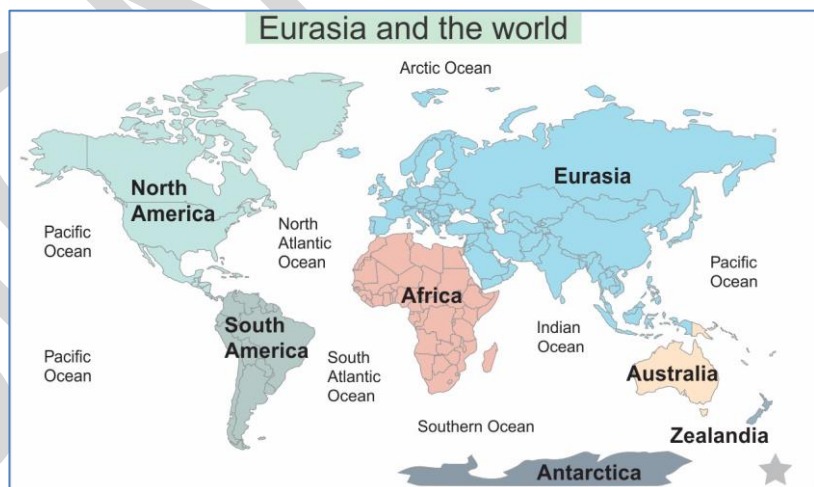
2.2. INDIA-EURASIA

Why in news?

The changing dynamics in international relations and growing significance of Eurasia necessitates India to have a new, integrated approach to Eurasia as per foreign policy experts.

About Eurasia

Eurasia refers to the **largest continental area** on Earth, comprising 93 countries of Europe, Middle East and Asia and is home to over 5 billion people.



- There is however **no shared international understanding** of what constitutes the region.

What is leading to the growing significance of Eurasia in the present world order?

- **Dramatic rise of China and its growing strategic assertiveness:** China, in its quest to create a China-centric Asian order is striving hard to create a new economic order and security initiatives sans the US. The strategic magnitude of (projects like) the BRI, RCEP, Sino-EU trade deal have added to Beijing's powerful leverages in Eurasia.
- **Changing Geostrategic Alignments:** Growing animosity between China and US has led China and Russia to cement their relationship to counter the USA. There is growing cooperation on the Belt and Road Initiative (BRI), tie-up with the Eurasian Economic Union (EEU), cooperation in the Arctic region, energy, trade, and in the military domain through joint production and military exercises.
 - EEU is a customs union which would impose tariffs on imports from non-EEU members.
- **Regional geostrategic alliances:** China and Russia are increasingly drawing in Iran, another adversary of the US. All three have recently **deepened their ties with a joint military exercise** in the Gulf of Oman and Iran is also a vital component of the Chinese Belt and Road Initiative.

- Concurrently, the **China-Iran-Russia-Turkey-Pakistan strategic pentagonal** is taking shape that will impact the geopolitics of Eurasia and West Asia and will have profound implications on the regional balance of power.
- **Strong prospects for economic growth:** Eurasia has been one of the most dynamic regions of the world in terms of economic growth with an average annual per capita income growth rate of about 4-5% over the past few years.
- **Region being developed as a countermeasure to Indo-Pacific Region:** Middle powers like Japan and Australia along with USA are confining themselves to the Indo Pacific region. China and Russia as a countermeasure are developing Eurasia as a power block.

Need for India to have integrated approach towards Eurasia

- **Energy Security:** Eurasian states are prospective long-term partners of India in energy (oil, natural gas) and natural resources (uranium and iron ore). Economic cooperation with these countries is important for safeguarding India's interests.
- **Economic Objectives:**
 - **The strategic peninsular location of Eurasia** connecting various sub-regions of Asia and West Asia makes it important for India's objective of becoming an Economic Hub. This could well be facilitated by recent initiatives such as the Make in India, Skill India and Digital India.
 - **Tourism potential:** India is an emerging tourist nation and Eurasia is important to garner tourists from the region.
 - **Medical and Pharmaceutical industry:** India is working on setting up a Central Asian e-network with its hub in India, to deliver, tele-education and tele-medicine connectivity, linking all the five Central Asian States.
- **Strategic objectives:**
 - **Eurasian Region is interested in decreasing their dependence on China and Russia** and is prepared to support India in its bid to strengthen its position in the region.
 - **Stability in Central Asia:** Central Asian, the centroid of the new Eurasia, is a part of India's "extended neighborhood" and of great geo-strategic value to India. With the emerging threat of ISIL, the region's porous borders and the problem of drugs and arms, achieving stability in the region is in India's interest.
 - **Complementing Indo-Pacific strategy:** If the Indo-Pacific is about Delhi's new maritime geopolitics, Eurasia involves the reorientation of India's continental strategy needed to address the continental issues such as border disputes.
- **Strengthening Cultural relations:** India's ancient civilisational links exist with Eurasia; the collaboration between the Sangha and the Shreni in the Buddhist era produced lasting interaction between the two regions.
 - The peoples of Siberia have distinctive historical-cultural similarities with the Indian Himalayas due to common traditions and Buddhist culture.

Challenges for expanding India's footprint in Eurasia

- **Geographical Limitations:** India lacks direct geographical access to Central Asia.
- **China's dominance:** Beijing's muscular approach to the long and disputed border with Bhutan and India, its pursuit for a security presence in Tajikistan, the active search for a larger role in Afghanistan are examples of China's assertiveness.
- **Pakistan's constant reluctance:** Pakistan has declined to join the recently held Delhi Regional Security Dialogue on Afghanistan as a part of developing a Eurasian strategy.

Major Initiatives by India

- **Boosting Connectivity to balance China's growing presence in the region**
 - **International North-South Transport Corridor (INSTC)** to gain smooth access into Central Asia and beyond bypassing Pakistan.
 - India, Iran and Uzbekistan discussed ways for **joint use of the Chabahar port** for trade and enhancing regional connectivity.
 - Memorandum of Intent was signed to open a **maritime route between Chennai and Vladivostok (Russia's Far East)**.
- **India-EU Strategic Partnership:** Common roadmap to guide joint action and further strengthen the India-EU Strategic Partnership over the next five years.

Way ahead for India

- **Greater Engagement with EU and NATO Members:** India's Eurasian policy must necessarily involve greater engagement with both the European Union and the North Atlantic Treaty Organisation as a crucial step towards a sustained security dialogue with Europe.
- **Intensifying India-Russia Dialogues:** Russia does see China as a long-term rival and extended the scope of Greater Eurasian Partnership (GEP) to include countries like India, Iran, South Korea to dilute Beijing's power

in the region. This is an opportunity for India where the two countries could cooperate in areas like Central Asia, Afghanistan, Russia's Far East and Arctic to further boost their relationship and widen cooperation on Eurasian security.

- **Geo-Economic Cooperation:** India can pursue EU countries to engage in Indo-pacific narrative to mobilise massive economic resources for sustainable development of regional infrastructure, wield political influence and leverage its significant soft power to shape the Eurasian discourse.
- **Collaboration with Iran and Arab peninsula:** Iran's location makes it critical for the future of Afghanistan and Central Asia and the religious influence of Arabia is quite consequential in the region. India's partnerships with these countries is also critical in overcoming Turkey's alliance with Pakistan.
- **Balancing the priorities:** India needs to balance its Connect Eurasia policy with its Act East Policy and Indo-Pacific Strategy. Being an important member of BRICS, SCO, and RIC, India must utilize the platforms to promote multi-dimensional strategic cooperation with Russia and China.

2.2.1. INDIA-CENTRAL ASIA

Why in news?

Recently, Foreign minister was in **Kyrgyzstan** on a **bilateral visit**, where he announced a \$200 million credit line and later attended a meeting of the **Conference on Interaction and Confidence-Building Measures in Asia (CICA)** in Kazakhstan.

India-Central Asia relations: From Past to Present

- Central Asian Republics (Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan, and Uzbekistan) form a part of **India's extended neighbourhood**.
- India has **several millennia old** historical, cultural and civilisational links with Central Asia (Refer timeline).
- Various steps have been taken over the last decade to strengthen the relationship:
 - **Bilateral:** Defence agreement with Tajikistan and Civil nuclear cooperation with Kazakhstan
 - **Multilateral:** Agreement over TAPI pipeline, India joining platforms such as SCO.
 - **Multilayered:** India's Connect Central Asia Policy, India Central-Asia Dialogue Forum, India-Central Asia Business Forum.



Significance of Central Asia for India

- **Natural and mineral resources:** These countries are endowed with **commercially viable quantities** of most minerals like coal, oil, gas, uranium, gold, lead, zinc, iron ore, tin, copper, manganese etc. Kyrgyzstan and Tajikistan have enormous **hydel resources**. Thus, the region can help in India's quest for **energy security**.
- **Geostrategic:** Traditionally, Central Asia has been an **arena of "great game"**. The modern version is being played out even today. **Russia, China, US, Turkey, Iran, Europe, EU, Japan, Pakistan, India, Afghanistan** have all substantial security and economic interests in the region.
 - Also, the region lies at the **crossroads of Russia, the Middle East, South Asia and the Far East**. Any **geopolitical changes** in the region inevitably extend their **impact on several states in the neighbourhood**.
- **Security:** Illegal Drug trade, Religious extremism, fundamentalism and terrorism are common challenges emanating from the region. Peace and stability in the region is therefore crucial factor for India's security.
- **Agriculture:** Central Asia has **huge cultivable areas lying barren** and without being put to any productive use. Uzbekistan alone offers an enormous opportunity for **cultivation of pulses**. Indian agribusiness companies can setup **commercial agro-industrial complexes** in Central Asia.
- **Trade and Investment:** Central Asia is a **huge consumer market** for a range of goods and services, which India can provide. For India, economic cooperation is possible through joint ventures in **banking, insurance, power generation, information technology, and the pharmaceutical industry**.

Challenges in development of India-Central Asian relationships

- **Poor connectivity:** The adverse **geographic terrain and the thorny India-Pakistan border dynamic**, greatly impedes connectivity, thereby **curbing greater economic cooperation** between India and the region.
- **Unrealised trade potential due to limited connectivity, trade regulatory hindrances and political fragility:** India's trade with the region amounts to US\$ 2 billion, as compared to US\$ 100 billion **trade with China**.
- **Energy geopolitics:** The **scramble for oil and gas in Central Asia** has attracted several actors in the region. The **presence of major powers** in the region constrains India as a latecomer.
 - China has emerged as the dominant player, as compared to India, by providing **loans and investing heavily** in the region through ambitious projects like Belt and Road Initiative (BRI).
- **Volatile Security scenario** due to instability in Afghanistan and Pakistan, confrontation between Iran and the United States discourages investments in the region.
- **Internal dynamics:** Delineation of borders by communist leadership **overlooked many ethnic, tribal, linguistic, geographical, and even economic factors**. Consequently, the post-soviet era saw **problems of governance, regulation of movement across the borders and many inter-state disputes**.

Ways to enhance the relationships

- **Deepening engagement:** India could take the initiative to set up an **India-Central Asia Forum Summit** on the lines of the India-Africa Forum Summit to discuss issues of **mutual concern and to come up with concrete suggestions**.
 - In economic realm, India must expeditiously **finalise the Free Trade Agreement (FTA) between India and the Eurasian Economic Union (EAEU)**.
- **Revitalizing interaction in cooperation with third countries:** There is a possibility of **India, the US and Russia cooperating in areas** such as non-conventional sources of energy, thus **containing the dangers** of drug trafficking and other negative activities.
 - This will go a long way in **stabilising the region, as well as ensuring the interests of all partners**.
- **Defence cooperation:** Apart from **annual exercises** (like KAZIND with Kazakhstan), **joint manufacturing**, especially in the defence sector is highly required. Defence cooperation should be institutionalised through mechanisms like setting up a **Joint Working Group** on defence related activities. An **India-Central Asia Defence Expo** could be organised.
- **Capacity Building:** India can strengthen its outreach in Central Asia by providing **assistance in augmenting the Social Capital** through programs like the Indian Technical and Economic Cooperation (ITEC) Programme and the Indian Council for Cultural Relations (ICCR).
 - Under **High Impact Community Development Projects (HICDP)**, India provides Grant assistance for furthering socio-economic development.
 - India's rich experience in **managing the local-self-government** can also be helpful to Central Asian countries **where mahalla culture (local self-government) is widely prevalent**.
- **Soft-diplomacy approach:** In contrast to China's images as a coercive-assertive hegemon, debt-trap diplomacy and rising anti-China sentiments amongst the population of the region, **India can use its soft diplomacy to take the opportunities presented in the region**.

Connectivity efforts by India

- **International North-South Transport Corridor (INSTC) agreement** in 2000 also offers connectivity between India and Central Asia through Iran.
- India has also explored the possibility of **connecting with Central Asia via Iran's Chabahar port** and thereafter overland corridors passing through Afghanistan.
- To facilitate transport of goods between India and Central Asia via Iran, India acceded to the Customs Convention on International Transport of Goods under cover of **TIR Carnets in 2017** and joined the **Ashgabat Agreement**, which includes Iran, Oman, Turkmenistan, and Uzbekistan in 2018.

Conclusion

With the actualization of the **BRI, India's Connect Central Asia policy, and the EU's new Central Asia strategy**, the 21st century could possibly be the **most decisive period** for the region. Stemming from its historic cultural and economic bonds, India is now **well placed to take a more active role** in the development of the region.

2.2.2. INDIA-EUROPEAN UNION

Why in news?

Recently, during an **India-EU Energy Panel meet**, both sides have agreed to step up their Clean Energy and Climate Partnership.

More about news

- They jointly agreed on a **detailed work programme** until 2023 to implement the **2016 India-EU Clean Energy and Climate Partnership**.
- The Energy Panel agreed on increased technical cooperation in **energy efficiency, renewable energy, green hydrogen, grid integration**, sustainable financing etc.

A Snapshot of India-EU relations

- **Strategic partnership in 2004** with emphasis on developing **international cooperation**. The signing of the strategic partnership led to the release of the **first joint action plan (JAP) in 2005**.
- **Negotiations on the India-EU comprehensive FTA**- Broad-based Trade and Investment Agreement (BTIA) began in 2007.
- **Over the next decade**, India-EU partnership lost **much of its momentum** due to several challenges such as diverging positions on issues like climate change, Italian Marine issue etc.
- But these challenges subsided with emergence of new areas of cooperation in the **13th EU-India Summit in 2016** that gave a **new momentum to the bilateral relationship** in the form of **EU-India Agenda for Action 2020**.
- During 15th India-European Union Summit in **2020**, "**India-EU Strategic Partnership: A Roadmap to 2025**" was endorsed as a common roadmap to further strengthen the Strategic Partnership.

Significance of EU for India

- **To counter China:** When it comes to **countering China's economic and political influence**, Europe has the **economic and technological heft** to be an important partner for India.
- **Economic logic:** EU is **India's largest trading partner** and the **second-largest export destination**.
 - Since the 1970s, India has been a **beneficiary of preferential tariffs** for its exports under the EU's **generalised system of preferences**.
 - Also, European companies present in India, provide **direct and indirect jobs to millions**.
- **Potential relationship with smaller countries of EU:** For instance, there exist a green strategic partnership between India and Denmark.
- **Education:** India is the largest recipient of Erasmus Mundus funding (EU funded scholarships) for higher education.

Common areas of interests

- **Blue Economy/Western Indian Ocean:** The EU's **Blue Growth Initiative**, which seeks to harness maritime wealth, corresponds with India's call to embrace a "**Blue Revolution**."
- **Defending multilateralism and rule based order:** There is a recognition that the India-EU strategic partnership is crucial for the **rebalancing of the international system**.
- **Indo-pacific:** EU's Indo-Pacific strategy has much to **complement New Delhi's goals in the region** as it focuses on infrastructure investments, resilient supply chains, and emerging technology.
- **Climate Change:** Cooperation between India and EU to achieve the goals of Paris Agreement and Other Sustainable Development targets.
- **Connectivity:** India and EU have announced **comprehensive Connectivity Partnership** on supporting resilient and sustainable connectivity both in India and in third countries and regions, including Africa, Central Asia and the Indo-Pacific that will provide an **alternative to China's mega Belt and Road Initiative (BRI)**.
- **Turbulence in the Middle East (West Asia)** is incentivizing greater EU-India security dialogue.
- **Development cooperation:** India and the EU have also partnered on various projects related to **resource efficiency, renewable energy and digital cooperation**.

Concerns in India-EU relations

- **Inadequate diplomatic attention:** India prefers to **focus on its bilateral relationships** with key EU member states rather with grouping as a whole.

- **Untapped Trade potential:** The **absence of a FTA** is the biggest **impediment** to a dynamic, economic and trade relationship.
 - **Negotiations over the Free Trade Agreement stalled** over issues with **access to trade in services, non-tariff barriers** on trade in goods, agreement on **India's IPR Regime, data secure designation** for India and acceptance for an **Investor-State Dispute Settlement mechanism**.
- **Post-Brexit scenario:** India considered the UK as a **gateway to continental Europe** and with it exiting the EU, Indian firms will lose this advantage.
- **Human rights:** EU members expressed concerns about the **deteriorating human rights situation in India**, such as difficulties faced by Indian women and minority groups as well as the **closure of Amnesty International's** offices in India.
- **Growing influence of China** in economic and other strategic sectors.
- **Lack of people to people ties:** Basic **awareness amongst the Indian population** of the EU remains shockingly low. Despite its strong external image as a civilian and normative power, the EU has been **unable to attract Indian scientific talent**.

Road Ahead

- **Early conclusion of FTA:** Through BTIA, increased market access will further **integrate the services sector**, increasing the scope for cooperation and joint ventures.
- **Strengthening political dialogue:** By upgrading the yearly dialogue to a regular strategic dialogue.
- **Launching concrete trilateral/cooperation projects in pilot partner countries:** Establish regular bilateral, as well as trilateral dialogues **on/with Africa**, to discuss security, economic issues, as well as connectivity. Further, **dialogue on Afghanistan** and Central Asia in the appropriate settings should be intensified.
- **Enhancing cultural dialogue with all countries of Europe:** Use of cultural dialogue as India's soft power diplomacy would help in deepening of relationship in the region, especially in the Eastern European Countries.

2.3. INDIA-FRANCE DEFENCE PARTNERSHIP

Why in news?

Recently, India and France agreed to strengthen defence and security partnership.

More on news

- Countries agreed on enhancing intelligence and information sharing, bolstering mutual capabilities, expanding military drills and pursuing new initiatives in maritime, space and cyber domains.
- France's reiteration to expand strategic cooperation with India comes nearly two months after the unveiling of a new security alliance (AUKUS) by Australia, the UK and the US – perceived as a counter to China's aggression in the Indo-Pacific region.
 - AUKUS involves building submarines for Australia, and its announcement had angered the French government after Australia pulled out of a separate submarine deal with France.

Significance of deepening defence and security partnership with France

- **Defence modernization:** France remains a market to procure increasingly critical military technologies as India struggles with its indigenous defence industries and increasingly strained defence budgets.
 - For example, India can engage with France to acquire critical naval nuclear reactor technology.
- **Protecting the Indian Ocean Region:** France being a resident power (with its colonial territorial possessions like reunion island) in the Indian Ocean makes it a stakeholder in the region. Protecting the Indian Ocean thus becomes a Common Shared Interest.
 - Indo-French partnership also plays a **vital role in advancing peace, stability and security in the Indo-Pacific region** based on democratic values and a common belief in strategic autonomy and rule of law.
- **Countering Terrorism:** France backed the India's proposal for a global conference on terrorism. France also continues to support India on the Kashmir issue.
- **Support to India's 'Atmanirbhar Bharat'** through defence industrialisation, joint research and technology development in India across a wide range of advanced capabilities.
- **Pathway for deeper engagement with Europe:** French presidency of the European Union in 2022 also presents an opportunity to India to give further shape to EU's engagement in the security of Indo Pacific region under the EU Indo-Pacific Strategy.

Strategic Partnership between India and France: Background

The two countries entered into Strategic Partnership in 1988. The areas of Defence & Security cooperation, Space cooperation and Civil nuclear cooperation constitute the principal pillars of our Strategic Partnership with France.

- **Defence Cooperation:**
 - Both countries have a defence dialogue at the Ministerial level. Defence exercises between the two include Shakti (Army), Varuna (Navy) and Garuda (Air Force).
 - Recently, the Indian Air Force (IAF) has inducted **French Rafale multi-role combat aircraft**.
 - India entered into a contract with a French firm to build six **Scorpene submarines** in India's Malegaon dockyards through a technology-transfer arrangement.
 - The two countries also signed the **Agreement regarding the Provision of Reciprocal Logistics Support**. This agreement will help during routine port calls, as well as during Humanitarian Assistance and Disaster Relief (HADR).
- **Space Cooperation**
 - **Joint research programmes and launch of satellites**
 - ✓ **TRISHNA satellite mission** which is meant for eco-system stress and water use monitoring.
 - ✓ **Megha-Tropiques satellite** which observes clouds and water vapours over the tropical region continues to be in good health and providing valuable scientific data.
 - ✓ **Ka-band propagation experiment** is also under implementation.
 - France continues to be a **major supplier of components and equipment for the Indian space programme**.
 - Recently, India-France Agreed on **Space Security Dialogue (SSD)**
 - ✓ The bilateral space security dialogue will be the third for India after United States (2015) and Japan (2019).
 - ✓ Through SSD, both countries will arrive at a common multilateral understanding of the emerging space environment and the possible threats to the safe, secure, sustainable, and continued access to outer space.
- **Civil Nuclear Cooperation**
 - MoU have been signed for the construction of six EPR units at Jaitapur of 1650 MWe each.
 - France's support was vital in India's accession to Multilateral Export Control regimes viz. Missile Technology Control Regime (MTCR), Australia Group (AG) and Wassenaar Arrangement. France also supports India's membership of Nuclear Suppliers Group (NSG).

Other Areas of Cooperation

- **Economic:** Bilateral trade reached USD 10.75 billion in 2020, France is the 9th largest foreign investor in India and has extended a loan of Euro 100 million for India's Smart Cities Mission.
- **Cultural:** Vivekananda Cultural Centre, is being opened in Paris along with Celebrations of the International Day of Yoga, Birth Anniversary of Mahatma Gandhi and Gurunanak Devji and the 70th Year of the Constitution of India in and around France, Cultural Exchange Programme.
- **S&T and Education:** Indo-French Centre for the Promotion of Advance Research (CEFIPRA) in New Delhi, Indo-French Ministerial-level Joint Committee on Science and Technology, Administrative Arrangement for Cooperation in skill Development and Vocational Training.
- **People-to-people contacts:** Indian diaspora also has a sizable presence in France and in its overseas territories. Migration and Mobility Partnership Agreement aims to facilitate temporary circular migration based on mobility and the encouragement for a return of skills to the home country.
- **Emerging areas:** India and France are increasingly engaged in new areas of cooperation like climate change including the International Solar Alliance, advanced technologies like AI, sustainable growth and development among others.

Conclusion

Strengthening defence partnership with countries like France are significant for India's influence on the global stage and addressing emerging areas of concern.

2.4. INDIA-RUSSIA MILITARY COOPERATION**Why in News?**

At the recently held 21st **India-Russia summit**, both nations signed a **10-year defence cooperation pact** in the background of ongoing deliveries of the **S-400 air defence systems**.

Background of India-Russia Defence and Security Cooperation

India-Russia relationship is based on the principles of **mutual trust, respect for each other's core national interests** and **similarity of positions on various international and regional issues**, both nations are long standing and time-tested partners.

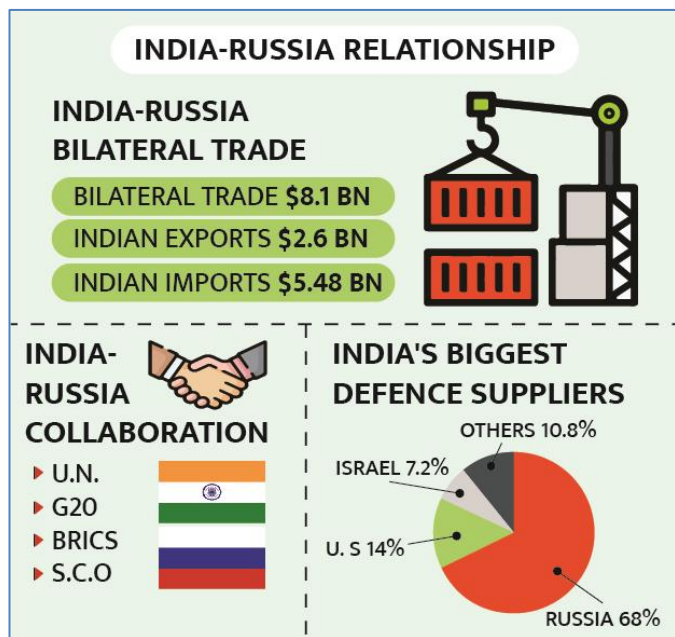
In 1971, both nations signed the **Treaty of Peace, Friendship and Cooperation** and became Strategic partners in 2000. The importance and relevance of the ties can be gauged from following infographics:

The 2021 summit took it another step ahead with the **first 2+2 dialogue** of Foreign and Defence Ministers to exchange views in global and regional political-security developments.

Defence and Security Cooperation

The Defense relationship between India and Russia have various dimensions **including but not limited to arms trade-**

- **Military and military-technical cooperation** has remained a pillar of **Special and Privileged Strategic Partnership** between India and Russia.
- India purchased the MIG-21 from Russia (erstwhile USSR) in 1962 and the **warm relationship and commonality of interests** expanded this cooperation to other armed forces with promotion of licensed production, maintenance, and repair operations in India.
- In 2009, a **bilateral intergovernmental Military and Technical Cooperation** was signed for the period 2011-20.
- Today, joint research, development and production of advanced defence technologies and systems and subsequent export to mutually friendly third countries is the defining feature of **India-Russia defence and security cooperation**. E.g.
 - Joint Venture (JV) to produce BrahMos Missile System.
 - JV to manufacture **AK series assault rifles** at under Make-in-India program.
 - Shareholders agreement on JV to **manufacture Ka-226T helicopters** in India.
- Recently, despite US threat of sanctions, India began taking deliveries of the **S-400 Triumf Air Defence Missile System** (under a \$5.4 billion deal of 2018) for supply of five S-400 regiments to offset air defence capability gaps.



Major agreements at 21st India-Russia Summit

Along with the defence cooperation, the major agreements signed between two nations include-

- **Joint production** of more than **600,000 AK-203 assault rifles** to advance self-reliance in the defence manufacturing sector.
- Promote greater economic cooperation with target to increase **bilateral trade to \$30b** and **bilateral investments to \$50b** by 2025.
- **Reserve Bank of India** and **Bank of Russia** to jointly respond against **cyberattacks**,
- **Jointly fight against terrorist organizations** like ISIS-Al Qaeda-LeT, drug trafficking and organised crime etc.

S-400 Triumf Air Defence Missile System and CAATSA

- The S-400 air defence system is one of the **most advanced mobile air defence missile system in the world**. It is equipped with four different missiles, and it can engage enemy aircraft, ballistic missiles, and Airborne Warning And Control System (AWACS) planes at multiple ranges.
- **CAATSA Act**, also known as **Countering America's Adversaries Through Sanctions Act**, was enacted by USA in 2017 to impose sanctions on three nations, i.e., Russia, Iran, and North Korea.
- Apart from sanctions on the three nations, the act also imposes sanctions on countries who deal with these nations. This **brings the current S-400 deal between India and Russia under this orbit**.
- But US cannot afford to alienate a **strategic ally and a defense market like India**. As a result, the US lawmakers have introduced a bill for sanction waiver to avoid retaliatory US actions on India. But only time can tell what the future holds for this quagmire.

Changing Dynamics of Defence and Security Cooperation

The **S-400 Triumf deal signifies deepening of ties between India and Russia**. But this step is not an isolated incident but a culminating effect of changing global and bilateral dynamics-

- **Changing World Order:** The rising new bipolar world with USA and China as global powers has increased the closeness of two nations with rival superpowers, i.e.

- Russia is becoming close to China while tensions exist between India-China, and
- India is becoming close to the USA while tensions exist between Russia-USA.
- **Geo-strategic Interests:** With a reasonable shift in India's approach from an inward-looking (strategically as well as economically) and non-aligned nation, the old commonalities of interest between two nations are replaced by divergence in geo-strategic interests. E.g.
 - **Indo-Pacific Region:** India joining the **Quadrilateral Security Dialogue (Quad)** for a free and open Indo-Pacific region with Japan, USA, and Australia.
 - **Eurasian Region:** Commonality of interest between India and Europe to curb growing Chinese strategic assertiveness in the region.
- **Economic Relationship:** Unlike India-Russia with bilateral trade of just \$7.5 bn in 2019, the economic relationship between India-USA or Russia-China are far more diverse and deeper.
 - E.g., In 2014, Russia-China signed a \$400 bn gas deal. Similarly, the trade between India-USA in 2020-21 stood at \$80.5 bn with \$13.8 bn of FDI.
- **Modernization with Diversity:** To modernize and diversify away from Soviet-era and Russian military equipment, India has expanded its defense purchases from other nations like France, Israel, and the USA. E.g., Between 2016-20, Russia accounted for 49% of Indian arms purchase in comparison to 70% in 2011-15 (as per **SIPRI Fact Sheet**).
 - In 2014, Russia removed its self-imposed sanction on arms sale to Pakistan, considered as a warning on Indian diversification.

Way Forward

The latest defence cooperation, for period 2021-31, will help as a step to take forward the ongoing engagements between two nations. But it needs more synergy of interests and operations to withstand the forces which will impact it by-

- **New Theatres of common interest:** Broaden collaboration on bilateral and regional issues with work on new theatres of cooperation such as Eurasian region, Arctic, Afghanistan etc. as part of shared common responsibilities on global peace and stability.
 - Regular NSA level security dialogue on such issues can help in enhancing strategic understanding and coordination of operations.
- **Upgrading Defence Cooperation through Make in India:** Promote **joint development and co-production** of weapons including niche domains of weaponry, promoting **self-sufficiency** and reducing India's dependence on others for modernization and diversity under **Make in India**.
- **Joint manufacturing of Spare parts and Logistics Support:** With a large part of Indian defence equipment from Russia, both nations should jointly manufacture spare parts and promote reciprocal logistics support; enhancing military-to-military cooperation as well.
- **Upgrade Relationship:** The relations between two nations should be elevated from government-to-government to greater cooperation in the private sector for trade diversity.
- **Work on Rules-based International Order:** To protect the strategic autonomy of not just self but of others as well, greater cooperation at UN and other forums (BRICS, SCO etc.) is required for more rules-based international order, protecting multipolarity/multilateralism.

2.5. INDIA-MIDDLE EAST

Why in news?

India along with United States and two Middle east countries Israel, and the United Arab Emirates set up a **new joint working group** to enhance cooperation and partnerships.

Significance of the grouping

- As with the Indo-Pacific Quad, the new Middle East grouping **marks the growing convergence between Indian and U.S. interests** in Asia and a **fundamental shift in India's foreign policy** in the Middle East.
 - Keeping its distance from the United States, Israel, and the Persian Gulf states on regional issues has long been India's default mode in the Middle East.
 - This also highlights that India is now ready to move from bilateral relations conducted in separate silos towards an **integrated regional policy**.
- The initial **focus of the 'Middle East Quad' will be on economic issues rather than strategic ones** where the format would leverage complementary capabilities in areas such as energy, climate, trade, regional security.

Changing Dynamics of India-Middle East Relations

India had deep historical associations, civilizational contacts, cultural exchange, shared colonial past and struggles for independence with the West Asian Nations. But India's foreign policy with regard to the region has evolved as follows:

Past: India's need to develop economically made the Middle East increasingly important, both as a source for fuel imports and for Indian labour and remittances.

- Saudi Arabia, Iran and Qatar have all been vital suppliers of hydrocarbons.
- Since the oil boom of the mid-1970s, the number of Indians living and working in Arab Gulf states (Saudi Arabia, Kuwait, Qatar, Bahrain, Oman and the UAE) has grown rapidly.
 - In response to the growing Indian diaspora, the government established the Ministry of Overseas Indian Affairs in 2004.
- Such interest contributed to **the India's relative silence in relation to the Arab uprisings** in 2011 and **opposition to any foreign intervention** in the Middle East.

Present: India is now following the same course, but intensified the approach as **"Think West"** policy, by focusing on three main axes: the Arab Gulf countries, Israel and Iran.

The interplay among these nations offers India with new avenues of cooperation other than traditional focus on energy and labour.

New areas of cooperation with various countries in the region include:

- **Israel:** India has defence, agriculture, science and technological relations with Israel and Israel demonstrated greater sympathy for India in Kashmir.
- **Iran:** Through projects such as International North south Transport corridor and Chabahar port development, Iran can play a key role in enhancing India's security in Central and South Asia, by containing India's main rival, Pakistan, while also offering a counterweight to China's rising regional presence.
- **Other countries:**
 - Countries like **Iraq, UAE and Saudi Arabia** are potential trade partners and investors.
 - The relations between **India and Saudi Arabia** improved over the years with increasing number of Indian pilgrims performing Hajj in Saudi Arabia.
 - **Jordan** supplies us rock phosphate and is also a link for Palestine.
 - **GCC countries** finally recognized the potential dangers to the region of Pakistani-sponsored terrorism against India.

Constraints Associated with the Think West Policy

- **Israel's improving status with the Arab world may not endure:** Revival of support for the Palestinians by the wider Arab public could put pressure on Gulf regimes to reverse their current rapprochement with Israel that could impact India's growing closeness with Israel.



- Washington facilitated the 2020 **Abraham Accords** which led to the normalization of ties between Israel and the UAE.
- **India's engagement with Iran over Chabahar is unlikely to eliminate the Pakistan/China option.** This is due to modest scale of India's efforts in Central Asia and the Middle East, compared to China's Belt and Road, possibility of cooperation between Iran and Pakistan and US sanctions over the existing and upcoming projects derailing India's efforts.
 - Indo-Iranian agreement over Chabahar has been repeatedly delayed, partly because of US sanctions against Iran.
- **Vulnerability of Indian Diaspora in the Region:** This was evident during the current COVID crisis and the region's growing nationalism protectionism with regard to employment.
- **India's susceptibility to regional conflicts over which it has little control:** Saudi-Iranian rivalry and the boycott of Qatar by Saudi Arabia and the UAE. Saudi Arabia and the UAE also distrust Iran and Qatar for their support of Islamist groups. Similarly, Israel suspects Iran of sponsoring Hamas and Hezbollah against it.

Steps taken in recent times

- **Economic diversification drive in the Gulf economies** (Saudi Arabia's Vision 2030) has created an accelerating pace of engagement. The major oil companies of the region- ARAMCO and ADNOC are deepening their engagement with the Indian companies both public and private.
- **Indian's pandemic response in the region** by providing medicines and sending medical professionals.
- **India has recently revived its free trade negotiations** with UAE and Israel.

Way ahead

- **Mediating Role:** India can help mitigate sanctions and ease the US 'maximum pressure' strategy by using its leverage with the US, Saudi Arabia and Israel.
- **Humanitarian assistance of medical and other material** is a right opportunity to promote cooperation and lead a regional response to the current pandemic in the region.
- **Strategic partnership and sustained soft power diplomacy** with Iran, Saudi Arabia and Israel can be a new formidable alliance for multilateralism and equitable world order.
- **Substitutes for Oil:** India should be relooking at options for oil supply in the worst-case scenario of disruption in oil supplies.
- **Extending collaborations:** Beyond trade, there is potential for India, UAE and Israel to collaborate on many areas — from semiconductor design and fabrication to space technology. Success on the trilateral front will open the door for extending the collaboration with other common regional partners like Egypt.

Conclusion

There is a strong and growing multifaceted partnership between India and Middle East countries and the region offers real opportunities for India to grow and develop in mutually beneficial way. As in the Indo-Pacific, so in the Middle East, regional coalitions are bound to widen India's reach and deepen its impact.

2.5.1. INDIAN DIASPORA IN THE GULF COUNTRIES

Why in news?

As per the UN Department of Economic and Social Affairs' report titled International Migration 2020, India has the largest diaspora population (18 million) in the world, with the largest proportion of this in the Gulf Countries.

More on news

- About **9.3 million Indians live and work in the Gulf countries** with largest in UAE followed by Saudi Arabia, Kuwait, Oman and Qatar.
- About **70 percent of these are blue-collar workers**, and the remaining are skilled professionals.
- Major factors that contribute to large diaspora in the region are:
 - **India's deep civilisational links with Arab countries strengthened people to people contacts:** Indian astronomy, numeral science and Ayurveda attracted



several Arab travellers to the coastal region of India and many Indian merchants went to this region for trade and investment.

- **Oil boom of 1973 and subsequent growth of oil industry in the region** created significant pull factors, primarily vast employment opportunities, ranging from workers for the oil fields to skilled engineers that attracted Indian workforce.

Factors that make diaspora in the gulf an asset

- **Source of Income:** Remittances sent by the Indian diaspora contribute significantly in India's foreign exchange earnings, GDP and improved conditions of the migrants' families.
 - Total share of remittances from Gulf countries was about \$40 billion (more than 50% of the total remittances received) in 2018.
- **Social remittances:** The transfer of new ideas, knowledge and new skills, are also facilitated by migrants to the region.
- **Soft power advantage:** Indian Diaspora play a significant role in spreading inherent sources of soft power like Yoga, Ayurveda, Sports, Bollywood movies etc. across the Middle East.
- **Strategic edge:** Long-time presence of the diaspora helps to anchor bilateral relations. This provides tangible benefits, such as the existence of a huge Indian community in Saudi Arabia and its contribution to the economy will encourage the Saudi Arabian Government to improve ties with India.

Factors that make them a liability for Indian government

- **Responsibility of the government to protect violations of Human rights of the migrant workers:** Migrants have faced issues owing to the Kafala employment system in the region, which leads to the exploitation of workers.
 - Under the Kafala system, the State delegates to the private employer the authority over a migrant worker's immigration and employment status.
- **Losing strategic upper-hand:** India's ability to maneuver strategically is somewhat restricted, given the fear that Gulf States would source labour elsewhere. Moreover, any steps to improve working conditions require Gulf state cooperation. The welfare needs of the diaspora also provide some leverage to Gulf States when negotiating with India.
- **Economic issues:** Factors such as economic slowdown, falling oil prices, pandemic situation as well as more demand for renewable energy are putting pressure on the employment opportunities in the West Asia, and this may lead to large influx of migrants to India.
 - For example, a total of 8 lakh Indians may be forced to leave Kuwait as its National Assembly committee has approved a draft expat quota bill seeking to reduce the number of foreign workers in the Gulf country.
- **Security issues:** Due to increasing threat from ISIS, there have been increasing security threats to the Indian diaspora. Indian government had to undertake various rescue operations to help and evacuate the Indians struck in such situations. For example, Operation Raahat in Yemen.

Initiatives for welfare and empowerment of gulf diaspora

- **Protecting the rights of Indian workers in the Gulf region:** Several memoranda of understanding (MoUs) have been signed for the same between India and the Gulf countries.
 - **Countries in the region have also taken steps to rectify the Kafala System**, including implementing the Wages Protection System in 2019 and issuing various anti-discrimination regulations.
- **Health safety nets:** Such as the International (Indian) Community Welfare Fund and the Pravasi Bharatiya Bima Yojana health insurance scheme to ensure that they remain safe, and have access to basic necessities.
- **Proposals to allow proxy voting:** Bill amending the Representation of the People Act was passed by the Lok Sabha to extend voting rights to the overseas Indians.
- **Regular visits of Indian PM to the Gulf** and consequent interactions with the Indian Diaspora there have fuelled fresh relations with Indians based in the Middle East.

Way ahead for India

The maintenance of the labour trade is in India's overall interest and as such, addressing diaspora welfare concerns needs should be a priority. A sound bilateral labour policy must be developed that addresses the issues concerning the Indian labour working in the region for our mutual benefits. Doing so can even provide India an opportunity to advance its objective of rising in global status.

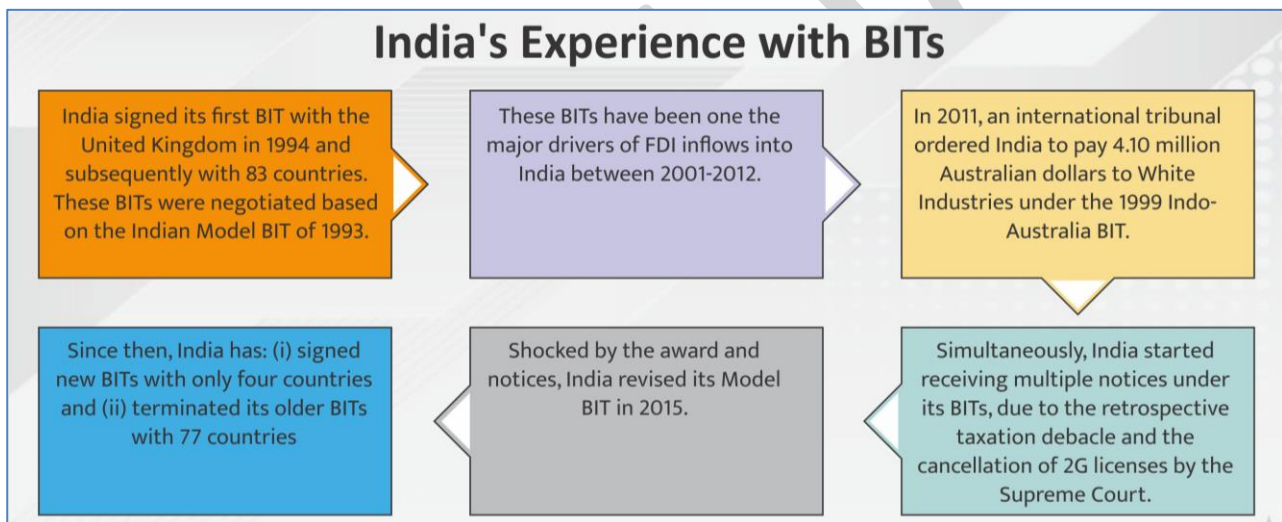
2.6. BILATERAL INVESTMENT TREATIES

Why in news?

Recently, the Standing Committee on External Affairs submitted its report on 'India and Bilateral Investment Treaties'.

About Bilateral Investment Treaties

- Bilateral investment treaties (or, BITs) are **international agreements** establishing the terms and conditions for private investment by nationals and companies of one state in another state **to promote and protect foreign private investments** in each other's territories.
- BIT **establishes minimum guarantees** between the two countries regarding the treatment of foreign investments, such as
 - **National treatment** (treating foreign investors at par with domestic companies),
 - **Fair and equitable treatment** (in accordance with international law),
 - **Protection from expropriation** (limiting each country's ability to take over foreign investments in its territory).
 - **Protection of investors' right** (through an alternative dispute resolution mechanism whereby an investor can approach International Centre for the Settlement of Investment Disputes (ICSID) rather than suing the host State in its own courts).
- There are more than 2,500 BITs active in the world today and **United Nations Conference on Trade and Development (UNCTAD) maintains a database of all BITs** between all states.



Issues with Model BIT 2015

Model BIT was a knee-jerk reaction to the White Industries case and the series of notices that India received. As a result, the sole focus is on limiting the liability for the host state and raise the bar required to bring a claim under the BIT through provisions such as:

- **Narrow Definition of Investment:** India proposed a narrow 'enterprise-based' definition for investment, whereby only direct investments are protected under the treaty and precludes portfolio investments, interest in debt- securities, intangible rights, etc. from the definition of investment.
- **Exhaustion of Domestic Remedy:** Model BIT mandates exhaustion of domestic remedy prior to initiating international arbitration proceedings. This does little to increase confidence in foreign investors.
 - According to the 'Ease of Doing Business 2020' report, India currently ranks 163 out of 190 countries in ease of enforcing contracts, and it takes 1,445 days for dispute resolution.
- **Wide Discretionary Powers to Host State:** Host state can unilaterally exclude any dispute from the jurisdiction of a tribunal, merely by asserting that the conduct in question is a subject matter of taxation.

Recommendations of the committee

The Committee observed that the number of BITs signed by India after 2015 and the number under negotiation are inadequate to attract the required foreign direct investment (FDI) in India. The committee thus recommends

- **Signing new BITs** in identified priority sectors with countries with which India had such treaties in the past.
- **Drafting BITs:** BITs should be drafted without any ambiguity, to avoid overbroad interpretation by arbitrators and tribunals, investment disputes or claims against India, and the abuse of certain provisions by investors.
- **Revising the Model BIT** considering new experience gained in disputes arising out of BITs and incorporating best practices and provisions from BITs adopted by advanced countries.
- **Timely settlement of investment disputes** through pre-arbitration consultation or negotiations
- **Developing local expertise** in investment arbitration and promoting the New Delhi International Arbitration Centre as a world-class arbitration center.
- **Reforming domestic judicial system:** A few steps have been taken in this direction through the Commercial Courts Act, 2015 and the amendments to the Arbitration and Conciliation Act, 1996.

Conclusion

With India's likely emergence as a capital exporting nation, Make-in-India policy, its goal of becoming a \$5 trillion economy by 2025, and as the global companies contemplate moving their investments away from China, it is an opportune time to review and revise the Model BIT from the present inward-looking protectionist approach to a more pragmatic one.

2.7. INDIA'S DEVELOPMENT COOPERATION

Why in News?

Enhancing the efficacy of India's development cooperation endeavors has been a challenging issue for the past several decades.

Background

- The first effort by India to shape a framework for India's development cooperation was in **2003** with the announcement of the **India Development Initiative (IDI)**.
- Subsequently, the **Indian Development and Economic Assistance Scheme (IDEAS)** was launched in 2005 for managing credit lines.
- In 2007, Govt suspended IDI and announced the setting up of the **India International Development Cooperation Agency (IIDCA)**, which never took off.
- There has been clear **lack of firm institutional foundation** to support India's Development Cooperation.
- India needs a **clear vision to lead a sustainable development agenda while positioning itself as a global power** with interests beyond its immediate neighborhood.
 - To achieve this, there is an **urgent need to push for reforms in existing institutional structures** on development cooperation.

India's development cooperation

- Indian model of developmental cooperation is comprehensive and involves multiple instruments **including grant-in-aid, line of credit and capacity building and technical assistance**.
 - Depending on the priorities of partner countries, India's development cooperation ranges from **commerce to culture, energy to engineering, health to housing, IT to infrastructure, sports to science, disaster relief and humanitarian assistance** to restoration and preservation of cultural and heritage assets.
- Currently, India's development cooperation objectives are broadly **based on the South-South cooperation (SSC) framework** — a technical cooperation tool among the developing countries in the Global South.
- Although the **allocation is less than 1% of India's overall budget**, it is still a significant contribution as compared to other high-income countries, such as Australia (0.22 percent of GDP), and South Korea (0.15 percent of GDP).

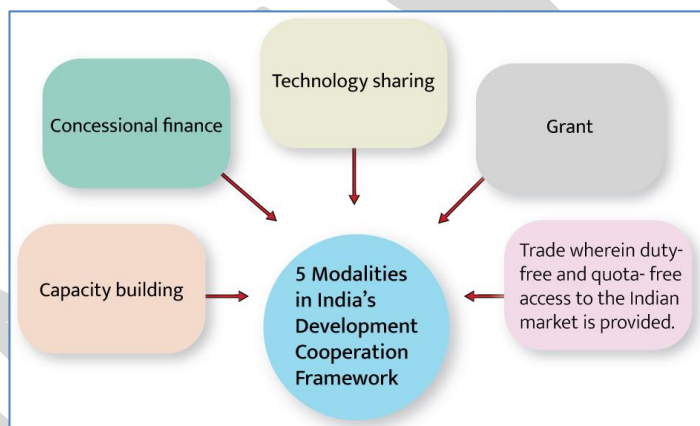
Efforts by India in development cooperation

- **Indian Technical and Economic Cooperation (ITEC) programme**, India's capacity-building initiative was constituted in 1964 and emerged as a prominent aspect of the development cooperation by 2015.
- **India Aid Mission (IAM)** launched in Nepal in 1952.
- **'New, Emerging and Strategic Technologies' (NEST) division** is being set to facilitate collaboration with foreign countries on advanced technologies, as well as geographical divisions for better coordination.
- **In Ethiopia**, India provided better quality germplasm, new technology for processing and access to markets.
- India has been supporting the **developmental endeavours of several partner countries in Africa and Asia**.

- The **Development Partnership Administration (DPA)**, housed within the Ministry of External Affairs, is responsible for the overall management, coordination and administration of India's development partnerships
- In the last couple of years, India's assistance to other developing countries has multiplied several times.
 - On average, India **provides development assistance of \$6.48 billion and receives assistance of \$6.09 billion annually** from key partners as Official Development Assistance (ODA).
 - ODA involves **financial or technical help given by one country's government to another country** to assist social and economic development or to respond to a disaster in the receiving country.

Need for India's development cooperation Agency

- **Evolution in geopolitics:** Future economic diplomacy agencies will have to be located in a new geopolitical dimension that goes far beyond the impulse of the Bandung Conference of 1955, which set up cooperation channels between Asia and Africa in the colonial and post-colonial era.
- **Post pandemic opportunity:** Post-pandemic, countries worldwide are exploring ways to reinvigorate their development cooperation efforts. This gels well with the increase in the scope of development cooperation following higher economic growth and rising trade and investment flows to emerging markets and developing economies.
- **Enhancing Bilateral relations:** India's development cooperation is moving towards a need-driven approach where meeting the partner country's development objectives goes hand-in-hand with India's objective for strengthening the bilateral relationships through private sector investments.
- **Effective Accountability and evaluation framework:** As India's development cooperation grows, the spending will come under public scrutiny; this requires an effective accountability and evaluation framework.



Way Forward

- **Independent development partnership agency:** The proposed new entity should
 - **address better delivery**, monitoring and evaluation mechanisms,
 - **should engage with new actors**, especially from civil society and the private sector
 - **provide handholding to select performing Indian social enterprises** to operate in other countries as well.
 - **facilitate development partnerships** between India and other countries.
 - **support partner countries in combating natural disasters** (Nepal), political and humanitarian crises (Maldives, Afghanistan), and in building social infrastructure (Kenya, Madagascar).
- **India's Development Cooperation Act, 2022:** India's upcoming Development Cooperation Act should reflect that a focused approach towards addressing global crisis is in its national interest.
- **Restructure development finance apparatus:** It is high time India restructures its development finance apparatus for deeper and effective engagement and to address the rapidly evolving newer competitive development financing landscape.
- **Learn from its own programmes:** India's own development experience is evolving with programmes like the JAM trinity, Ayushman Bharat and other initiatives like Gati Shakti — the learnings from which should be absorbed in the portfolio to be shared with fellow developing countries.

3. ECONOMY

3.1. EMPLOYMENT

3.1.1. MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT (MGNREGA)

Why in news?

MGNREGA ran out of funds halfway through the financial year.

More about News

- MGNREGA shows a **negative net balance of ₹8,686 crore.**
- Almost **90% of the allocated budget for the year has been used up till now**, with five months of the programme still remaining.
- Further, **payments for MGNREGA workers as well as material costs will be delayed**, unless States dip into their own funds.

Strength of MGNREGA

- **Addressing the informal economy:** MGNREGA's performance is possibly the **most important proxy for the health of the informal economy**, which accounts for anywhere between 80% to 90% of all employment in India.
- **Lifeline during COVID lockdown:** During COVID-19 lockdown, the scheme was ultimately given its highest budget of ₹1.11 lakh crore and provided a critical lifeline for a record 11 crore workers.
- **Backbone of rural economy:** It provides **supplementary means of livelihood to people** in rural areas, primarily during lean periods.
- **Bottom-up approach:** The decentralised nature of MGNREGA enables the planning process for MGNREGA to be bottom-up, starting at the village level in local governments.

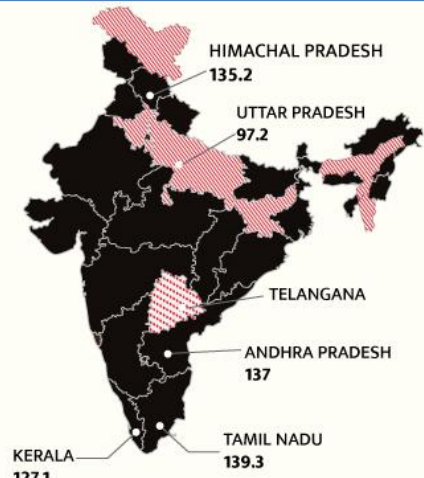
What are the challenges faced by MGNREGA recently?

- **Inadequate Allocation and repeated payment delays:** Total budget allocation for MGNREGA this year was 34% less than the revised budget of the last financial year (2020-21).
 - **71% of the payments were delayed beyond the mandated seven-day period** at the central government level; 44% exceeded 15 days.
- **Demand suppression:** When rural workers do not get their dues in time, it discourages them to the extent that they do not ask for as much work as they would want to.
- **Caste-based payment delays:** Non-SC, non-ST workers, who account for around 87 per cent of all workers, were facing much longer payment delays. Payment of wages to workers has been erratic and non-uniform, **triggering caste-based tensions among MGNREGA workers.**

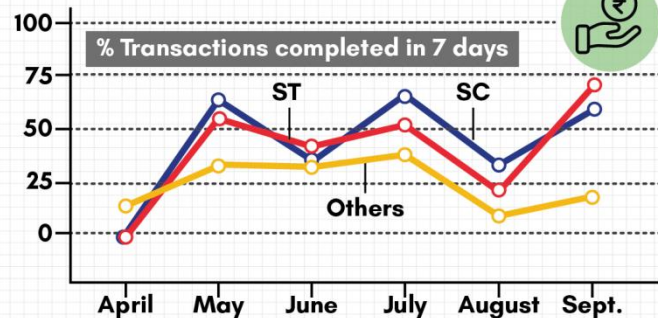
Out of funds

As many as 21 out of 35 states/UTs have utilized over 100% of their allocated funds under MGNREGA for FY22 till October 29

% OF MGNREGA FUNDS USED



Wage gap | In September, over 50% of the SC and ST payments were completed in 7 days compared to the less than 25% for the other category



Initiatives taken for better implementation of MGNREGA

- **MGNREGA Tracker** — by using the government's Management Information System (MIS) data.
- **NREGAssoft** is a local language enabled workflow based e-Governance system which makes available all the documents like Muster Rolls, registration application register, job card/employment register etc.
- **Project 'LIFE-MGNREGA' (Livelihood In Full Employment)** aims to promote self-reliance and improving the skill base of the MGNREGA workers, and thereby improving the livelihood of the workers

- Under the scheme, Union government asks states to give 3 Funds Transfer Orders— **one each for MGNREGA workers belonging to “SC” (Scheduled Castes), “ST” (Scheduled Tribes) and “Other” categories.**
- **Lack of Awareness and Capacity among Rural Citizens:** The need for capacity building among rural citizens seeking NREGA employment is not well recognized, which may be related to the challenge of inherent capacity building at that level
- **Inadequate Social Audit and Accountability:** In many villages, no social audit has been conducted. The government officials’ especially Assistant Programme Officer shows the social audit process on paper only.

Way forward

- **Revision in scheme:** Activist groups have been **demanding an increase in the wage rate for MGNREGA schemes;** it will be crucial to stopping forced migration.
 - It will be even more effective if the number of days for guaranteed work can be increased up to **200 days from the current 100 days.**
- **Proper allocation and timely payments:** Govt needs to ensure a complete allocation and timely wage payments to works as this scheme impacts the rural economy
- **Participatory techniques:** Such as Process- Influence Mapping can be used to help create a better understanding of the intricacies of implementing complex large-scale programs such as NREGA and to assess possible solutions.
- **Use of technology:** It is another avenue to improve vigilance over program implementation. In fact, Internet and software tools are increasingly considered to be useful means of meeting the demand for data collection and reporting.’
 - For instance, Bihar uses biometric devices when introducing the e-Muster Roll, with the objective of improving the transparency of Muster Roll entries and ensuring timely and appropriate wage payments.

3.2. INCLUSIVE GROWTH

3.2.1. FINANCIAL INCLUSION

Why in news?

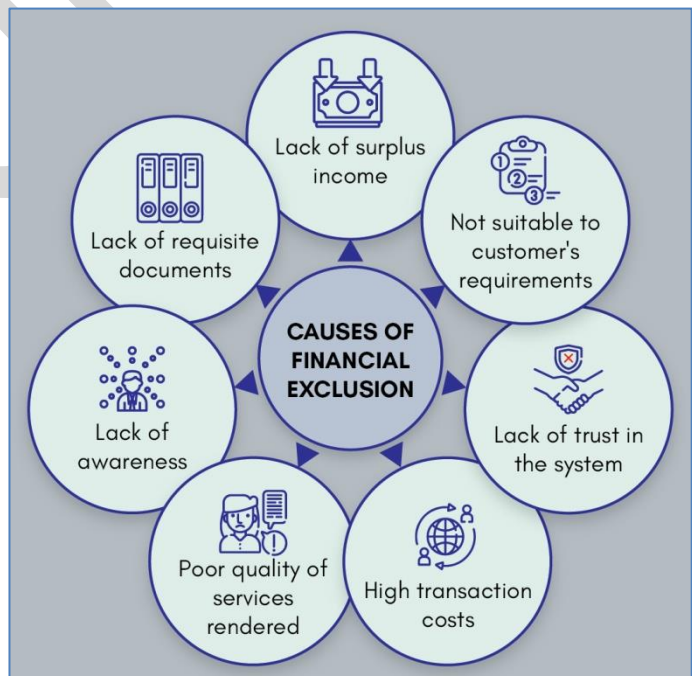
According to a recent SBI report, the **number of bank branches per 100,000 adults in India rose to 14.7 in 2020** from 13.6 in 2015, which is higher than **Germany, China, and South Africa.**

Other key highlights of report

- **Mobile and internet banking transactions** per 1,000 adults have **increased nearly 74 times** between 2015 and 2019.
- States with **higher Pradhan Mantri Jan-Dhan Yojana accounts** balances have seen a **perceptible decline in crime.**
- There is both statistically significant and economically meaningful **drop in consumption of intoxicants** such as alcohol and tobacco products in states where **more PMJDY accounts are opened.**
- **Banking Correspondent (BC) model** progressively obviated the need to set up **brick and mortar branches.** Number of ‘Banking Outlets in Villages - BCs’ has increased almost 36 times **between Mar’10 and Dec’20.**

Status of financial inclusion in India

- According to the **Global Findex report (2017)**, 80% Indian adults have a bank account, 27 points higher than **2014 estimates.**
- According to Bank for International Settlements (BIS), India’s **credit-to-GDP ratio improved to 56% in 2020** from a low of 52.7% in 2019.



- A higher credit-to-GDP ratio indicates **aggressive and active participation of the banking sector** in the real economy, while a lower number shows the need for **more formal credit**.
- On the positive side, a lower credit-to-GDP gap indicates **resilience or the ability of the economy to payback debt**.
- However, it is **much lower than emerging market economies and advanced economies**, which grossed up 135.5% and 88.7%, respectively.

Challenges that act as barriers for financial inclusion

- **Inadequate Infrastructure:** Limited physical infrastructure, limited transport facility, inadequately trained staff etc., in parts of rural hinterland and **far-flung areas**.
- **Poor Connectivity:** Regions that have **poor connectivity tend to be left behind** in ensuring access to financial services thereby creating a **digital divide**.
- **Convenience and Relevance:** The **protracted and complicated** procedures act as a deterrent while onboarding customers. This difficulty is further increased when the products are **not easy to understand and complex**.
- **Socio-Cultural Barriers:** Prevalence of certain **value system and beliefs** in some sections of the population results in lack of favourable attitude towards formal financial services.
 - There are still certain pockets wherein **women do not have the freedom and choice** to access financial services because of cultural barriers.
- **Product Usage:** While there has been a remarkable **increase in access to basic financial services**, there is a **need to increase the usage of these accounts**.
- **Payment Infrastructure:** Currently, **majority of the retail payment products viz., CTS, AEPS, UPI, IMPS etc.** are operated by **National Payments Council of India (NPCI)**. There is a need to have **more market players** to promote **innovation & competition and to minimize concentration risk** in the retail payment system from a financial stability perspective.

Major initiatives towards financial Inclusion

	Initiative	Details
By RBI	National Strategy for Financial Inclusion (NSFI) 2019-2024	● It aims to help expand and sustain the financial inclusion process at the national level through a broad convergence of action involving all the stakeholders in the financial sector.
	National Strategy for Financial Education (NSFE) 2020-2025	● It intends to enable various sections of the population to develop knowledge, skills, attitude and behaviour which are needed to manage their money better and to plan for their future
	Financial Inclusion Index (FI-Index).	● The index captures information on various aspects of financial inclusion in a single value ranging between 0 and 100, where 0 represents complete financial exclusion and 100 indicates full financial inclusion.
By Government	Pradhan Mantri Jan-Dhan Yojana (PMJDY) Pradhan.	<ul style="list-style-type: none"> ● It is National Mission for Financial Inclusion to ensure access to financial services in an affordable manner. ● As informed by banks, about 5 crore PMJDY accountholders receive direct benefit transfer (DBT) from the Government under various schemes.
	Mantri Jeevan Jyoti Bima Yojana (PMJJBY)	● It is available to people in the age group of 18 to 50 years having a bank account
	Pradhan Mantri Suraksha Bima Yojana (PMSBY)	● It is available to people in the age group 18 to 70 years with a bank account .
	Atal Pension Yojana (APY)	● It is open to all saving bank/post office saving bank account holders in the age group of 18 to 40 years.

Road Ahead

- **Conducting Research:** There is a need for more research to **assess the extent** of financial exclusion and how it **varies across groups**. Research studies should also be undertaken to **assess and quantify the impact of financial inclusion interventions**.
- **Offer diverse products to suit different sections:** Diversity of India with **unique regional and occupational characteristics**, and different **cropping pattern and income streams**, requires **diversity in financial products**. Thus, there is a need to have **granular schemes**, preferably **different schemes for rural areas and urban areas**.

- **Financial awareness and education:** To increase awareness and interest in products offered under various schemes, increase in advertisement in **local language, on radio and television**, and in print media, with **local icons and artistes as brand ambassadors** of the campaign, could help in **building public confidence**.
- **Product usage:** This can be undertaken through increasing **economic activities** like **skill development** and livelihood creation, **digitising Government transfers** by strengthening the digital transactions' ecosystem, enhancing acceptance infrastructure, enhancing **financial literacy** and putting in place a **robust customer protection framework**.
- **G20 High Level Principles for Digital Financial Inclusion** recommended **promotion of financial services as a national plan, the need to balance innovation and risk, providing legal and regulatory frameworks, and expanding the digital financial ecosystems**, among others.
 - It also suggests the need to **ramp up investments for digital tools** that can help integrate systems and databases making it **easier for auditors and regulators to process information**.

3.2.2. WIDENING GLOBAL ECONOMIC INEQUALITIES

Why in News?

Recently, China started a 'common prosperity' program to narrow the widening wealth gap between people with stringent measures on how business and society should function.

About Economic Inequality (or Wealth Gap)

- **Economic inequality** is the unequal distribution of income or opportunity in a population or groups of a society. E.g., If we talk of **income inequality**, i.e., how unevenly income is distributed throughout a population, income inequality between the **richest 10%** and **poorest 10%** in **OECD countries** increased from **7.2 times of mid-1980s** to **9.6 times** in **2013**.
- **Changes in global inequality:** Inequality across all individuals in the world declined for the first time in the 1990s since the 1820s as the developing world started to grow faster than developed countries.
 - But the **pandemic threatens to undo those gains**, widening the **gap between rich and poor nations** once again by slowing the growth of developing countries.
- **Inequality within nations:** Within developing nations, the inequalities have increased significantly. E.g., In India, the top 10% holds 77% of national wealth. In comparison, the poorest 67 million Indians saw only 1% increase in wealth.

Impact of persistent Economic Inequality

- **Increased Social Polarizations:** Due to stagnant or reduced social mobilities due to widening economic inequality the polarization in society increases. For India, with an already fractured society over religion, region, gender, or caste, it adds another fracture point.
 - Growing income inequality may increase **social segmentation**. Also, the **safety and wellbeing of vulnerable sections** gets jeopardized due to **lack of quality health and education facilities**.
- **Economic Risks:** High economic inequalities are a **drag on long term economic growth** and **equality of opportunities**, leading to risks of-
 - **mass poverty** with higher number of young population experiencing poverty,
 - **reduced state's ability** to protect their poor and vulnerable sections, and
 - **increased demands for Deglobalization and Nationalization**.
- **Political Risks:** Economic inequalities between people lead to marginalization of segments of population in policy decisions, ability to question policies and processes.
- **Security Risks:** Globally, the economic inequalities lead to widening of power gap between nations, enhancing risks of war among nations. E.g., the recent India-China border issues.
- **Environment Risk:** Economic inequalities lead to inequitable and unjust development with risks of damaging wetlands, increased river pollution etc.

Initiatives to reduce Economic Inequality

TO REDUCE INCOME INEQUALITY	FOR STABILITY AND DEVELOPMENT	TO IMPROVE SOCIAL SAFETY NET
Taxation reform	Facilitate Digitalisation	Increase pension net
Subsidies and transfers	Support MSMEs	Improve medical security
Protecting property rights	Reducing Regional Disparity	Improve housing security
Improve income distribution	Enhanced Financial Supervision	Equal access to basic services

Challenges in removing economic inequalities

- **Income differences reflect individual efforts:** The recent rise of startups highlight money as an incentive of knowledge. State redistributive policies could curb individual incentives, reducing wealth generation in an economy.
- **Income differences are accumulated by generations:** The economic inequalities are significant reflections of differences between their parents and previous generations. Whether it is the number of children, expenditure on education, health etc. varies even within people under the same income group.
- **Historical differences:** Usually, high income inequality regions or nations tend to have **low intergenerational mobility**. As these regions fail to offer adequate opportunities for socio-economic mobility.
- **Monetary Resource Constraints:** Economic inequalities lead to issues of informal economy, presence of parallel economy (Black Money), tax evasions, small tax base etc., limiting public finances and resources available for redistributive policies from state.
- **Human Capital Constraints:** Higher inequality decreases human capital accumulation as well, it leads to a vicious cycle of low income, low productivity, low taxes, and low human capital.
- **Wealth Redistribution Challenges:** How to redistribute wealth for best outcome is a challenge. Whether it should focus on disparities **between top versus bottom** or **greater focus should be on the middle class** to leverage the rise in economic activities for higher tax base is a difficult question to answer.

Way Forward

Open and fair competition is an essential ingredient for any reform to **tackle inequalities** and **promote equal opportunities** for **long-term sustainability**. It becomes even more significant when **national security** is linked to it. Therefore, instead of using pressure we should promote a reward-based approach to **equalize outcomes and opportunities** via.

- **Improved information on inequalities and policy outcomes** through high-quality capture of information about inequality. It can help not just in sound policies but change perceptions which lead to a **divided public opinion**.
- **Formulation of policies or introducing reforms based on wider public support** through increased awareness among people and approval of efforts to tackle inequality of both- outcomes and opportunities.
- **Promote an equitable society** where companies are happy to give back rather than just to take or give due to force.
- **Rationalization of subsidies and better targeting of beneficiaries** through alternatives like direct benefit transfers over existing inefficient mechanisms.
- **Promote Entrepreneurship** which leads to Quality Jobs and increasing the Labour Force Participation Rate, especially of women.
- **Enhancing Skills and Training through Education** at all levels, along with social assistance programs to help people come out of poverty and to reduce inequality.

3.2.3. MULTIDIMENSIONAL POVERTY

Why in news?

Global MPI 2021: Unmasking disparities by ethnicity, caste and gender was released jointly by **Oxford Poverty and Human Development Initiative (OPHI)** and **United Nations Development Programme (UNDP)**.

National MPI Index

- India's first '**National Multidimensional Poverty Index: Baseline Report and Dashboard**' was released by **NITI Aayog** in collaboration with **United Nations Development Programme (UNDP)** and **Oxford Poverty and Human Development Initiative (OPHI)**.
- **Key findings from National MPI**
 - **National MPI:** At **0.118** with **Rural MPI** at **0.155** and **Urban MPI** at **0.04** (MPI ranges from **0** to **1** and higher values imply higher poverty).
 - **Household level deprivations on Important Indicators**
 - ✓ Households deprived of **healthy nutrition levels: 37.6%**.
 - ✓ Households deprived of **six years of schooling: 13.9%**.
 - ✓ Households with **unimproved or no sanitation facility: 52%**.

Highlights of Global Multidimensional Poverty Index (MPI) 2021

- It examines inequalities **along the lines of ethnicity, case and gender** across multidimensionally poor people globally.
- These disparities are likely to have been **further exacerbated by the COVID-19 pandemic**.
- For the first time the global MPI is disaggregated by ethnicity or race (for 40 countries with available information), **by caste (for India)** and by gender of the household head (for 108 countries).

	Global findings	India specific findings
Gender findings	<ul style="list-style-type: none"> • 2/3rd of multidimensionally poor people – 836 million – live in households in which no girl or woman has completed at least 6 years of schooling. • 1 in 6 multidimensionally poor people live in female-headed households. • The incidence of multidimensional poverty is positively associated with the rate of intimate partner violence against women and girls. 	<ul style="list-style-type: none"> • In India, close to 12% of the population – 162 million people – live in female-headed households.
Ethnicity, race and caste findings	<ul style="list-style-type: none"> • Nearly 128 million people belong to ethnic groups in which 70% or more of the population of those groups is multidimensionally poor. • Indigenous peoples are among the poorest in all Latin American countries covered. 	<ul style="list-style-type: none"> • 5 out of 6 multidimensionally poor people in India are from lower tribes or castes. • ST group accounts for 9.4% of the population and is the poorest, with 65 million of the 129 million people living in multidimensional poverty. • Following the ST group is the SC group with 33.3% - 94 million of 283 million people – living in multidimensional poverty. • 27.2% of the Other Backward Class group – 160 million of 588 million people – lives in multidimensional poverty
COVID-19 findings		
<ul style="list-style-type: none"> • Emergency social protection coverage is less prevalent in high-MPI countries. • The percentage of employed non-wage workers is particularly high in high-MPI countries. • The percentage of households with children who stopped participating in formal education during the pandemic is larger in higher MPI countries. • The relationship between MPI value and these additional deprivations and socioeconomic risks is not uniform: Some high-MPI countries defy the pattern, against the odds. 		

Why Caste has significant implications for poverty and other welfare outcomes?

- **Lack of education and occupation:** This both had ritual significance in that they were the preserve of upper castes. Dalits were usually illiterate, landless and were meant to serve in “impure” occupations passed down through generations.

- **Continued discrimination:** According to some surveys, even today discrimination against SC students by teachers and by upper caste parents is common in some parts of the country. Dalit children are particularly excluded in situations involving the sharing of food and water and prayers i.e., areas otherwise considered permeable to “pollution” by lower castes.
- **Engaged in Casual labour:** In the labour market, Dalits remain largely in casual labour. Historically, Dalits have remained landless and while some states in India have implemented land reforms after independence this has not been the norm. This has meant a preponderance of Dalits in casual labour.

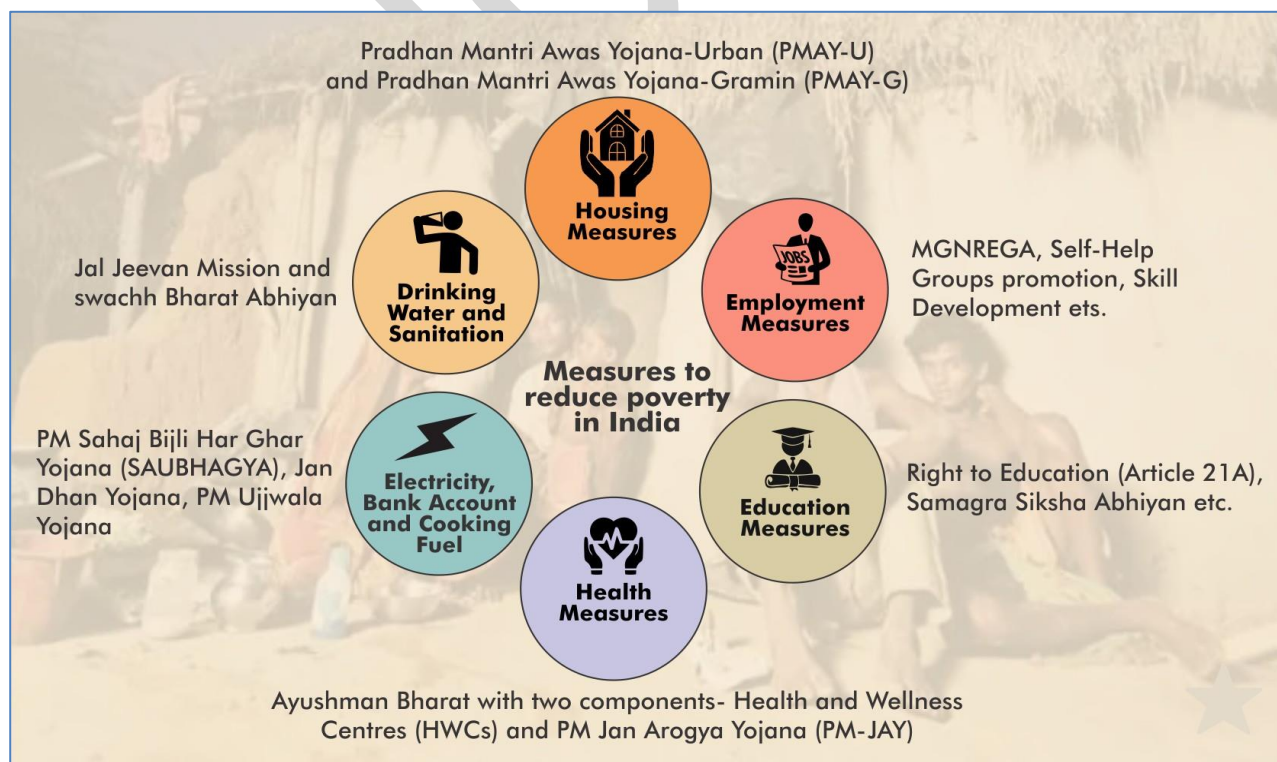
Benefits of measuring MPI

With its indicators having close relation with realizing the SDGs, in particular –target **1.2 of the 2030 Agenda** which specifically focuses on addressing **poverty in all its dimensions**, the national MPI will-

- **Enable the analysis** of comparative and relative performance among States, UTs and districts in India.
- **Help in evidence-led policy** and design programs for focused interventions to reduce poverty. E.g. Fine-tuning of State policies and programmes who are at the forefront of public service delivery and social protection.
- **Strengthen the federal structure of India** with involvement of district administrations for effective implementation of interventions and schemes.
- **Empowering policymakers and local officials** to manage complexity and scale so that no one is left behind.
- **Enhance India’s capability to reduce poverty** as the country builds back stronger from the effects of the COVID-19 pandemic
- **Serve as a public policy tool** for an informed public dialogue across a range of stakeholders, including civil society, the research community, and businesses through tracking of progress towards achieving this goal.

Limitations of MPI

- The indicators **may not reflect capabilities but instead reflect outputs** (such as years of schooling) or inputs (such as cooking fuel).
- The **health dimension indicators are not consistently collected across countries** and overlook some groups’ deprivations, especially for nutrition.
- **Intra-household inequalities may be severe**, but these are not captured.
- While the MPI goes well beyond a headcount ratio to include the intensity of poverty, it **does not measure inequality among the poor**.



3.3. FISCAL POLICY AND RELATED NEWS

3.3.1. STATE FINANCE

Why in news?

RBI released report titled, “**State Finances: A Study of Budgets of 2021-22**” with theme “Coping with the Pandemic: A Third-Tier Dimension.”

Key Highlights of report:

- For 2021-22, States have budgeted their **consolidated gross fiscal deficit (GFD)** to gross domestic product (GDP) ratio at **3.7 per cent** (improvement from **4.7 per cent** in the revised estimates for 2020-21).
- The combined **debt to GDP ratio** of States which stood at **31 per cent at end-March 2021**. It is

higher than the **target of 20 per cent to be achieved by 2022-23** as per recommendations of the FRBM Review Committee.

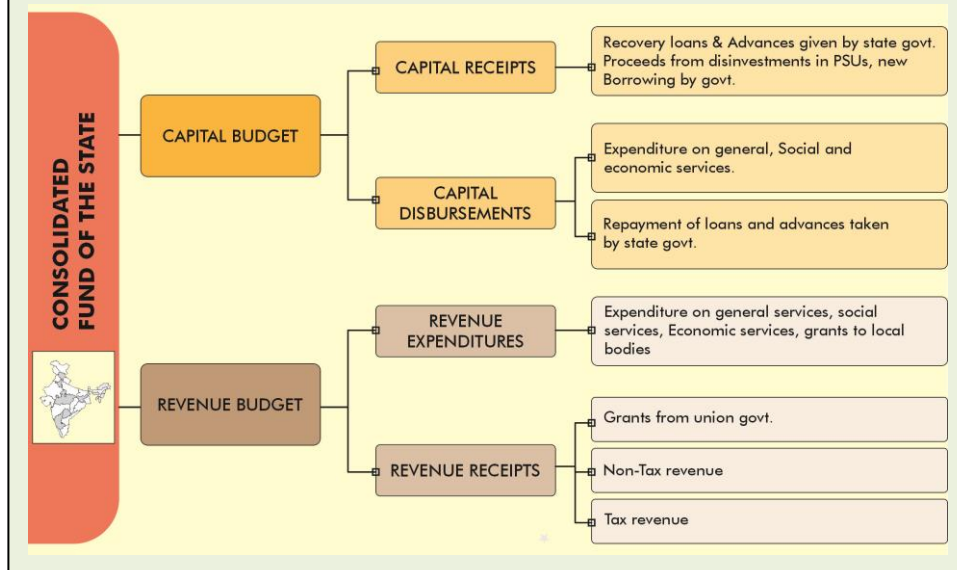
- The ratio of **interest payment to revenue receipts** has been increasing in recent years at a steady pace, indicating **erosion of debt sustainability**.
- Market borrowing**, the largest component of outstanding debt, is expected to **reach 63 per cent** at end-March 2022.
- The shares of **National Small Savings Fund (NSSF)**, **loans from banks and financial institutions and public accounts** in total outstanding liabilities of the States have declined over the years.
- With the third-tier governments in India playing a **frontline role in combating the pandemic** by implementing containment strategies, healthcare, quarantining and testing facilities etc., their finances have come **under severe strain**.
- It is estimated that **local authorities would lose around 15-25 per cent of their revenues** in 2021, which may make the maintenance of the current level of service delivery difficult.

Why understanding of State Finances is important?

- Capital Spending:** About **two-thirds of India’s public capex comes from states**, the highest decentralization of capital spending globally (as per RBI 2020 report). Refer infographic for **comparison of central and state government capital expenditure**.
- Employment Generation:** States employ **five times more people than the Centre**.
 - Further, high market borrowings by states has serious implications on the interest rates charged in the economy, the availability of funds for businesses to invest in new factories, and the **ability of the private sector to employ** new labour.
- Impact on national economy:** States have a greater role to play in determining India’s GDP which makes it crucial to understand their spending pattern. If, for example, their combined **expenditure contracts** from one year to the other, then it **will bring down India’s GDP**.
- Macroeconomic stability:** If states find it difficult to raise revenues, a rising mountain of debt (captured in the debt-to-GDP ratio) could start a **vicious cycle** wherein states end up **paying more and more towards**

About State Budget

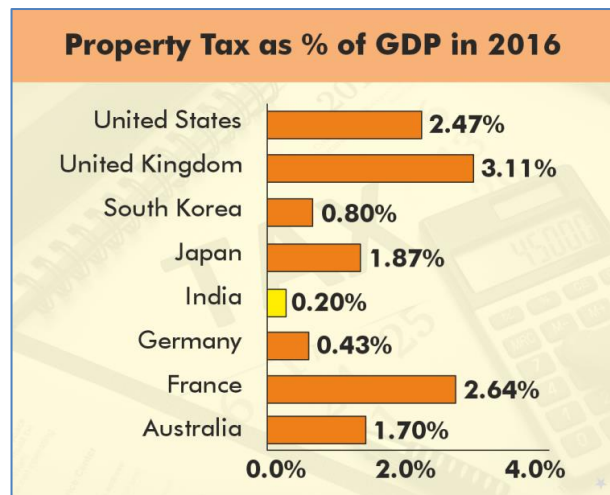
- The structure of State Government Accounts is quite similar to that of the Union Government. For the States also, the Constitution of India stipulates that **no expenditure can be incurred from the Consolidated Fund of a State without the authority of Appropriation Act**.
- In order to obtain this authorisation from State Legislature, a **statement of anticipated receipts and expenditure for each financial year** needs to be laid before the State Legislature. See infographic for structure of the state budget.



interest payments instead of spending their revenues on creating new assets that provide better education, health and welfare for their residents.

Key trends in state finance

- **Increase in Fiscal deficit:** States' fiscal deficit increased from 2.9% of GDP in 2019-20 to **4.1% of GDP in 2020-21** (by Rs 2.25 lakh crore).
- **Rising Public debt:** At the end of 2021-22, aggregate public debt of states is estimated to be **25.1% of GDP**, a significant rise from **17.2% of GDP** in 2011-12.
- **Own tax revenue is the largest source of revenue:** States' own tax revenue is estimated to be the largest source of revenue (**45% of total revenue receipts**) for states in 2021-22. It is estimated to be **6.7% of their GSDP**.
- **Low property tax collection:** Property tax collection level in India is **significantly lower (0.2% of GDP)** as compared to some of the developed countries. The 15th FC highlighted factors like **undervaluation** of property, **incomplete property tax records**, and **inefficient** administration for low property tax revenue.
- **Turnaround of discoms to remain a priority for containing risks to state finances:** In most states, state-owned power distribution companies (discoms) remain a **source of strain on state finances** as they continue to make losses and their liabilities are on the rise.
 - For instance, in 2020-21, 16 states provided guarantees for borrowing of Rs 1.36 lakh crore by discoms, i.e., **0.67% of 2019-20 GDP**. Such guarantees pose a **potential risk to state finances** in the event of any default by discoms.



Issues with state finance

- **Decline in tax devolution:** The total central transfers to states can be classified as: (i) **states' share** in central taxes as per the recommendations of the FC, (ii) **grants** recommended by the FC, and (iii) **other grants** by the Centre such as those for centrally sponsored schemes.
- **Growing cesses and surcharges reduce tax devolution to states:** While the cess and surcharge revenue remained around **10-15% of GTR** (Gross Tax Revenue) during 2011-20, its share is estimated to significantly increase to **24% in 2020-21**.
- **Reduction in share of untied funds in central transfers to states:** As per the 15th Finance Commission estimates, untied funds (tax devolution + revenue deficit grants) in central transfers are estimated to be **29.5% of the Centre's gross revenue receipts during 2021-26**. This is notably **less than the same during 2015-20 (32.4%)**.
- **Overoptimistic revenue estimates:** During the 2015-20 period, states **raised 10% less revenue** than their budget estimates. During the same period, on average, states **underspent their budget** by 9%.
- **Lower capital expenditure:** According to SBI research, nine of the 13 states reported **lower capital expenditure** (good spending) in 2020-21, as **compared to budgeted amounts**. Reduction in capital expenditure has potentially **adverse implications for economic development**.
- **Other issues:** Populist programs such as **farm loan waivers** launched by a number of state governments contribute to the **fiscal stress**, without doing much to raise farm incomes.
 - The rather tepid performance of the **power debt restructuring scheme, UDAY**, also strained state finances.
 - Covid-19 induced lockdowns and **initial ban on liquor**, the **sharp fall in mobility**, which hit fuel stations hard, and the slump in the property market **also hit state governments hard** as they are **heavily dependent on liquor, fuel, and real estate** for revenues.
 - States are contending with **shrinking revenue autonomy** and a **low tax buoyancy** (taxes are rising at a lower proportion than an equivalent growth in GDP).

Steps taken by Centre to support states

- **Reform-linked additional borrowing space for 2020-21:** In view of the COVID-19 pandemic, in May 2020, the central government permitted states to increase their fiscal deficit limit from 3% of GSDP to **5% of GSDP in 2020-21**.
 - Of this 2% increase, an increase of 1% of GSDP was to be permitted upon **completion of reforms** in four areas (0.25% of GSDP for each reform): **one nation one ration card, ease of doing business, urban local body, and power distribution**.

- As per the Union Ministry of Finance, states gained permission for reform-linked borrowing worth **0.42% of their aggregate GSDP** in 2020-21 (Rs 89,944 crore).
- **Special Assistance to States for Capital Expenditure for 2021-22:** Under the scheme, states will be provided **interest-free loans of up to Rs 15,000 crore** in 2021-22, that need to be **repaid after 50 years**. Of this, **Rs 5,000 crore of loans are earmarked for states which carry out disinvestment** of State Public Sector Enterprises or monetisation/recycling of infrastructure assets.

Road Ahead

- **Overhaul of Fiscal Responsibility and Budget Management (FRBM) framework:** The 15th FC report recognizes that the FRBM Act needs **major restructuring**, especially post the pandemic, and recommends that a **new framework** is needed to **achieve debt sustainability**.
- **Reporting of liabilities:** States should amend their fiscal responsibility legislation to ensure **consistency with the Centre's legislation**, in particular, with the **definition of debt**. Standards should be developed for reporting and disclosure of broader **public debt and contingent liabilities, and their risks**.
- **Fiscal policy should act as a stabilising tool:** fiscal policy of the states has to be re-engineered so that **fiscal spending becomes anti-cyclical**, rather than procyclical, and function as a **stabilising tool**.
- **Power sector reforms:** Undertaking power sector reforms will not only **facilitate additional borrowings** of 0.25 per cent of GSDP by the States but also **reduce their contingent liabilities** due to improvement in financial health of the DISCOMs.
- **Independent Fiscal Council:** As recommended by 15th FC, an independent Fiscal Council should be established with powers to **assess records** from the Centre as well as **states**.
- **Productive expenditure should be prioritised:** States to reprioritise spending with a special focus on **high multiplier capital projects** with low gestation periods and also in building healthcare facilities and support systems like **better social security nets**. Similarly, **universal health coverage** has to be rolled out in the deficit states.
- **Strengthen third-tier governments:** RBI report has made recommendations like increasing the **functional autonomy** of the civic bodies, strengthening their **governance structure** and **empowering them financially** via higher resource availability, including through own resource generation and transfers.

3.3.2. CASH ECONOMY

Why in News?

On 08 November 2021, demonetisation marked its five years- date on which **currency notes of ₹500 and ₹1000 ceased to be legal tender in India in 2016**.

What is Cash Economy and why do people prefer cash?

Cash Economy is defined as **'an economic system, or part of one, in which financial transactions are carried out in cash** (currency or coins), rather than instruments like cards (debit and credit cards), bank transfer etc.'

The preference for cash stems from following reasons-

- **Large informalization:** Vital for functioning of an economy, especially in nations with **large informal economy like India**. Cash is the preferred mode of transaction by **socially vulnerable citizens**, such as poor or low-income and elderly people; and informal businesses.
- **Simple and reliable form of payment** as it serves as a **legal tender across India** (state-guaranteed means of payment to the general public).
- **Ensuring freedom and autonomy** as it doesn't involve third party and can be used easily even without internet or electricity with **no extra processing**.
 - **Protecting Right to Privacy** of citizens, a fundamental right, by protecting the identity and data in financial matters,
- **Fast and secure** as payments can be made instantly with no risk of cybercrime, digital frauds or financial risks for the payer and payee.

But increasing digitization, development of an online world and increasing global and local interconnectedness are pushing towards the idea of a cashless society.

What are the advantages of moving towards a cashless society?

- **Financial Inclusion:** The technology driving the digital economy can help enable participation within it by those who may be excluded through conventional banking practices.

- For example, encouragement to cashless economy would **minimize the leakages in the Direct Benefit Transfer (DBT) mechanisms.**

- **Discouraging growth of black economy:** Moving to a cashless society makes transaction more transparent and thus traceable. This indirectly discourages the growth of black economy.

- For example, money laundering will become very difficult as there will always be a digital paper trail.

- **Curtailling use of counterfeit notes:** Printing of counterfeit currency, increasing need from central banks to update security features and create awareness among people on genuine notes would be ameliorated.

- **Lowered cost of printing and transactions:** Regular printing of currency by central banks to meet the demand could be decreased. Also, less time and cost is associated with handling, storing, and depositing paper money.

What are the challenges in transition from to a Cashless Economy?

- **Limited Awareness** as parts of India still continue to remain unbanked and remain unaware vis-à-vis the financial developments such as adoption of UPI, mobile banking etc.
- **Poor financial literacy:** National Centre for Financial Education findings state that **only 27% of Indians are financially literate.** This translates to poor transition towards Cashless economy.
- **Limitations** in relation to **Safe and secure infrastructure** to convince market participants. This can be seen in growth of high technology risks like cyber-attacks and digital frauds.
- **Challenges associated from alternative forms of payment like cryptocurrencies and other virtual currencies** (non state-guaranteed means of payment).
- **Low availability of financial services** as the **Financial Inclusion Index (FI-Index)** of India was **53.9** by March 2021 (released by RBI with **access, usage** and **quality** as sub-indices).
 - The already **prevalent digital divide will also start reflecting in financial access and growth** if transition to cashless economy is premature.

Way Forward

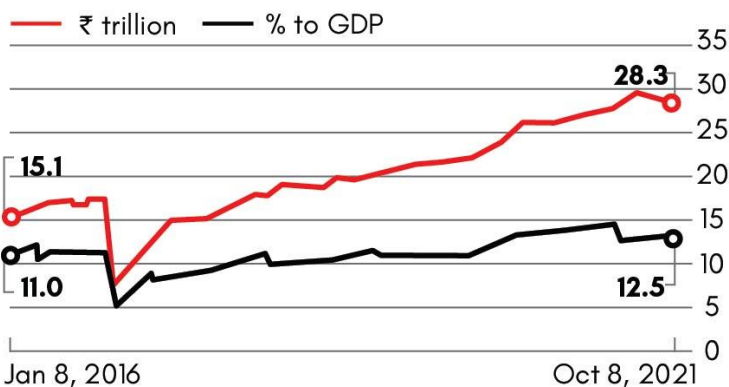
With cash and non-cash payment means having own unique benefits and challenges for different people, the **progression from cash economy** needs to be gradual and measured through-

- **Integrated Payment Regulatory Ecosystem:** Creating an integrated regulatory ecosystem will ensure that the transition to a cashless system is smooth and is centered around creating a safe, fast and cost efficient payment system.
- **Broadening and deepening of the financial system:** Work on financial literacy and financial inclusion needs to be acted upon simultaneously and in an integrated manner.
- **Create Enabling Infrastructure:** Enhance the reach of high speed internet and telecommunication networks to ensure wider reach of appropriate technology to the general public. E.g., accelerating the completion of the BharatNet project.

Impact of demonetization on Cash Economy

CASH TO GDP RATIO HIGHER THAN PRE-DEMO

Currency with public



Source: Reserve Bank of India, National Statistical Office

- After an initial decline in the **Cash to GDP Ratio or Currency in Circulation (CIC) to GDP Ratio** (i.e. the value of cash in circulation as a ratio of GDP) it now stands at record levels with a peak of **14.7%** in comparison to historical ratio of **less than 12%**.
- The share of high denomination notes (Rs 500 and 1000) which accounted for over **86% before demonetisation** is now at **85.7%** (Rs 500 and 2000).
- At the same time, **digital payments** are mainstreamed with **over 4 billion transactions** in the month of **October** alone worth **Rs 7.71 trillion**.

- **Ensure State and Central Banks Participation:** It will help in having a state-guaranteed means of payment for the public to maintain competition and efficiency of the system.
 - It will also help in bringing **behavioral Changes in users** as cash-on-delivery is still the most trusted payment method by consumers on e-commerce platforms.
- **Adopt a Global Approach:** With global scale of digital money revolution, India should be aware of global developments and work on building a global approach to ensure safe and secure transactions.

3.4. MONETARY POLICY, BANKING AND PAYMENT SYSTEMS

3.4.1. CAPITAL ACCOUNT CONVERTIBILITY (CAC)

Why in news?

Deputy Governor of Reserve Bank of India (RBI) has recently indicated towards fundamental shifts in the capital account convertibility framework in India, resurrecting a debate relating to Capital account liberalization.

What does capital account convertibility (CAC) mean?

- Convertibility refers to the **ability to convert domestic currency into foreign currencies and vice versa** to make payments for balance of payments transactions.
- Thus, CAC is the ability or freedom to convert domestic currency for capital account transactions.
- Capital account liberalization is the process of removing impediments to inflows of capital, or allowing domestic investors to invest more freely in foreign assets.
 - A full CAC allows local currency to be exchanged for foreign currency without any restriction on the amount.
- **Regulation of CAC:**
 - India has cautiously opened up its capital account since the early 1990s and presently there exists a **partial capital account convertibility in India.**
 - Several committees have been established by the RBI in the past to recommend a pathway towards fuller CAC including-
 - ✓ **Committee on CAC, 1997 (Tarapore Committee, 1997)** recommended full CAC for 1999-2000 based on fulfilment of certain benchmarks related to Fiscal Deficit, Inflation, Non-Performing Asset (NPA) etc.
 - ✓ **Committee on Fuller CAC, 2006 (Tarapore Committee, 2006)** suggested measures for gradual capital account liberalisation.

RELATED CONCEPTS: BALANCE OF PAYMENTS (BoP), CAPITAL ACCOUNT AND CURRENT ACCOUNT

BoP of a country records all economic transactions of a country (that is, of its individuals, businesses and governments) with the rest of the world during a defined period, usually one year. It has 2 components-

<p>Current account (country's short-term transactions or the difference between its savings and investments)</p> <ul style="list-style-type: none"> • Visible trade: export and import of goods • Invisible trade: export and import of services. • Unilateral transfers. • Investment income (income from factors such as land or foreign shares) • Transfers (grants, gifts, remittances, etc.) 	<p>Capital Account (inflows and outflows of capital that directly affect a nation's foreign assets and liabilities)</p> <ul style="list-style-type: none"> • Foreign investment: Foreign Direct Investment (FDI) and Portfolio Investment. • Loans: external assistance, external commercial borrowings and trade credit. • Banking capital. • Non-resident Indian (NRI) deposits.
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Steps taken to move towards fuller CAC

- **Introduction of the Fully Accessible Route (FAR),** which places no limit on non-resident investment in specified Government securities (G-Secs).
- **Allowing trade in non-convertible forward (NDF) rupee market:** The RBI permitted banks in India, which operate International Financial Services Centre Banking Units (IBUs), to participate in the NDF market.
 - An NDF is a foreign exchange derivative contract, which allows investors to trade in non-convertible currencies, with contract settlement in a convertible currency. NDFs trade principally beyond the borders of the currency's home jurisdiction, enabling investors to transact outside the regulatory framework of the home market.
- **Liberalised Remittance Scheme** allows all resident individuals, including minors, to freely remit up to USD 2,50,000 per financial year for any permissible current or capital account transaction or a combination of both.

- **Rationalisation of External Commercial Borrowing (ECB):** Steps taken by RBI include-
 - **Replacing the system of sector wise limits:** All entities eligible to receive FDI have been permitted to raise ECBs up to USD 750 million per financial year under automatic route subject to certain terms and conditions prescribed in the Guidelines.
 - **Relaxed the end-use restrictions related to ECBs:** allowing corporates and non-banking finance companies (NBFCs) to raise ECBs for working capital and general corporate purposes.
- **Foreign Direct Investment has been made more or less unrestricted** except (i) for some sectoral caps and (ii) restrictions in a few socially sensitive (e.g., gambling) or volatile (e.g., real estate) or strategic (e.g., atomic energy) sectors.

Benefits associated with CAC

- **Facilitates economic growth:** CAC opens up markets to global players including investors, businesses, and trade partners, leading to enhanced investment flows which in turn leads to economic benefits like-
 - Improved liquidity in financial markets and better risk allocation.
 - Reduction in the cost of both foreign equity and debt capital.
 - Offshore rupee market development.
 - Improved employment and business opportunities.
 - Positive pressures for better infrastructure and business practices.
- **Improves the efficiency of the financial sector:** as openness to capital flows can-
 - expose a country's financial sector to greater competition.
 - spur improvements in domestic corporate governance to meet standards of foreign investors.
 - impose discipline on macroeconomic policies, and the government.
- **Other benefits:**
 - Provides opportunities for diversification of investments by residents.
 - Enhances credibility of national economy as CAC is seen as a sign of stable and mature markets.
 - Enables higher stock market returns.
 - Reduction in transaction cost due to free rupee convertibility.
 - Improvement in domestic savings and investments.
 - Better access to a global variety of goods and services.

Risks associated with free capital mobility

- **Exchange rate volatility:** A lack of suitable regulatory control and rates subject to open markets with a large number of global market participants can lead to sudden exit of capital causing volatility, devaluation, or inflation in forex.
- **Unsustainable Foreign Debts:** Businesses are prone to the risk of high repayments in case of foreign debt if exchange rates become unfavorable.
- **Credit and asset bubbles:** Foreign investors may use equity markets in emerging countries to bet on currency appreciation, thereby distorting asset values and adding to the risk of speculative bubbles.
- **Exposure to global macroeconomic shocks:** Fuller CAC exacerbates risks associated with Global financial crises, especially for emerging economies like India.
 - For instance, the 1997 Asian financial crisis was exacerbated because the countries affected had full capital account convertibility and the financial crisis of 2008 led to huge foreign capital outflows from emerging countries.
- **Effects on Balance of Trade and Exports:** Substantial inflows could lead to an overvalued exchange rate which can make Indian exports less competitive in the international markets.
- **Lack of effectiveness in generating growth:** Foreign capital inflows by themselves only have temporary effects on growth because productivity growth is the main determinant of long-term growth which needs robust infrastructure, ease of business, technological advancements etc.

Is India ready for a full/fuller CAC?

Several economic parameters have considerably improved in India, indicating a readiness to fuller CAC-

- burgeoning forex reserves of around \$640 billion.
- higher increase in FDI flows than unstable portfolio flows (see graph).
- low current account deficit (CAD) ~1.0 per cent of GDP in fourth quarter of 2020-21.

But strain on India's macroeconomic situation is evident by high Fiscal deficit (9.3 per cent for 2020-21) and inflation (4.48% in October of 2021). Further, increase in international oil prices and the pace of economic

recovery post COVID-19, can substantially increase CAD. Thus, India needs a **pragmatic approach towards CA liberalization, as underlined below-**

- **Proceeding in a phased manner:** Gradually, through the Fully Accessible Route, the entire G-sec issuance can be eligible for non-resident investment.
 - External borrowing can be controlled until corporate governance and supervisory standards are robust.
- **Develop a System of Checks and balances to deal with the risks of CAC:**
 - **Tools to manage the volume and composition of capital inflows.**
 - **Macro prudential tools** like counter cyclical capital buffers.
 - **Proper mechanism for information flow** so that exchange and interest rate management can continue to be effective in an environment of larger offshore transactions.
- **Preparing market participants, particularly banks,** to manage the business process changes and the global risks associated with capital convertibility.
- **Developing sound macroeconomic fundamentals:** Recommendations of Committee on Fuller CAC, 2006 (Tarapore Committee, 2006) in this regard include-
 - Earmarking substantial part of the revenue surplus of the Centre for meeting the repayment liability under the Centre's market borrowing programme.
 - Central Government and the States should graduate from the present system of computing the fiscal deficit to a measure of the Public Sector Borrowing Requirement (PSBR).
 - **Setting up an Office of Public Debt** to function independently outside the RBI.
- **Strengthening business environment:** A fuller CAC would culminate into higher growth facilitated by factors like quick bankruptcy proceedings, infrastructural growth, streamlining FDI transactions, tax clarity and policy certainty etc.

Conclusion

India has come a long way in achieving increasing levels of convertibility on the capital account. It has broadly achieved the desired outcome for the policy choices, in terms of achieving a stable composition of foreign capital inflow. At the same time, India is on the cusp of some fundamental shifts in this space. The rate of change in capital convertibility will only increase with each of these and similar measures.

With that comes the responsibility to ensure that such flows are managed effectively with the right combination of capital flow measures, macro-prudential measures and market intervention.

3.4.2. SCALE-BASED REGULATORY FRAMEWORK FOR NBFCs

Why in news?

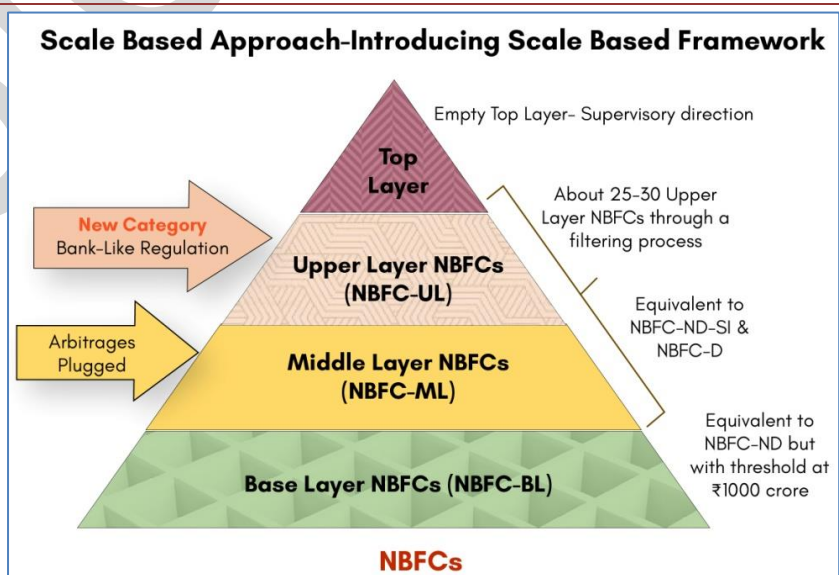
Recently, Reserve Bank of India (RBI) introduced a revised scale-based regulatory framework for non-banking financial companies (NBFCs).

Scale-based regulation for NBFCs

Regulatory structure for NBFCs shall comprise of 4 layers (refer infographic) based on their size, activity, and perceived riskiness.

- **NPA Classification:** The existing NPA classification norm stands changed to the overdue period of **more than 90 days for all categories of NBFCs.**
- **Experience of the Board:** At least one of the directors should have relevant work experience of a bank/ NBFC.
- **Ceiling on IPO funding:** A ceiling of ₹1 crore per borrower has been fixed for financing subscription to Initial Public Offer (IPO). NBFCs can fix more conservative limits.

For more details refer Article 4.2.4. REGULATION OF NBFCs in Mains 365 2021: Economy.



3.4.3. IBC, 2016

Why in news?

Recently, GN Bajpai committee report on Insolvency and Bankruptcy Code (IBC), 2016 was released.

About IBC, 2016

- The IBC, 2016 provides for **resolution of stress assets** of a company, a limited liability partnership, a proprietorship, or partnership firm, or an individual (refer to the infographics).
- Implementation of code consists of **4 pillars**:
 - **Adjudicating authorities** (the National Company Law Tribunal or NCLT & the Debt Recovery Tribunal or DRT),
 - **IBBI** to exercise regulatory oversight over insolvency professional agencies,
 - **Insolvency Professionals (IPs)** and
 - **Information Utilities (IUs)**.

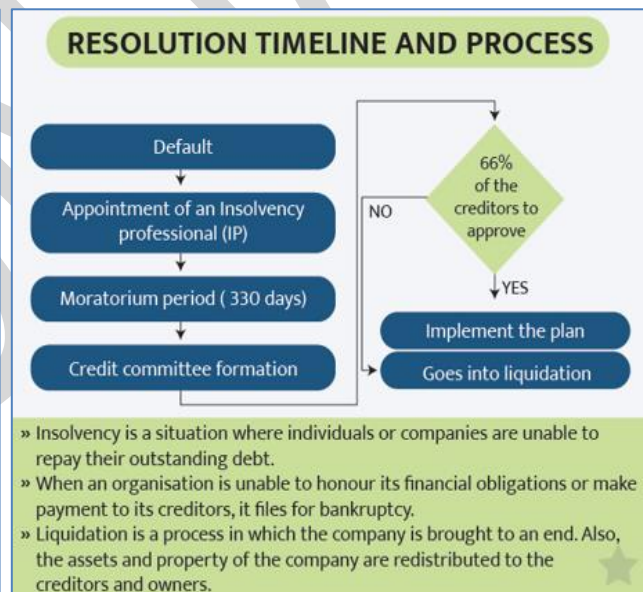
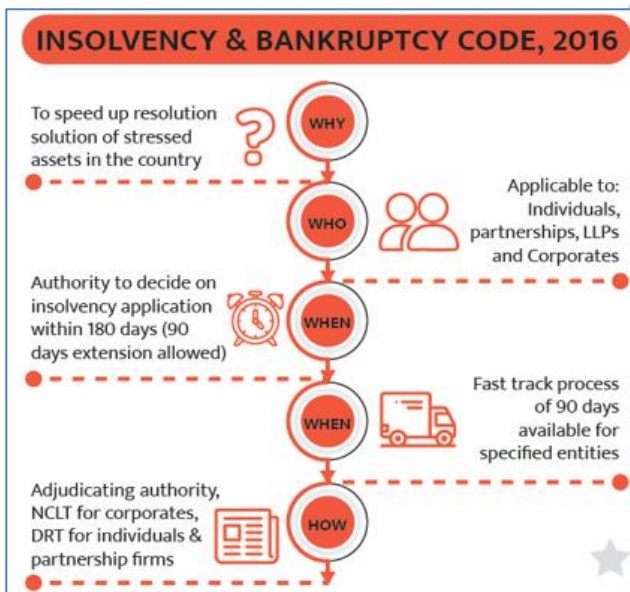
Key Highlights of the committee report

The Working Group has come out with a **comprehensive framework for developing a metrics for measuring the outcomes of IBC** to objectively evaluate the achievements under the IBC.

- Committee has **identified goals for the IBC process**
 - Resolution of the distressed asset
 - Promotion of entrepreneurship
 - Availability of credit
 - Balancing the interests of stakeholders.

Key recommendation

- Suggested a **standardized framework to assess the success of the IBC** and improve its implementation.
- **Reliable real-time data is essential to assess the performance** of the insolvency process.
- **Measure and track both quantifiable and non-quantifiable outcomes** of the Code.
- **Non-quantifiable outcomes such as behavioral changes** in the debtors and creditors, ushered in by the Code need to be corroborated by research and quantifiable proxy indicators.



For more details refer Article 4.3.1. **INSOLVENCY AND BANKRUPTCY CODE** in Mains 365 2021: Economy.

3.4.4. PROMPT CORRECTIVE ACTION (PCA)

Why in news?

RBI issued **revised norms for commercial banks** that are to be placed under the Prompt Corrective Action (PCA) framework with effect from January 1, 2022.

Objective of PCA

- **Enable supervisory intervention at appropriate time** and require the Supervised Entity to initiate and implement remedial measures in a timely manner, so as to **restore its financial health**.
Act as a **tool for effective market discipline**.
- **Check the problem of Non-Performing Assets (NPAs)** in the Indian banking sector.
Help **alert the regulator as well as investors and depositors** if a bank is heading for trouble.
- **Entails curbs on high-risk lending**, setting aside more money on provisions and restrictions on management salary thus curbing further haemorrhaging of bank balance sheets.

Recent changes introduced to the PCA Framework

- **PCA applicability and criteria**
 - PCA Framework **would apply to all banks operating in India including foreign banks** operating through branches or subsidiaries based on breach of risk thresholds of identified indicators.
 - However, **payments banks and small finance banks (SFBs) have been removed** from the list of lenders where prompt corrective action can be initiated.
- **Parameters for PCA**
 - **Capital, Asset Quality and Leverage** are 3 parameters which will be the key areas for monitoring in the revised framework and **there are three risk threshold, from 1 to 3**, in the increasing order of severity.
 - The revised framework has **removed return on assets as an indicator**.
 - A bank will be placed under PCA Framework based on the **Audited Annual Financial Results and the ongoing Supervisory Assessment made by RBI**.
 - RBI may **impose PCA on any bank during the course of a year** (including migration from one threshold to another) in case the circumstances so warrant.
- **Exit from PCA and Withdrawal of Restrictions under PCA**
 - **If no breaches in risk thresholds** in any of the parameters are observed as per **four continuous quarterly financial statements**, one of which should be Audited Annual Financial Statement (subject to assessment by RBI);
 - Based on Supervisory comfort of the RBI, including an assessment on sustainability of profitability of the bank.

Criticism of PCA

- **Lack of capital:** PCA banks already starve for funds because government finances are too tight. **These banks are not in a position to raise capital on their own.**
- **Further decline:** PCA sometimes accelerate the loss of market share and cause further decline of the position of the PSBs in the financial system in favour of private banks and foreign banks.
- **Not much on the governance or reform front.**

Benefits of Prompt Corrective Action

- It **helps in bank recapitalization and maintain capital requirements** as most bank activities are funded by deposits which need to be repaid, hence it is imperative that a bank carries a sufficient amount of capital to continue its activities.
- It **ensures limited Regulation** as RBI will regulate loan disbursements/ credit by PCA banks to unrated borrowers or those with high risks; however, it will not place a complete ban on the bank's lending.

Conclusion

PCA, though not a panacea, but is still a **key indicator in identifying the financial health of a bank at an early stage** leading to timely intervention and efficient financial management.

3.5. AGRICULTURE AND ALLIED ACTIVITIES

3.5.1. FISHERIES SECTOR IN INDIA

Why in news?

Recently, The Government has set target of Rs 1 lakh crore exports from fisheries sector by 2024-25.

About Fisheries in India

- India is the **3rd largest fish producing and 2nd largest aquaculture nation** in the world.
- India contributes about **7.7% to the global fish production and country ranks 4th in global exports of fish products**.
- India has more than 10% of the global biodiversity in terms of fish and shellfish species.
- Fisheries **being a State subject, the States play a pivotal role in fisheries governance**.
- The role of the **Central Government is to complement the former's efforts** in this regard under the guiding principles of cooperative federalism.
- While **Inland Fisheries are fully managed by State Governments, Marine Fisheries are a shared responsibility between the Central and Coastal State/UT Governments**.

Significance of fisheries sector

- **Food Security:** It provides **important food and nutritional resources**, especially for the rural economies. Over 90% of global inland capture fisheries production is used for human consumption among which the majority is in the developing world.

- Inland fish are particularly important in addressing **'Hidden hunger'**. E.g. Inland fishes **provide micronutrients to those where other nutritional sources are not available** or are cost-prohibitive. **Fisheries and aquaculture are fundamental to food sovereignty globally.**
- **Economy:** Many of these fisheries are conducted by the rural poor, often for **subsistence and small-scale economic security**. Fisheries provides livelihood to about **25 million fishers and fish farmers** at the primary level and twice the number along the value chain.
 - **Recreational fishing and tourist activities** have strong economic multiplying effects for the experiential activities in addition to the market value of the fish.
- **Environment:** Inland fishes serve as **indicators of ecosystem function and ecosystem change**. Additionally, because of the **low environmental impact** of many inland capture fisheries and aquaculture operations, they can be recognized as relevant to the **'green food' movement**.
- **Social:** They play an **important role in communities** around the globe. In many cultures, inland fish are **sacred and contribute to community identities**.
 - Fisheries are a **last resort when primary income sources fail**, for instance, economic shifts, war, natural disasters, and water development projects. They serve as **social safety-nets, providing alternative or supplemental sources of income, employment, and food.**
- **Empowerment:** These provide opportunities to **empower individuals to meet their own physical and psychological needs** and provide for their dependents.
 - This role is particularly important in **poverty prevention for marginalized populations including ethnic minorities, the rural poor, and women.**

Constraints in the Growth of Fisheries Sector

- **Inadequate infrastructure:** Especially **fishing harbors, landing centers, cold chain and distribution systems, poor processing and value addition, wastage, traceability and certification, non-availability of skilled manpower** etc. are some of the other factors constraining the growth of the capture fisheries.
- **Technological lag and financial constraints:** It have been the major bottlenecks in the delayed take off the deep-sea fishing industry in India. Also, **new technology allows fleets to double fishing capacity and deplete fish stocks faster.**
- **Overexploitation:** **Unsustainable fishing poses a serious threat to fish and aquatic biodiversity** and to the livelihoods of people in riverine and lake communities.
 - Major causes are **excessive food demands, market pressures, fishing gear technology development, weak or lack of appropriate management approaches and policies, accidental by-catches, and an unregulated aquarium trade in wild species.**
- **Environmental pollution:** The outcome of **pollution on freshwaters because of industrial, domestic or agricultural activities is often catastrophic** and can result in the elimination of fish species, and dead rivers and lakes.
- **Climate change:** It is causing the world's waters to warm as well as **bringing changes to rainfall patterns, water levels, river flow and water chemistry**. Fish cannot control their body temperature. Therefore, **increasing or decreasing water temperatures will have an impact on growth and reproduction, as will changes of flow and chemistry**
- **Invasive species:** The introduction of **exotic or alien invasive species is one of the greatest global threats** to native fish communities and their freshwater ecosystems.
- **Habitat modification, fragmentation and destruction:** A large number of freshwater fish species are also being **threatened by degradation, reduction or even loss of floodplains by damming, agriculture practices, urban development, rivers dredging and geomorphological modifications.**

Fisheries subsidy at WTO

- WTO members are seeking to **reach an agreement on prohibiting 'harmful' fisheries subsidies** that lead to overfishing and depletion of fish stocks worldwide.
- Negotiations were first launched in 2001 at the Doha Ministerial Conference.
- A draft World Trade Organization text aimed at reducing global fisheries subsidies **has proposed time bound exemptions for subsidies given by developing and least-developed countries for fishing close to shore.**
- Developed countries claim that **fisheries subsidies create significant distortions in global fish markets** and are a major factor contributing to overfishing and overcapacity and the depletion of fishes.

India's concern:

- **Dilution of developing countries' special and differential treatment (S&DT) rights.**
 - **S&DT provides several flexibilities for developing countries**, such as longer time periods for implementing agreements and commitments, lower levels of commitment and measures to increase trading opportunities.

- **Abolishing subsidies would cost means of livelihood** for the low-income and resource poor fishermen.
 - It will **limit the food security** of the nation.
- **Sovereign rights of coastal states** to explore, exploit and manage living resources within their maritime jurisdiction (enshrined in international instruments) **must be preserved and not be subject to WTO dispute settlement mechanism.**
 - Any agreement must **recognise that different countries are at different stages of development** and **current fishing arrangements should reflect it.**

Government initiatives

- **Blue Revolution:** It is implemented with **Centre outlay of Rs 3000 crore** and **focuses on creating an enabling environment for integrated and holistic development and management of fisheries** for the socio-economic development of the fishers and fish farmers.
- **Pradhan Mantri MatsyaSampada Yojana (PMMSY):** In 2019, the Government launched this new scheme to **double fishers and fish farmers' incomes and generate meaningful employment and enhance the contribution of the fisheries sector to Agricultural GVA and exports.**
The government has infused **Rs 20,000 crore** in the sector.
- **Establishment of Fisheries and Aquaculture Infrastructure Development Fund (FIDF)** to the tune of Rs 7522 crore created during 2018-19.
- In 2019, The Government has created a **new Ministry of Fisheries, Animal Husbandry and Dairying with two separate Departments:** The Department of Fisheries and The Department of Animal Husbandry and Dairying.
- **National Policy on Marine Fisheries, 2020:** launched to develop an **ecologically healthy, economically viable and socially inclusive fisheries sector** that contributes towards economic prosperity and well-being of fishers and fish farmers and provides food and nutritional security to the country in a sustainable and responsible manner.

INITIATIVES REQUIRED		○ Enhancement of Fish production and productivity for ensuring sustainability limited to aquaculture sector taking into consideration of major inputs like quality and healthy fish seeds, feed etc and promising species.
		○ Diversification of marine fishing activities to tap the deep sea and under utilized resources, multiday fishing, species-specific fisheries, utilization of by catch etc.
		○ Adoption of culture based capture fisheries in reservoirs and under-utilized larger water bodies.
		○ Revamping of FFDA's and involvement of Cooperative Societies and Self Help Groups (SHGs) and ensuring the Socio economic welfare of fisher folk.
		○ Networking of all line Departments/organizations dealing with fisheries under a single agency
		○ Post harvest, value addition and marketing infrastructure

3.6. INDUSTRY AND INFRASTRUCTURE

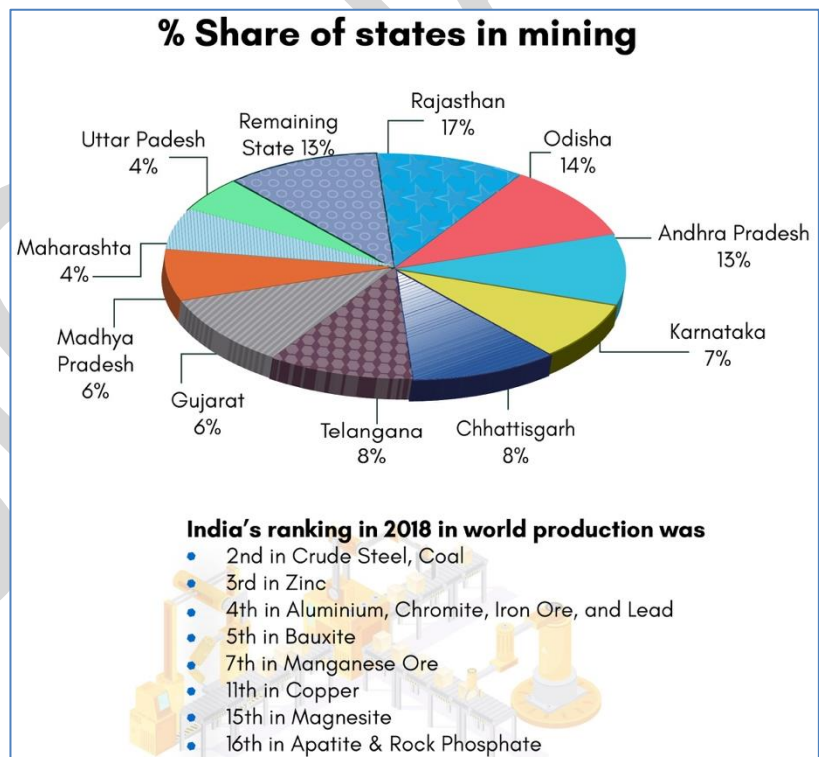
3.6.1. MINERAL CONSERVATION AND DEVELOPMENT (AMENDMENT) RULES, 2021

Why in news?

Ministry of Mines has notified the Mineral Conservation and Development (Amendment) Rules, 2021 to amend the Mineral Conservation and Development Rules, 2017.

National Mines and Mineral Scenario

- **Minerals**
 - India continues to be **largely self-sufficient** in minerals which constitute **primary raw materials** supplied to industries such as **iron & steel, aluminium, cement, bauxite, chromite, limestone, china clay-based ceramics, glass** etc.
 - India is deficient in **kyanite, magnesite, rock phosphate, manganese ore** etc. which are imported to meet demand.
 - The **total value of mineral production** (excluding atomic & fuel minerals) during 2020-21 which shows a **decrease of about 11.35%** over that of the previous year due to COVID-19 pandemic and lockdown.
- **Mines**
 - Indian mining industry is **characterized by a large number of small operational mines**.
 - Out of 1303 reporting mines, **most of the mines reported are in Madhya Pradesh** followed by Gujarat, Karnataka, Odisha, Andhra Pradesh, Chhattisgarh, Tamil Nadu, Rajasthan, Maharashtra, Jharkhand, Telangana and Goa.
 - In terms of **value of mineral production**, about **87% comes from 10 states** with percentage share shown below:



Challenges to mining sector in India

- **Regulatory challenges**
 - There is no guarantee of obtaining mining lease even if a successful exploration is done by a company.
 - The mining licenses are typically awarded on a first come first serve basis in principle but there is no transparent system.
- **Inadequate Infrastructure facilities**
 - The inadequacy of infrastructure is related to the **absence of proper transportation and logistics facilities**.
 - **Railway connectivity in most key mining states is poor** and it has inadequate capacity for volumes to be transported which adds to the overall supply chain cost.
 - There is **inadequate capacity at ports for handling minerals** and the rail / road connectivity to some ports is poor.
- **Sustainability challenges**
 - The importance of sustainability in mining, in India, can be illustrated by the fact that **40% of mining proposals failed to get environmental clearance from MoEFCC**.
 - In addition to the environment and forest clearances, mining projects also have to comply with **requirements aimed at enhancing the welfare of the local community**. Obtaining these approvals and clearances is a tedious process.

- **Environmental challenges**
 - **Air**
 - ✓ Surface mines produce **large amount of dust** from **blasting operations**
 - ✓ Many coal mines release **methane**, a potent greenhouse gas
 - ✓ Smelting operations release **sulphur dioxide and other heavy metals**.
 - **Water**
 - ✓ Heavy metals and toxic elements such as **mercury, lead, arsenic** etc. can **leach into groundwater** from mines.
 - ✓ Mining operations utilise large quantities of water which can lead to stress on water bodies.
 - **Land**
 - ✓ Blasting and surface mining can put pressure on sub-surface rocks and lead to **collapse of material overlying mineral deposit** and even **earthquakes**.
- **Health and safety challenges**
 - Mining operations are extremely hazardous, especially underground mining, as miners face **poor ventilation, low visibility and potential collapse of mine itself**
 - Several accidents have taken place over the years which have resulted in death of mineworkers.

Steps taken to mitigate challenges

- **Reforms in MMDR Act, 1957:** The Act was comprehensively amended in **2015** to bring several reforms, notably:
 - **Mandating online auction** of mineral concessions to improve transparency.
 - Establishing **District Mineral Foundation** and **National Mineral Exploration Trust**
 - Stringent penalty for illegal mining.
 - The Act was further amended in the years 2016 and 2020 to **allow transfer of leases for non-auctioned captive mines** and to deal with the **emergent issue of expiry of leases**.
- **National Mineral Policy, 2019:** It includes provisions to boost mining sector, such as:
 - Encouraging the private sector to take up **exploration**.
 - Encouragement of **merger and acquisition** of mining entities.
 - Transfer of mining leases and **creation of dedicated mineral corridors** to boost private sector participation.
 - Proposes to grant **status of industry to mining activity** to **boost financing** of mining for private sector.
- **Prevention of illegal mining:** There is a three-pronged strategy for prevention of illegal mining viz.
 - Constitution of task force by the State Governments at State and District Level
 - Framing of rules under Section 23C of the MMDR Act, 1957
 - Furnishing of quarterly returns on illegal mining for review to the Central Government
- **Pradhan Mantri KhanijKshetra Kalyan Yojana (PMKKKY) and District Mineral Foundation (DMF):** The PMKKKY has mandated 60% of the funds to be utilized for high priority areas, such as
 - Drinking water/environment preservation and pollution control/Health care/education/skill development/welfare of women, children, aged and disabled people / sanitation.
 - Rest 40% of the funds to be utilized for other priority - roads & physical infrastructure/irrigation/watershed development.
 - PMKKKY is to be implemented by the DMFs of the respective districts.

Way Forward

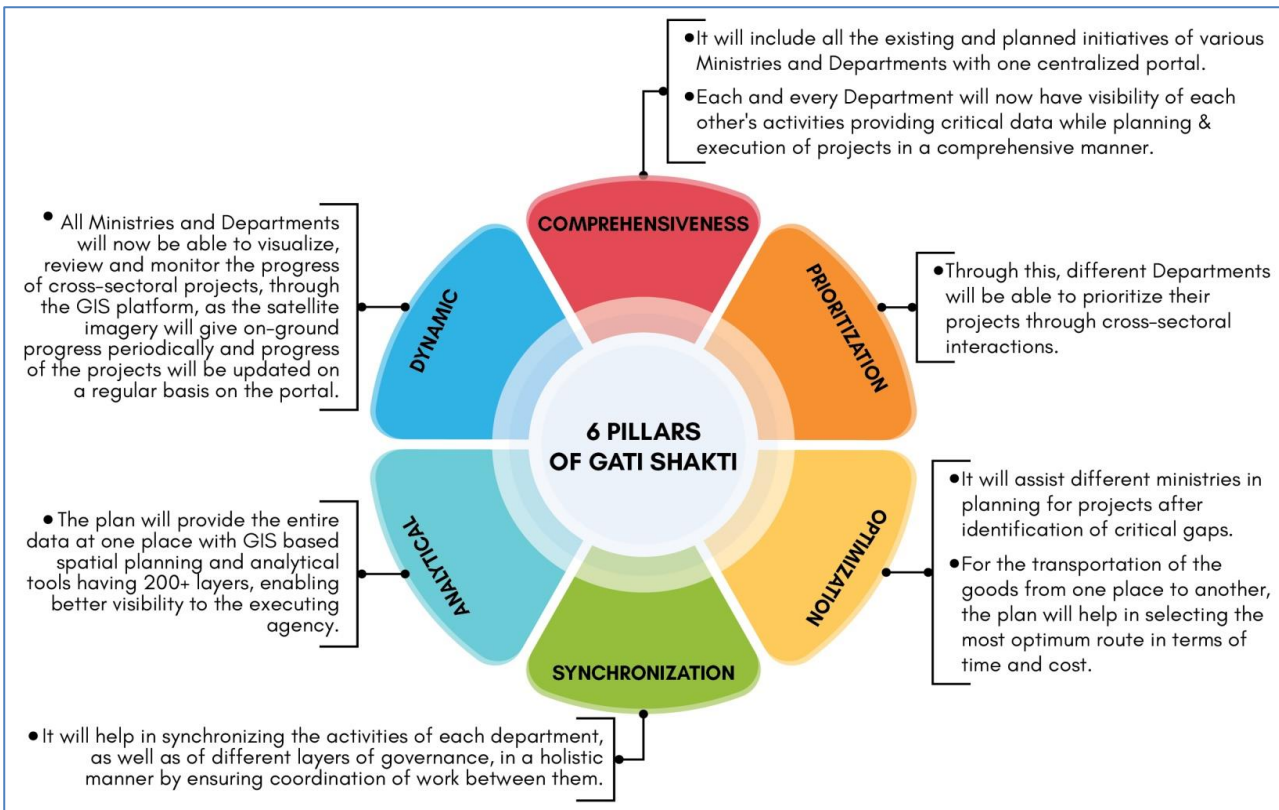
Both the government and industry need to take a comprehensive view of sustainable development that should cover dimensions other than environment, such as stakeholder engagement and consultations, local area socio-economic development and transparency in communication and accountability.

3.6.2. GATI SHAKTI

Why in News?

Recently, The Prime Minister launched the Rs 100-trillion Gati Shakti or the National Master Plan for multimodal connectivity **to expedite infrastructure project implementation in India**.

How will Gati Shakti help in overcoming bottlenecks and challenges associated with development of Multi-Model connectivity infrastructure in India?



		Aid provided by Gati Shakti
Siloed Structure	<ul style="list-style-type: none"> Lack of coordination between Individual Ministries and Departments in planning and implementation of the project. 	<ul style="list-style-type: none"> The master plan will ensure that projects will be designed and executed with a common vision across various ministries and will improve coordination among them.
Time and cost overruns	<ul style="list-style-type: none"> The infrastructure schemes of various Ministries and State Governments like Bharatmala, Sagarmala, etc. suffer from slow pace of completion due issues like time-taking approval process, multiplicity of regulatory clearances etc. 	<ul style="list-style-type: none"> The initiative, with its technology platform for real-time monitoring and coordination mechanisms is expected to prioritize timely approval of such projects.
Lack of common vision	<ul style="list-style-type: none"> Isolated projects lack clear vision and objectives which leads to non-optimum usage of resources. 	<ul style="list-style-type: none"> Projects will be designed and executed with a common vision across various ministries.
Wasteful expenditure	<ul style="list-style-type: none"> The lack of long term and holistic planning, coupled with poor communication between different Departments not only causes great inconvenience but leads to wasteful expenditure. For example, once a road was constructed, other agencies dug up the constructed road again for activities like laying of underground cables, gas pipelines etc. 	<ul style="list-style-type: none"> The initiative helps to address these issues through institutionalizing holistic planning for stakeholders for major infrastructure projects.

Other potential Benefits
<ul style="list-style-type: none"> Digital Backbone to National Infrastructure Pipeline (NIP): It will provide the much-needed impetus to NIP and will ensure optimum usage of financial resources guaranteed under the pipeline. Help in Employment Generation: The master plan will serve as a source of employment opportunities for the youth in the future. Boost for new Economic Zones/clusters creation: The plan will also give thrust to the possibilities of new future economic zones and clusters. Leveraging Technology: including spatial planning tools by ISRO (Indian Space Research Organisation), imagery developed by BISAG-N (Bhaskaracharya National Institute for Space Applications and Geoinformatics). Improved productivity and competitiveness: Economic Zones like textile clusters, pharmaceutical clusters, defence corridors, fishing clusters, Agri zones etc. will be covered to improve connectivity & make Indian businesses more competitive. Reduce logistic costs: Logistics costs in India are very high, at around 13% of its gross domestic product (GDP)—which reduces global competitiveness Indian industries. The plan will enable easier interconnectivity to reduce travel time and improve industrial productivity and provide manufacturers better accessibility to domestic and international markets.

3.6.3. SMART CITY MISSION

Why in news?

28 of 36 States and UTs have not released their share of funds for mission. The gap in state share has climbed up to a whopping Rs 6,258 crore.

About Smart Cities Mission

- The Smart Cities Mission (SCM), launched in 2015, is a joint effort of the **Ministry of Housing and Urban Affairs (MoHUA)**, and all state and union territory (UT) governments.
- It initially aimed to be completed by 2019-20, but has since been extended.
- **100 cities and towns in different states and UTs** of India have been selected under the SCM.
- Its objective is to promote cities that provide **core infrastructure, clean and sustainable environment and give a decent quality of life** to their citizens through the application of ‘smart solutions’.
- There is **no standard definition** of a smart city.
- The development and application of ‘**smart**’ solutions to overcome various urban problems is the **main feature** that distinguishes the SCM from previous urban-reform initiatives.



Key Challenges faced by SCM

- **Slow progress:** The slow progress in implementing the Smart Cities Mission is a matter of concern. Overall, less than 50% of the projects had been completed at the end of the Mission’s six-year period.
- **Management:** The SPVs are not functioning well. In Panaji, for example, the SPV functioned without a Board for over a year. Four Board positions still remain vacant. There have been several audit violations, including failure to file statutory returns during 2016-17 and 2017-18.
- **Lack of trained human resource:** Inadequate understanding of data, and how to analyse it to provide effective solutions has also created difficulties. Also, a lack of coordination among multiple government departments persists.
- **Finance:** The Centre, as well as most state and local governments, are finding it difficult to mobilise funds, transfer them to SPVs, and use them efficiently.
- **Safety of data:** Smart cities rely on sensors and network-connected devices and systems that generate large volumes of data, which are vulnerable to hacking by cyber criminals.
- **COVID-19 pandemic has also impeded progress-**COVID-19 pandemic related lockdowns and other unprecedented situations have led to temporary interruptions in execution of Smart City works across

Government Initiatives to Support the SCM: MoHUA has initiated a number of programmes to enhance the SCM’s impact.

- **National Urban Digital Mission (NUDM):** Digital infrastructure and tools to ensure data availability and skill building are being created under NUDM
- **National Urban Learning Platform (NULP):** For promoting Capacity-building.
- **Ease of Living Index (EoLI):** It shows the gaps in urban policies, planning and implementation initiatives, and offers an opportunity to plug them.
- **Municipal Performance Index (MPI):** This describes the quality of urban governance (the performance of municipalities).
- **India Smart Cities Awards Contest (ISAC):** It has been organised every year since 2018 to recognise the best performing cities.
- **The Urban Learning Internship Programme (TULIP):** It offers experiential learning opportunities to fresh graduates.

the country. However, Smart Cities commenced works after un-lockdown and are trying their best to make up for the time lost due to such unprecedented and unforeseen circumstances.

Way ahead

- **Long-term programme**, not restricted to five or six years as currently envisioned. Indian cities are at a low level of development, and given the quality of governance, and the social and economic problems facing these towns and cities, any transformation will take a long time.
- **Identify more projects:** Need based projects should be added in the current development plans of the SCM. During the current monsoon season in 2021, it has been seen that drainage systems in many of the selected smart cities have still not ensured proper management of rainwater.
- **Training programmes:** It is necessary to build managerial and financial capacities of the staff employed by the SPVs and urban local bodies. Training needs must be properly identified. SPVs should be supported with adequate funds, trained personnel, and proper equipment.
- **Empirical studies of the SPVs:** This would help finding out reasons why some proposed SCMs are lagging behind in implementation of development project. Available data shows that, for instance, not a single project in Amaravati, Bhagalpur, Muzaffarpur and Shillong, has been completed.
- **Cyber Secure:** Smart cities should be made cyber secure by ensuring data security and encryption.
- **Mobilise funds.** More revenue needs to be generated through efficient taxation, and alternate sources of financing found. The potential of municipal lending needs to be tapped. In the US, for example, the North Cascades Bank provides finance (from simple terms loans to complex borrowing solutions) to local governments across the state of Washington to finance capital projects and equipment.

3.6.4. ELECTRONICS INDUSTRY

Why in news?

Ministry of Electronics & Information Technology has released its Vision Document on “**Increasing India’s Electronics Exports and Share in Global Value Chains (GVC)**”.

Overview of Electronics Industry

- **Potential of Electronics for India:** The electronics sector has the potential to become one of the **top exports of India in the next 3–5 years**.
- **Raising share in terms of GDP:** India is targeting a quantum jump of **increasing the share of electronics sector from 2% to 10% in India’s GDP** in near future.
- **Rising Demand-** As per MeitY, demand for electronics hardware in the country is projected to increase from USD 45 billion in 2009 to USD 400 billion by the year 2020.
- **NPE 2019:** The National Policy on Electronics (NPE) 2019 set the target of \$400 billion turnover by 2025.
- **Flagship Programs: Vision set by Government of India** under Digital India and Make in India programs is boosting electronics sector.
- **New emerging export destinations: India is considering new markets with huge potential** like as North Africa, South America, etc.
- **India a strong investment destination:** Due to rapidly rising cost of manufacturing and labour in China.
- **Focus on Infrastructure:** 200 Electronic Manufacturing Clusters (EMCs) are to be setup with world class logistics, Infrastructure.

Challenges faced by the Sector

- **Less attention towards production and manufacturing:** India’s presence in the global manufacturing sector of electronics (according to market size) is meagre at around 1-2%.
- **Infrastructural Gaps:** Physical infrastructural issues like power shortages, shortages of basic utilities .
- **Supply chain and logistical constraints:** High transportation costs, high cost for raw materials and difficulties due to inefficient transportation.
- **Trade Barriers:** High import duties, additional state-level taxes and inverted duty structure are proving themselves as barriers against trade.
- **Discouraging heavy import statistics:** Currently, 65% of the demand for electronics products and almost all critical electronics components in met by imports.
- **Possible supply-demand gap:** The estimated production of Indian electronics industry will reach USD 104 billion by the year 2020 against a demand of USD 400 billion.

- **Tough Competition from Global Players:** The geographical concentration of the electronics GVCs shows that most of India's competition are in Asia itself, with China and Vietnam being prominent ones.

Way Forward

- **Upgrade infrastructure:** As electronics industry is manufacturing industry, it is necessary to provide required infrastructure, ultra-modern technological supplies, power, etc.
- **Rationalize value chain:** Cost of raw materials, contribution of taxes, duties and other constraints should be considered to encourage indigenous manufacturing of electronics components, products and entire product chains.
- **Remove Trade barriers:** Attracting GVCs requires open trade and investment policies and tariff and non-tariff barriers can deter investment.
- **Reduction of tariffs for inputs:** Tariffs have to be rationalized, with introduction of lower tariffs and removal of an inverted tariff structure, to reduce costs of manufacturers and support PLI scheme.
- **Export promotion:** India must galvanize **Export Promotion Councils** and **Export Hubs** for helping lead firms to scale up business operations and position regional businesses to participate in global supply chains.
- **Encourage MSMEs:** Government should encourage small and medium scale enterprises engaged in electronics manufacturing sector with necessary financial aids to sustain growth.
- **Enhance Research and Development:** Every central and state university should establish a chair dedicated to improve industry-academia interface, training and development in electronics industry to create skilled, and electronics industry-ready workforce.

3.7. SERVICES SECTOR

3.7.1. OPEN NETWORK FOR DIGITAL COMMERCE

Why in News?

The **Department for Promotion of Industry and Internal Trade (DPIIT)** in the Ministry of Commerce and Industry is building an Open Network for Digital Commerce (ONDC).

About ONDC

- **ONDC is envisaged as a neutral platform that will set protocols** for cataloguing, vendor match, and price discovery in open source on the lines of the Unified Payments Interface (UPI).
 - It will enable buyers and sellers to be digitally visible and transact through an open network no matter what platform/application they use.
- **Aim: To democratize digital commerce**, moving it away from platform-centric models like Amazon and Flipkart to an open network.
- **An advisory council on ONDC** has been constituted by the Centre to take over as a guide and mentor for its design, implementation and national rollout of ONDC.
 - **A private sector-led non-profit unit** will also be set up to fast-track its roll-out.

What does open-source mean?

- Making a software or a process open-source means that the **code or the steps of that process is made available freely for others to use, redistribute and modify it.**
- For example, while the operating system of Apple's iPhones — iOS — is closed source, meaning it cannot be legally modified or reverse engineered, **Google's Android operating system is open-source**, and therefore it is possible by smartphone manufacturers such as Samsung, Xiaomi, OnePlus, etc. to modify it for their hardware.

Key Features of the Proposed ONDC

- **Measures to ensure confidentiality & privacy of data in the network**, including-
 - Sharing of any transaction-level data by participants with ONDC will not be mandatory.
 - It will work with its participants to publish anonymised aggregate metrics on network performance without compromising on confidentiality and privacy.
 - It will be compliant with the Information Technology Act, 2000 and designed for compliance with the emerging Personal Data Protection Bill.
- **Plan for a well developed Information, Education & Communication campaign** to educate, encourage and to address any apprehensions of various network participants.
- **Special attention to help onboard small and medium players** will be given initially.

- It is expected to evolve over time as a self-sustaining entity generating income for its operations and surplus for continuous investment in technology, processes and network development.

Intended Benefits of ONDC

- **Ending monopolistic tendencies:** Many big e-commerce companies have been accused of discriminating among sellers on their platforms and promoting certain seller entities in which they hold indirect stakes. ONDC will level the playing field and empower merchants and consumers by breaking silos to form a single network.
- **Interoperability:** An open digital infrastructure will make e-commerce highly interoperable for sellers and customers who want to connect with each other, without the barrier of making an effort of switching between two or more marketplaces for a particular product.
- **Enhanced Discoverability for small retailers:** Once a retailer lists its products or services using the ONDC's open protocol, the business can be discovered by consumers on e-commerce platforms that follow the same protocol.
- **Increasing efficiency in logistics movement:** It would help in standardizing operations and promote inclusion of local suppliers which would drive efficiencies in logistics and lead to enhancement of value for consumers.
- **Ease of doing business:** Businesses are expected to benefit from transparent rules, lightweight investment, and lower cost of business acquisition.
 - It is also expected that the time-to-market as well as time-to-scale shall also be substantially reduced.
- **Faster adoption of digital means:** It would encourage easy adoption of digital means by those currently not on digital commerce networks.

Concerns regarding ONDC

- **Unnecessary intervention:** In general, governments should intervene in markets only when there is a clearly identifiable market failure or massive societal benefits from creating shared infrastructure.
- **Protest from private entities:** Larger e-commerce giants are protesting as they have already invested heavily in the R&D as well as deployment of their own processes and technology.
- **Privacy and security concerns:** Such open network may lead to collection of personal data which may have privacy issues and its open nature may expose it to hackers.

Way Forward

- **Technical Decentralization:** The government should restrict its role to facilitating standards and protocols that provide open access.
- **Minimal personal data collection:** Data exchange protocols should be designed to minimize friction but be based on clear rules that protect the consumer interest i.e., the platform should be built on "privacy by design" principles.
- **Utilizing new technologies:** For instance, tools like blockchain could be used to build technical safeguards that cannot be overridden without active consent.
- **Reference application:** Creation of non-mandatory "reference applications" for organic adoption of the network, similar to BHIM App, can be done.
- **Supplementing with tightly-tailored regulations:** such as passing the data protection bill and creating an independent regulator should be a precondition.

3.7.2. ROAD SAFETY

Why in news?

Ministry of Road Transport & Highways (MoRTH) has notified constitution of the **National Road Safety Board**.

About National Road Safety Board

- It shall consist of the **Chairman and not less than three**, but not exceeding seven Members, to be **appointed by the Central Government**.
- The **functions of the board**, inter alia, are:
 - Formulate **specific standards** for road safety, traffic management and road construction for hilly region and guidelines for **capacity building** of traffic police, highway authorities etc.
 - Formulate Guidelines for **establishing and operating** trauma facilities and para-medical facilities, for consideration by the Central Government.

- Provide **technical advice** and assistance, promote **good Samaritans** and good practices and **conduct research** for road safety and traffic management.
- **Promote consistency** between international technical standards and domestic technical standards.

For more details refer Article 9.2.1. ROAD SAFETY in Mains 365 2021: Economy.

3.8. BUSINESS AND INNOVATION

3.8.1. SUSTAINABLE BUSINESS PRACTICES

Why in News?

Recently, the **Federation of Indian Chambers of Commerce and Industry (FICCI)** organized an event on the role of ‘**Business Responsibility and Sustainability Report**’ (BRSR) in driving climate actions in India at the **CoP26 (Glasgow)**.

About Business Responsibility and Sustainability Reporting

- With increased **global push** from investors, regulators are **mandating companies** to report their **sustainability performance** globally. E.g. all companies with more than 500 employees in the EU need ESG disclosure.
- Indian version of **Sustainability performance**, or **ESG disclosures** or BRSR was introduced by **SEBI** in **May 2021** to push the listed companies to make additional disclosures on **non-financial parameters** along with the **mandatory financial disclosures**.

What is BRSR and its principles?

- BRSR includes **essential (mandatory)** and **leadership (voluntary)** disclosures related to **Environment, Social and Governance (ESG)** under the **SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015**.
- Presently, it is reported **voluntarily by few companies**. E.g. Recently, IndiGo became the first Indian carrier to show its efforts for sustainable aviation through ESG report
- Segregated into three sections- **General disclosures**, **Management disclosures** and **Principle-wise performance disclosures**, with **nine principles**, BRSR will measure the impact of companies on **economy; environment and people** using **key performance indicators**, bringing higher transparency on its contribution to sustainability and **creates value** for the company.



KEY PERFORMANCE INDICATORS

ENVIRONMENTAL	SOCIAL	CORPORATE GOVERNANCE
GHG Emissions	CEO Pay Ratio	Board Diversity
Energy and Emission Intensity	Gender Diversity	Board Dependence
Waste management	Gender Pay Ratio	Ethics and Anti-Corruption
Water Usage	Global Health and Safety	Data Privacy
Climate Risk Mitigation etc.	Human Rights etc.	Disclosure practices etc.

Nine Principles of BRSR

- 1**
 BUSINESSES SHOULD CONDUCT AND GOVERN THEMSELVES WITH INTEGRITY, AND IN A MANNER THAT IS ETHICAL, TRANSPARENT AND ACCOUNTABLE
- 2**
 BUSINESSES SHOULD PROVIDE GOODS AND SERVICES IN A MANNER THAT IS SUSTAINABLE AND SAFE
- 3**
 BUSINESSES SHOULD RESPECT AND PROMOTE THE WELLBEING OF ALL EMPLOYEES, INCLUDING THOSE IN THEIR VALUE CHAINS
- 4**
 BUSINESSES SHOULD RESPECT THE INTERESTS OF AND BE RESPONSIVE TO ALL ITS STAKEHOLDERS
- 5**
 BUSINESSES SHOULD RESPECT AND PROMOTE HUMAN RIGHTS
- 6**
 BUSINESSES SHOULD RESPECT AND MAKE EFFORTS TO PROTECT AND RESTORE THE ENVIRONMENT
- 7**
 BUSINESSES, WHEN ENGAGING IN INFLUENCING PUBLIC AND REGULATORY POLICY, SHOULD DO SO IN A MANNER THAT IS RESPONSIBLE AND TRANSPARENT
- 8**
 BUSINESSES SHOULD PROMOTE INCLUSIVE GROWTH AND EQUITABLE DEVELOPMENT
- 9**
 BUSINESSES SHOULD ENGAGE WITH AND PROVIDE VALUE TO THEIR CONSUMERS IN A RESPONSIBLE MANNER

What is the need for Business Responsibility and Sustainability Practice?

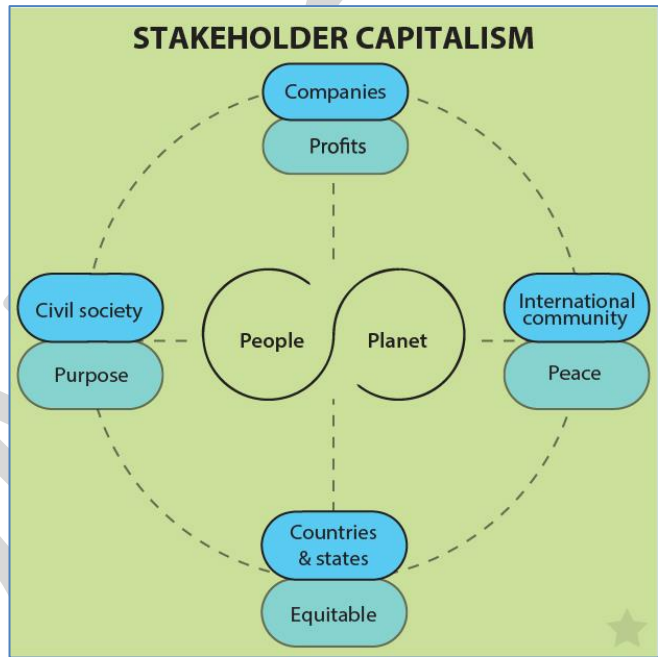
- **Business Resilience** through corporate adaptation and mitigation efforts against climate change impact.
- **Helping transition towards a sustainable economy** by promoting low-carbon, climate resilient and sustainable economy; vital for India in meeting its **Net Zero Ambition** by 2070.
- **Creating Long-term Value** for stakeholders, especially investors through identification on future risks by comparison across companies and sectors. E.g.Banks can make investment decisions on **Green Deposits**, i.e. the term deposits to be invested in environmentally beneficial projects and initiatives.
- **Increased Access to Capital** by opening up rising **capital of global sustainable funds**. As per Morningstar data, the global sustainable fund assets have more than quadrupled in the past two years, from a little under USD 900 billion at the end of September 2019 to USD 3.9 trillion at the end of September 2021.
- **Inclusive growth in India** through socially responsible business practices.
- **Strengthening of Corporate Governance** through improvements in transparency, diversity among others.

Challenges to adoption of BRS practices in India

- **Reporting Standard and Framework:** With multiplicity of **sectors** and **standards**, no one-size fits all criteria can be provided for all companies.
- **Compliance Risks:** In near future, compliance to the **qualitative** and **quantitative** standards by organizations will be a challenge due to issues like
 - **Costrisks** to collect ESG-related data, monitor it and report the same.
 - **Limited access to technology and qualified professionals** to ensure compliance.
 - **Sustainability risks** for certain businesses to meet a low carbon economy due to the transitions, risks to assets (due to climate change) and reputation.
- **Lack of Benchmarks:** With lack of benchmarks on performance indicators, the companies and stakeholders will struggle to make sense of disclosures. Also, the disclosures are **company specific** rather than **sector or plant specific**; carrying risks of a skewed picture.
- **Greenwashing:** A practice of conveying a false impression or entities taking a path that seemingly promotes ESG, but the results do not reflect the same.
- **Leadership Issues:** The recent corporate governance lapses at Yes Bank, IL&FS etc. highlights the issues of leadership and focus on narrow interests of self or shareholders only.
- **Large informal economy:** It suffers from issues like lack of access to capital, obsolete technology, and **behavioral issues** of remaining informal to avoid scrutiny.

Major Global standards on Reporting of Sustainability

- **GRI Standards** by Global Reporting Initiative (GRI), an independent, international organization,
- **Sustainability Accounting Standards Board (SASB)**, also by Value Reporting Foundation, a global nonprofit organization,
- **ISO 26000 Standards** on social responsibility by International Organization for Standardization, an independent, non-governmental international organization.
- **United Nations Global Compact**, world's largest voluntary corporate sustainability initiative based on universal sustainability principles.



Way Forward

The ongoing Covid-19 pandemic highlighted the importance of protecting people, planet, and prosperity together for a **sustainable future**. BRSR is just the first step towards it through **regulatory sanction**. We can encourage its **adoption** and **compliance** by corporate India through:

- **Promotion of stakeholder capitalism**, i.e., to serve the interests of all stakeholders (see image).
- **Comprehensive Disclosures** to ensure data trail for other stakeholders to confirm actions.
- **Capability Building of stakeholders** by increasing their participation to check compliance the financial and operational impact.
- **Promoting Research** in sustainability reporting to develop manpower, technologies and methods to collect and track data.
- **Promote International Cooperation** for greater interoperability and cross-referencing on disclosures.
- **Increase formalization of economy** with improved access to capital and technology necessary for transition.
- **Increase awareness** on not just **risks** but the **opportunities it offer** as well.
- **Make sustainability part of the vision and mission statement** of the **company** and its **leadership**, making it a part of business strategy.

3.9. MISCELLANEOUS

3.9.1. REFORMS IN WORLD BANK AND INTERNATIONAL MONETARY FUND (IMF)

Why in News?

Recently, in the backdrop of the 2021 annual meetings of the World Bank Group and IMF, leading experts have suggested reforms in these institutions.

About IMF and World Bank

- Founded at the **Bretton Woods conference in 1944, the two institutions have complementary missions.**
 - Countries must first join the IMF to be eligible to join the World Bank Group.
- They sit at the heart of intergovernmental cooperation conducting consultations on exchange rate policy; lending to countries in financial crisis; providing assistance after conflict and natural disasters; and setting standards, offering advice and providing development assistance.

World Bank Group	International Monetary Fund
<ul style="list-style-type: none"> ■ It works with developing countries to reduce poverty and increase shared prosperity. ■ It provides financing, policy advice, and technical assistance to governments, and also focuses on strengthening the private sector in developing countries. ■ World Bank Group consists of five organizations: Together, International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA) form the World Bank. ■ IDA focuses on the world's poorest countries, while IBRD assists middle-income and creditworthy poorer countries. ■ International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA), International Centre for Settlement of Investment Disputes (ICSID) focus on strengthening the private sector in developing countries. 	<ul style="list-style-type: none"> ■ It serves to stabilize the international monetary system and acts as a monitor of the world's currencies. ■ IMF keeps track of the economy globally and in member countries, lends to countries with balance of payments difficulties, and gives practical help to members.

Reforms needed in both institutions

Reforms in IMF			
Reform area	About	Concerns	Suggestions
IMF Quota's	<ul style="list-style-type: none"> • Each member's quota determines its voting power as well as its borrowing capacity. • Current formula emphasises economic size and openness and consists of four elements: GDP (50%), openness (30%), economic variability (15%) and international reserves (5%). • Quotas are denominated in Special Drawing Rights (SDRs). • Quota reviews are mandated to be undertaken at intervals not exceeding five years. 	<ul style="list-style-type: none"> • Despite Fourteenth General Review of Quotas (2010), European nations still retain over 30% of overall shareholding, despite collectively representing less than 20% of the global economy. • The voting and quota structure cannot be changed without an affirmative vote from US since such a vote requires a super majority in the IMF, which gives US an effective veto. 	<ul style="list-style-type: none"> • Share of the European Union countries will have to reduce significantly. • Share of BRICS countries would have to increase significantly. <ul style="list-style-type: none"> ◦ After 2010 review India's share increased to 2.75 % (from 2.44%), making it the 8th largest quota holding country in the IMF

<p>Article IV consultations</p>	<ul style="list-style-type: none"> It is through these consultations that IMF is expected to keep track of the behaviour of the economy of the member countries. Under this, IMF holds bilateral discussions with its members usually every year and their staffs prepare a report. Reports are utilised by credit rating agencies, impacting the fund-raising capacity of countries like India. 	<ul style="list-style-type: none"> IMF could never pinpoint an incipient crisis. It failed, for instance, to see the signs of the Asian currency crisis. Developing countries are subjected to far more rigorous Article IV consultation process and scrutiny than the more developed countries, and the most curious example is, that in Spain and Greece. 	<ul style="list-style-type: none"> IMF should focus on lower income countries and support other developing countries' market funds raising activities.
<p>Governance Reforms</p>	<ul style="list-style-type: none"> Board of Governors is the highest decision-making body of the IMF. Board is advised by two ministerial committees, the International Monetary and Financial Committee (IMFC) and the Development Committee. 	<ul style="list-style-type: none"> Governance structure continues to be disproportionately dominated by advanced economies. These countries choose the leadership and senior management, and so their interests dominate, despite the fact that the main borrowers are developing countries. Many of the economic reforms IMF required as conditions for its lending (fiscal austerity, trade liberalization etc.) have often been counterproductive for target economies. 	<ul style="list-style-type: none"> Need to shift the focus from the needs of the USA and European countries to those of developing countries by reforming the voting structure.

<p>Reforms in World Bank</p>	
<p>Governance related</p>	<ul style="list-style-type: none"> Dominance of US and other members of the G7 in voting and administration do not take into account significant changes in the profiles of major economic actors such as India and China. Critics see the World Bank together with the other global economic institutions as an imperialism tool which protect the interests and ideas of the western rich countries and expands their dominance in the rest of the world.
<p>Structural Adjustment Programs (SAP)</p>	<ul style="list-style-type: none"> SAPs imposed by both IMF and the World Bank severely affected the developing countries. SAPs enforced privatization of industries, cuts in government spending and imposition of user fees, market-based pricing, higher interest rates and trade liberalization. <ul style="list-style-type: none"> This has resulted in slow growth, higher poverty, lower incomes, increased debt burdens, low human development indicators and deteriorating social services in many developing countries.
<p>Redefining purpose</p>	<ul style="list-style-type: none"> World Bank has not been able to redefine its purpose as a lending and developmental institution in light of the emergence of non-traditional lenders such as China. <ul style="list-style-type: none"> Asia Infrastructure Investment Bank (AIIB), established by China, is a multilateral development bank that focuses on infrastructure financing, exactly the sort of work the World Bank does.
<p>Transparency in functioning</p>	<ul style="list-style-type: none"> Both the World Bank and IMF are obscure and have little to open to the world in terms of documents and information. The reliability of World Bank reports, and its predictions on economic performances have been questioned.

Conclusion

Deep reforms of the World Bank and IMF are necessary as part of rethinking the current world order, and giving rising powers and developing countries a meaningful voice in this institution.

Failure to adapt to the changing world order could see rising powers going their own way. Such a development would signify the emergence of multipolarity without multilateralism and create a climate of conflicting interests and values among a diverse group of countries.

These institutions have an important role to play in the developing world. It could do much more if the western nations relaxed its grip on the institution.

Related News

A new global economic consensus: Cornwall Consensus

- In a report, the **G7 Economic Resilience Panel demands a radically different relationship** between the public and private sectors, to create a sustainable, equitable and resilient economy.
- **Since 1989, Washington Consensus (WC) defined the rules of the game for the global economy.** The alternative is the recently proposed “**Cornwall Consensus.**”
 - Whereas the **Washington Consensus minimized the state’s role** in the economy and pushed an aggressive free-market agenda of deregulation, privatisation and trade liberalisation.
 - ✓ **However,** having narrowly avoided a global economic crisis twice (first in 2008 and then in 2020 COVID crisis), **WC has proven to be incapable of responding effectively** to economic, ecological, and epidemiological shocks.
 - The **Cornwall Consensus** (reflecting commitments voiced at the G7 summit in Cornwall, England, last June) **would try to invert these imperatives.**
- **Key features of Cornwall Consensus**
 - **Accelerate reform of global economic governance** to promote the common good.
 - **Establish collective mechanisms to monitor, assess and invest** in addressing emergent economic, environmental or geo-political risks;
 - **Accelerate investment in the Sustainable Development Goals,** promote digital inclusion, eliminate tax evasion, and facilitate full access for developing countries to global markets.

3.10. ERRATA

- On page number 34 in the Mains 365 Economy document, under section 3.1 titled ‘Status of government Debt’, due to a typographical error it has been mentioned that ‘<60% tax-to-GDP ratio is recommended by the NK Singh committee.’
- **Correct information:** ‘<60% debt-to-GDP ratio is recommended by the NK Singh committee’.

**फाउंडेशन कोर्स
सामान्य अध्ययन**

प्रारंभिक एवं मुख्य परीक्षा 2022 & 2023

इनोवेटिव क्लासरूम प्रोग्राम

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक को विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन

- सीसेट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करंट अफेयर्स मैगजीन

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DELHI: 2023 फाउंडेशन कोर्स: 15 DECEMBER

DELHI: 28 सितंबर 1 PM

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लाइव/ऑनलाइन कक्षाएं भी उपलब्ध

4. SECURITY

4.1. POLICING POWER TO CENTRAL ARMED POLICE FORCES (CAPFS)

Why in News?

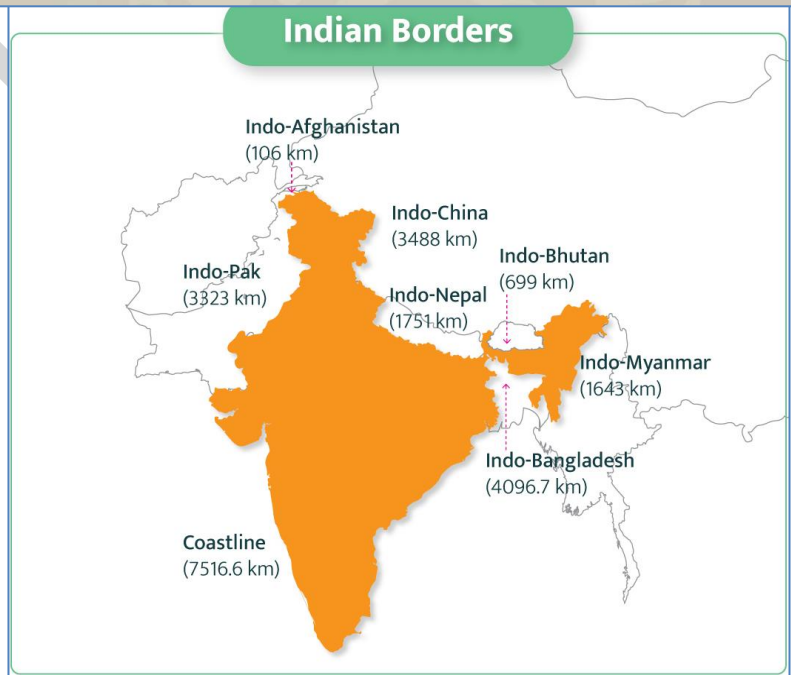
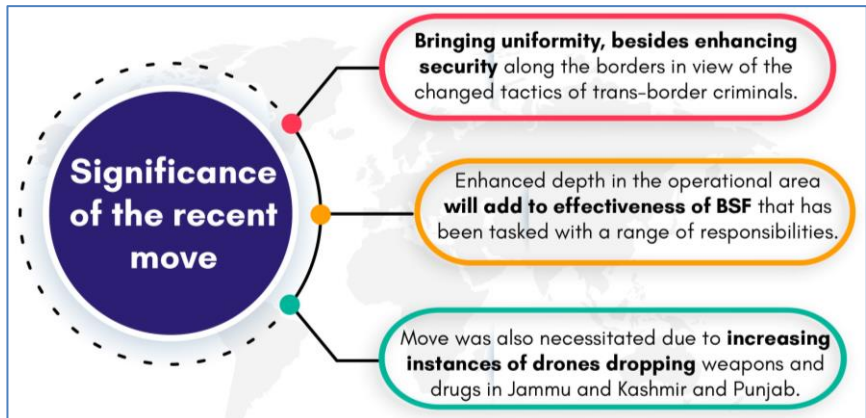
Recently, Ministry of Home Affairs (MHA)'s notification set the **jurisdiction of the Border Security Force (BSF) at a uniform limit of 50 Km** in almost all the states that share borders with **Pakistan, Bangladesh and Myanmar**.

More on News

- Existing provisions kept the BSF's operational area at 50 Km in Manipur, Mizoram, Tripura, Nagaland and Meghalaya, **but limited only to 15 Km in West Bengal, Punjab and Assam.**
- Similarly, in Gujarat where the existing jurisdiction was 80 Km, will now be reduced to 50 Km.
- Notification will enable the BSF to search, seize and arrest** to prevent offences that fall under a variety of acts including the Criminal Procedure Code (CrPC), Passport (Entry into India) Act, 1920 and the Passport Act, 1967.
 - However, jurisdiction has not been increased under the Arms Act, Customs Act and Narcotics Drugs and Psychotropic Substances Act.
- The notification, however, **does not give the BSF the power to investigate crimes.** Suspects and accused persons will still have to be handed over to the local authorities.

Why was delegation of the power required?

- Rising security threats:** State police forces alone are unable to tackle a host of unconventional security threats and challenges that India faces (terrorism, Left-Wing Extremism (LWE), and insurgency).
- Limitation of state police:** There is an external dimension to the country's security scenario which limits the role of the state police forces and this necessitates the intervention of the Central Government
- Policing of border areas:** BSF being the only law enforcing agency present in remote border areas in Gujarat and Rajasthan required that police powers delegated to the BSF be larger in these two states.



- **Enhancing effectiveness:** These powers enabled the forces to chase and apprehend trans-border criminals who may have managed to escape detection by BSF/SSB ambushes.
- **Other reasons:** These powers were considered essential in view of circumstances like the terrain, population composition, crime pattern besides presence and effectiveness of the police in border areas.

Issues arising from allocation of police powers to CAPFs

- **Challenging Federalism:** Law and order is a state subject and enhancing BSF’s jurisdiction infringes upon powers of the state government.
- **Lack of Accountability and sensitivity to locals:** National accountability mechanisms, at the level of MHA, are inherently less accessible than the regional accountability mechanisms offered by a state police force (the ability to walk into a local police station, for example).
- **Changed situation along borders:** Population density along with police presence in border areas has gone up in last 50 years. Enhancement of jurisdiction, therefore, may lead to confusion unless close coordination with the police is not ensured.
- **Core function of the BSF will get adversely effected** by enhancement of jurisdiction as the troops deployed on Border Out Posts (BOPs) will have to be withdrawn for operations in depth.
- **Lack of coordination with state police** because of the concurrent jurisdiction of two forces, may lead to turf wars, especially if the ruling parties in the state and centre are different. Example Bengal and Punjab moved to SC over BSFs increased powers.
- **Increased human rights violation:** Apprehensions are made that the increased jurisdiction of BSF, without adequate safeguards, might lead to arbitrary use of their powers and result in increased human rights violations.

Conclusion

Enhancing police capacity and facilitating grounds for greater cooperation between CAPF and state police should be initiated jointly by the Centre and states.

Institutional channels of federal communication, like the **Inter-State Council**, should be rejuvenated for much-needed dialogue and consultation between the Centre and the States.

Importance of Border States

Role in Internal Security

Border regions and communities constitute India’s first line of defence, a critical link in its national security.

Role in Foreign Policy

- Border States can play important role in maximizing cross-border co-operation to promote social and economic development, through active encouragement from the Indian government.

Enhancing Regional Cooperation

In this age of globalization and increased international cooperation, Border States also signify some new opportunities.

- Such opportunities are believed to be immense for Northeast India due to its geographical proximity to the prosperous East and Southeast Asian economies.

Sub-Regional Integration

Border regions are beginning to effectively engage the Centre to deepen sub-regional integration processes.

- The effects of this lobbying can be seen in India’s proposed decision to open 70 border haats long its border with Bangladesh.

4.2. PERSONAL DATA PROTECTION

Why in News?

A Joint Parliamentary Committee (JPC) has finalised and adopted the draft report on The Personal Data Protection Bill (PDP Bill), 2019.

More on News

- **PDP Bill was first brought in 2019 and was referred to the JPC** for examination at the time.
 - Provisions of the PDP Bill, 2019 are based on the recommendations of the report of the Expert Committee (Chair: Justice B. N. Srikrishna).

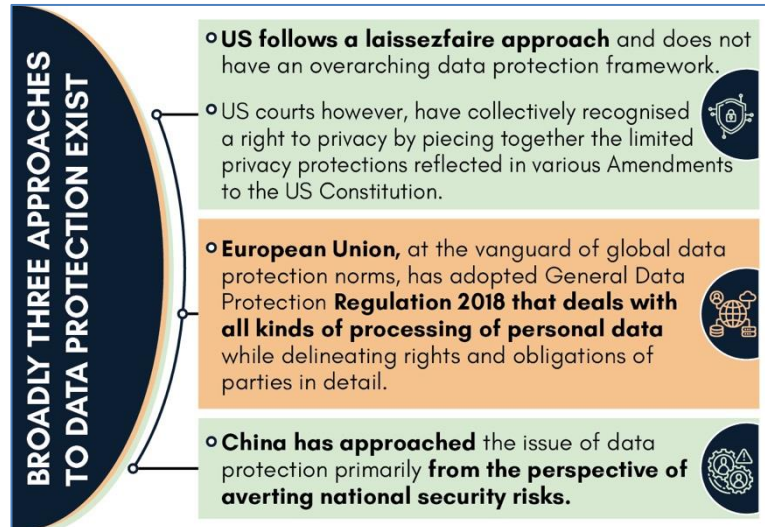
Personal and Non-Personal Data

- **Data can be broadly classified into two types:** personal and non-personal data.
 - Personal data pertains to characteristics, traits or attributes of identity, which can be used to identify an individual.
 - Non-personal data includes aggregated data through which individuals cannot be identified.
- For example, while an individual’s own location would constitute personal data; information derived from multiple drivers’ location, which is often used to analyse traffic flow, is non-personal data.

- JPC has been deliberating on the report since 2019 and **got five extensions to submit its report.**

About Data Protection

- Data protection refers to **policies and procedures seeking to minimise intrusion into the privacy of an individual** caused by collection and usage of their personal data.
- It **assures that data is not corrupted, is accessible for authorized purposes only**, and follows applicable legal or regulatory requirements.
- It ensures the security of individuals' personal data and **regulates the collection, usage, transfer, and disclosure of the said data.**
- It places **accountability measures for organizations processing personal data** and supplements it by providing remedies for unauthorised and harmful processing.



Need for Data Protection

- **Tapping transformative potential of the digital economy:** Insufficient protection can create negative market effects by reducing consumer confidence, and overly stringent protection can unduly restrict businesses, with adverse economic effects as a result.
- **Data as new currency:** With the increase in user-generated data and the exponential industrial value of data, it's becoming vital that the government bodies take necessary steps to protect the data rights of their citizens.
- **To protect Digital sovereignty:** Data generated by citizens is considered as a national asset which may be required to be stored and guarded within national boundaries subject to the security and strategic interests of India.
- **Defining entitlements expected from right to privacy:** Data protection law will help in clarifying the scope of our privacy rights, explaining what data fiduciaries that collect our personal data can and cannot do with regard to it.
- **To meet internationally accepted standards of data protection:** It is important for India to set out a lucid set of rules for ensuring legitimate cross-border transfer of data and afford the same level of data protection to those residing in India and other countries.
- **Rise in data collection during Pandemic:** Digital contact tracing and general health surveillance include collection of vast amounts of personal and non-personal sensitive data. Such measures can potentially lead to the infringement of fundamental human rights and freedoms.
- **Increasing sophistication of cyber-crimes:** which are now extremely organised and collaborative. Moreover, volume of data generated on internet and the spread of new technologies like artificial intelligence, internet of things, big data poses a threat of abuse and misuse of data.

Challenges to Data protection for India

- **India doesn't have any comprehensive legislation** that deals in the protection of data and privacy. The policies and legislation which exist, essentially, are sectoral in its nature.
- **India lacks capability for data localization** i.e. to store data within country.








Data Protection in India

- **India does not have any dedicated legal framework** for data protection. Presently **some acts/judgments cover the data protection in general.**
 - **Right to privacy has been recently recognised as a fundamental right** emerging primarily from Article 21 of the Constitution, in Justice K.S. Puttaswamy (Retd.) v. Union of India.
 - **Sec 43A of Information Technology Act 2000** protects user data from misuse but it is applicable to only corporate entities and not on government agency. Also, the rules are restricted to sensitive personal data only — medical history, biometric information among other things.
 - **Other acts like Consumer Protection Act, Copyrights Act** among others also attempt to protect the personal information.

- Most of the data storage companies are based abroad. They also export data to other jurisdiction making it difficult to apply Indian laws.
- **Multiple private players are involved in data dynamics** which makes it difficult to apply uniform data protection framework.
- Because of the **veracity and volume of data in technology-driven world**, it becomes overwhelming to handle millions and possibly even billions of data records.

KEY PRINCIPLES AROUND DATA PROTECTION IN INDIA

A data protection framework in India must be based on the following seven principles

 Technology agnosticism ● The law must be technology agnostic. It must be flexible to take into account changing technologies and standards of compliance.	 Holistic application ● The law must apply to both private sector entities and government. Differential obligations may be carved out in the law for certain legitimate state aims.	 Informed consent ● Consent is an expression of human autonomy. For such expression to be genuine, it must be informed and meaningful.	 Data minimization ● Data that is processed ought to be minimal and necessary for the purposes for which such data is sought and other compatible purposes beneficial for the data subject.	 Controller accountability ● The data controller shall be held accountable for any processing of data, whether by itself or entities with whom it may have shared the data for processing.	 Structured enforcement ● Enforcement must be by a high-powered statutory authority with sufficient capacity. This must coexist with appropriately decentralised enforcement mechanisms.	 Deterrent penalties ● Penalties on wrongful processing must be adequate to ensure deterrence.
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Conclusion

With the increase in user-generated data and the exponential industrial value of data, it's becoming vital that the government bodies take necessary steps to protect the data rights of their citizens.

A robust Personal data protection law is the need of the hour. Such a law must understand from the ground up the particular concerns and aspirations pertaining to personal data shared by Indians, their fears and hopes.

Personal Data Protection Bill (PDP Bill), 2019

Provision	Key features of Personal Data Protection Bill (PDP Bill), 2019	Recommendations by JPC
Personal data (data that can identify an individual)	<ul style="list-style-type: none"> ● It talks about various types of personal data, such as <ul style="list-style-type: none"> ○ Sensitive personal data (related to finances, health, official identifiers, sex life, sexual orientation, biometric, genetics, transgender status, intersex status, caste or tribe, religious or political belief or affiliation). ○ Critical personal data (military or national security data and the government can define it from time to time). ○ General personal data- other than sensitive and critical personal data. 	<ul style="list-style-type: none"> ● Non-personal data should also be included within the ambit of the law.
Applicability	<ul style="list-style-type: none"> ● Bill governs the processing of personal data by <ul style="list-style-type: none"> ○ Government ○ Companies incorporated in India ○ Foreign companies dealing with personal data of individuals in India. 	
Obligations of data fiduciary (an entity or individual who collects and decides the means and	<ul style="list-style-type: none"> ● Personal data can be processed only for specific, clear and lawful purpose. ● All data fiduciaries must undertake certain transparency and accountability measures such as: 	<ul style="list-style-type: none"> ● Companies will need to report a data breach within 72 hours. ● Mandatorily disclose if information relating to a data principal (person or entity that owns the data) is passed on to someone else.

<p>purpose of processing personal data)</p>	<ul style="list-style-type: none"> ○ Implementing security safeguards (such as data encryption and preventing misuse of data). ○ Instituting grievance redressal mechanisms to address complaints of individuals. 	<ul style="list-style-type: none"> • Appoint senior management personnel as data protection officers who will ultimately be held responsible for lapses or violations. • Additional compliance for companies that deal exclusively with children’s data.
<p>Rights of the data principal (the individual whose data is being collected and processed)</p>	<ul style="list-style-type: none"> • These include the right to <ul style="list-style-type: none"> ○ Obtain confirmation from the fiduciary on whether their personal data has been processed. ○ Restrict continuing disclosure of their personal data by a fiduciary, if it is no longer necessary or consent is withdrawn. ○ It also includes the right to be forgotten which will allow users to erase their personal data published online and give them the freedom to ask entities such as Facebook and Twitter to delete any data they do not want in the public domain. 	<ul style="list-style-type: none"> • No changes to Section which allows the processing of personal data without a person's consent if this is necessary, among other things, for provision of services or benefits from the government, or issue of licences/certifications/permits from the government for any action or activity.
<p>Social media intermediaries</p>	<ul style="list-style-type: none"> • The Bill defines these to include intermediaries which enable online interaction between users and allow for sharing of information. <ul style="list-style-type: none"> ○ All such intermediaries which have users above a notified threshold, and whose actions can impact electoral democracy or public order, have certain obligations, which include providing a voluntary user verification mechanism for users in India. 	<ul style="list-style-type: none"> • No social media platform should be allowed to operate unless the parent company handling the technology sets up an office in India. • All social media platforms, which do not act as intermediaries, should be treated as publishers and be held accountable for the content they host, and should be held responsible for the content from unverified accounts on their platforms. • A statutory media regulatory authority, on the lines of the Press Council of India, may be set up for the regulation of the contents on all such platforms.
<p>Data Protection Authority</p>	<ul style="list-style-type: none"> • Bill sets up a Data Protection Authority which may take steps to protect interests of individuals, prevent misuse of personal data, and ensure compliance with the Bill. 	<ul style="list-style-type: none"> • Data Protection Authority (DPA), which is to be set up under the law to regulate how data is to be managed and processed, should be bound by directions of the Union government in all cases – not just questions of policy.
<p>Transfer of data outside India</p>	<ul style="list-style-type: none"> • Sensitive personal data may be transferred outside India for processing if explicitly consented to by the individual and subject to certain additional conditions. However, such sensitive personal data should continue to be stored in India. • Critical personal data can only be processed in India. • Personal data other than sensitive and critical personal data don’t have such localisation mandates. 	<ul style="list-style-type: none"> • Central Government must prepare and pronounce an extensive policy on data localisation. • Ensure that copies of sensitive and critical personal data already in possession of foreign entities be brought back in a timebound manner. • Development of an alternative indigenous financial system for cross-border payments on the lines of Ripple (U.S.) and INSTEX (E.U.). • Government should make efforts to establish a mechanism for the formal certification process for all digital and IoT devices that will ensure the integrity of all such devices with respect to data security.
<p>Exemptions</p>	<ul style="list-style-type: none"> • The central government can exempt any of its agencies from the provisions of the Act: <ul style="list-style-type: none"> ○ In interest of security of state, public order, sovereignty and integrity of 	<ul style="list-style-type: none"> • JPC did not accept suggestions by various members arguing that there is a need to balance the concerns regarding national security, liberty and privacy of an individual.

	<p>India and friendly relations with foreign states.</p> <ul style="list-style-type: none"> ○ For preventing incitement to commission of any cognisable offence (i.e., arrest without warrant) relating to the above matters. <ul style="list-style-type: none"> ● Processing of personal data is also exempted from provisions of the Bill for certain other purposes such as: <ul style="list-style-type: none"> ○ prevention, investigation, or prosecution of any offence ○ personal, domestic ○ journalistic purposes 	<ul style="list-style-type: none"> ● Dissent note by members includes arguments like: <ul style="list-style-type: none"> ○ Public order should be removed as a ground for exemption. ○ There should be judicial or parliamentary oversight for granting such exemptions. ○ There should be an order in writing with reasons for exempting a certain agency from the ambit of the Bill.
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Related Information

Draft Data Empowerment and Protection Architecture

NITI Aayog sought suggestions and comments on the 'Data Empowerment and Protection Architecture (DEPA)' draft. Data protection should be complimented with data empowerment in order to prevent financial exclusion, for utilization of emerging large-scale data and from preventing data from remaining in Silos.

What is Data Empowerment?

Data empowerment is the process where people, on their own or with the help of intermediaries, take control or gain the power to take control of their data to promote their and their society's wellbeing.

For this, people need to

- be aware of how their data is used.
- have a right to privacy and able to exercise it.
- be able to demand disclosure of data about key issues of interest, and use it to hold institutions accountable.
- have the right to create and produce data, and use it for the common good.

Salient features of the draft Data Protection and Empowerment Architecture (DEPA)

- **DEPA will act as final layer of India Stack:** India Stack is a privately-owned bouquet of proprietary software or APIs powering Aadhaar-based applications, and UPI based digital transactions. It allows government, businesses to use India's digital infrastructure to deliver private services.
- **Organization-centric system to individual centric system:** The policy aims to work on the ideology that individuals themselves are the best judges of the 'right' uses of their personal data.
- **Consent Managers:** In view of the treatment of personal data as an economic good, the policy advocates for the creation of "a new class of institutions" called 'consent managers' that will act as a conduit between stakeholders.
- **Technological Architecture:** It creates interoperable, secure, and privacy preserving digital framework for data sharing.

4.3. ROLE OF TECHNOLOGY IN LAW ENFORCEMENT

Why in news?

Prime Minister recently called for adoption of future technologies for grass root policing requirements and development of inter-operable technologies which would benefit Police forces across the country.

TECHNOLOGIES USED IN LAW ENFORCEMENT

Some common technologies being used for Crime surveillance and Monitoring include CCTV cameras, Drones and Global Positioning System (GPS). Various other newly emerging technologies are:

<p>Body-Worn Cameras and In-Car Videos </p> <ul style="list-style-type: none"> ● for better evidence documentation, increased accountability and transparency. 	<p>Automatic Tag and License Plate Readers </p> <ul style="list-style-type: none"> ● Mounted to the exterior of patrol cars, and instantly analyzes license plates on every vehicle that comes within their range of view. 	<p>Biometrics and Hand- Held Fingerprint Scanners </p> <ul style="list-style-type: none"> ● Use of biometrics using unique biological traits such as finger- prints, retina scans, and DNA to identify individuals.
<p>Brain Fingerprinting </p> <ul style="list-style-type: none"> ● Uses brain scans to capture how a crime suspect's brain reacts when being questioned by police. 	<p>Google Glass </p> <ul style="list-style-type: none"> ● Mobile interceptors that take photographs of traffic violations and instantly upload them to their police department's system. ● It is currently being used on the National Highways in India 	<p>Predictive-Analytics Software </p> <ul style="list-style-type: none"> ● It helps find crime patterns and deploy police accordingly. ● Delhi government has recently collaborated with ISRO to start with new technology called Crime Mapping Analytics and Predictive System (CMAPS).

Significance of leveraging technology in policing

In India, police to population ratio is less than 150 per 100,000, against the UN recommended 222. Technology therefore can **act as a force multiplier** thereby increasing the efficiency and effectiveness of police in various ways:

- **Improving Public Police interface:** Most citizens in India dread the idea of having to go to a police station. By providing digital access to the police, citizens can avail services from the comfort of their home.
 - **Punjab Police** for instance, has a **citizen-facing portal, Saanjh**, which provides online services for downloading first information reports and searching for stolen vehicles and lost mobiles, among other services.
- **Crime prevention: Big Data** can play a major role as it can be used to identify crime patterns and hot spots. **Artificial Intelligence (AI)** on the other hand can be used to draw correlations between the type of crime, time, location. The findings can then be used to deploy beat constables more effectively thereby reducing/preventing crime.
 - Recently, Government has approved implementation of the **National Automated Facial Recognition System (NAFRS)** that will use facial recognition technology to facilitate investigation of crime or for identifying a criminal regardless of face mask, makeup etc.
- **Crime detection:** Technology can effectively help get a digital footprint of the criminal. For instance, **Mobile forensics** can be used to retrieve critical information such as contacts, photos, SMS, video, etc., **AI** can be used to match fingerprints, facial images, analyse CCTV footage and **Big Data** can be used to integrate data from multiple sources such as social media tools, financial institutions, travel records, hotel stays, CDRs and criminal records.
 - The trio can help create a 360-degree view of the criminal and draw linkages between criminal associates.
- **Awareness generation:** Social media can be used by law enforcement agencies to reach out directly to citizens — providing information on traffic jams, how to protect against cybercrime, dispelling rumours, countering fake news etc.
- **Improving Internal Efficiency:** Key performance indicators such as the time taken to file a charge-sheet, types of crimes solved, time is taken to address complaints, citizen feedback scores can be used to determine an officer's performance in a more objective manner.
- **Real-time integration:** The five pillars of the criminal justice system are police, courts, prosecution, jails and forensics. Real-time integration between the information technology systems of these pillars help in reducing duplicate data entry and errors and can significantly increase the efficiency of law enforcement agencies.

Challenges in extensive use of technologies

- **Breach of privacy:** It has been observed that excessive use of technology in criminal investigations has also led to a situation where police get into personal information, not relevant to the investigation.
 - For instance, Body-Worn Cameras and In-Car Videos are being used in some countries but faces issues like privacy, data retention and public disclosure policies.
- **Absence of regulation:** In the absence of laws to regulate and specify the procedure for the use of technology, it is left to the police itself as to how this can be used.
- **Expensive** **Affair:** Technology is being updated every day and with the changing technology, the police department needs to upgrade. However, the technologies are expensive, and changing them every now and then would lead to huge expenditure.

BEST PRACTICES IN INDIA

 <p>Uttar Pradesh Police</p> <p>An AI enabled app developed by startup Staqu digitizes and searches records of criminals and their associates and assists police forces with real-time information retrieval during investigations.</p>	 <p>Odisha Police</p> <p>An app named, 'MO SAATHI' helps women who are stuck in dangerous situations to alert the police, make audio and video recording, and send it to the Modern Police Control Room.</p>	 <p>Maharashtra Police</p> <p>An Automated Multimodal Biometric Identification System (AMBIS) — a digital database of finger prints and photographs of criminals eliminates limitations of manual search on the biometric database.</p>
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- **Increased stress for police officials:** There is an inherent amount of stress involved with learning and applying many of the advanced technologies. Officers are expected to embrace technology and, unfortunately, do not always receive the proper training needed to use it at a mastery level.

Way ahead

- **Addressing other perennial issues:** Technology adoption needs to be corroborated by long-pending police reforms to address other issues being faced by the LEAs such as lack of accountability, poor representation of women and shortage of weaponry.
- **Regulating technologies:** The enactment of the Personal Data Protection Bill 2019 and DNA Technology (Use and Application) Regulation Bill, 2018 must be expedited in order to bring in required regulations for safe use of technology and addressing privacy concerns.
- **Capacity building:** Providing proper time for training officers on new technologies to bring in confidence and reducing stress by improving the officer’s proficiency in using the equipment.
- **Building Digital Trust :**There is a need to imbibe Digital ethics, which is a broader framework that includes technology, transparent data and digital ethics to create digital trust in society.

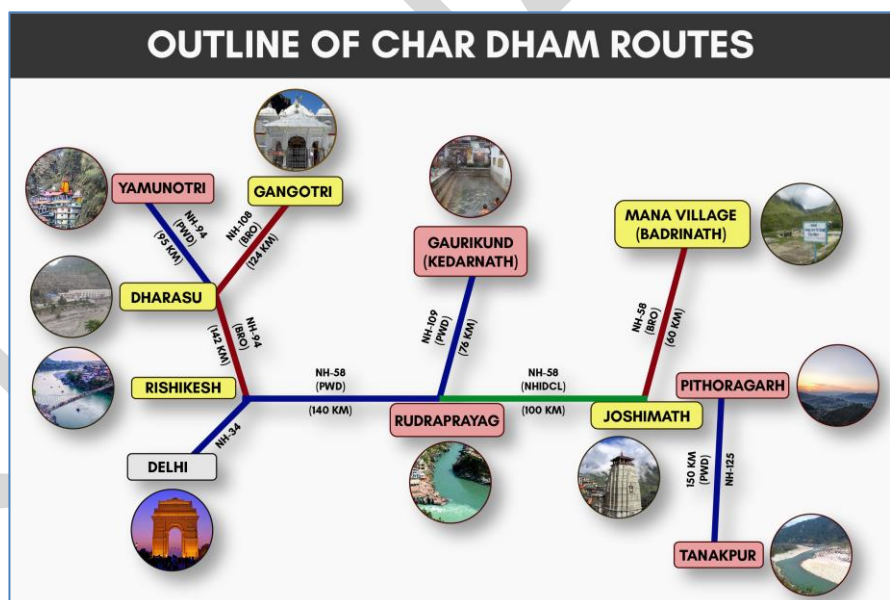
4.4. CHAR DHAM ROAD PROJECT

Why in News?

Recently, Supreme Court (SC) advocated a nuanced approach in the Char Dham highway project, to strike a balance between the security of the country and environmental concerns.

Background

- Char Dham Highway Project (CDHP) was envisaged in 2016 to widen hill roads to provide all-weather connectivity in the Char Dham circuit, covering Uttarakhand’s four major shrines- Badrinath, Kedarnath, Gangotri and Yamunotri.
- In 2018, project was challenged by an NGO (citizens for Green Doon) for its potential impact on Himalayan ecology.
- Later, SC formed a high-powered committee (HPC) under environmentalist Ravi Chopra to examine the issues. This was followed by a series of court verdicts and amendments in the project specifications by the government.
- Presently, there is a disagreement between SC and government over width of the road where SC mandated that expansion could not exceed 5.5 metres while Ministry of Defence (MoD) sought seeking a 10 metre carriageway with 12-14 metre formation width.



Arguments in favour of Project

- **Countering China:** In view of China's new land border law, and its huge build-up of infrastructure on the other side of the border, CDHP now assumed strategic importance for national security.
 - **Three national highways-** Rishikesh to Mana, Rishikesh to Gangotri and Tanakpur to Pithoragarh- **are strategic feeder roads which go up to China border** (refer infographic).
- **Meeting army’s requirements:** MoD has argued that areas beside the Char Dham road are “highly sensitive” and “critical for the movement of security forces, deployment pattern, and mobilisation in case of emergency.
 - Wider road is needed **to transport critical military equipments like BrahMos** to Indo-China border quickly.

Mains 365 – Updated Study Material

- **Economic requirement:** Will support State government's focus on reversing the migration in border areas by providing ample livelihood opportunities and ease of transportation.
- **Future requirements of the region:** Pilgrims are increasing, population is increasing, the demand is high and the road congestion will also go up. A wider road will reduce emissions and the travel time of tourists and the traffic congestion.

Arguments against the project

- **Threats of disasters:** More expansive widening of the road would necessitate increased blasting, tunnelling, dumping and deforestation, all of which would increase the risk of landslides and flash floods in the Himalayan terrain.
- **Ecological concerns:** CDHP route lies in close proximity to ecologically sensitive zones like the Rajaji National Park, Valley of Flowers and Kedarnath Wildlife Sanctuary. The felling of trees was leading to a loss of habitat, which would force animals into invading human settlements, endangering human safety and farm productivity.
- **Regional climate warming:** carbon added to the atmosphere because of construction activity and higher number of road vehicles once CDHP is complete, could potentially lead to “regional climate warming” around the 50 km radius where the shrines are located.
- **Threat to glaciers in the region:** Studies show that black soot collection, due to heavy traffic up and down the roads and helicopters going, is setting on the glacier which is very close to the Char Dham and these glaciers are breaking.

Conclusion

A disaster-resilient road is much more critical than a wider road prone to frequent blockages, landslides, and recurring slope failures. An intermediate width for Himalayan highways is more judicious even for the country's defence needs.

Any human-induced change beyond the Himalayas' carrying capacity will have an impact on stream run-offs and erosional or depositional processes. Considering such vulnerabilities, there is a need to keep the scale of human-induced disturbances to the minimum level possible.

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5. ENVIRONMENT

5.1. CLIMATE CHANGE NEGOTIATIONS

International Climate Negotiations At-A-Glance

Emergence of climate change as an intergovernmental political issue

- **1972:** Environmental issues reach the global stage at the **first international environmental summit that took place in Stockholm, Sweden**, but not specifically climate change.
- **Late 1970s:** Concerns regarding Climate change raised globally by the **World Meteorological Organization (WMO)**.
- **1972-1988:** Climate change seen as a political issue at the **First World Climate Conference in 1979**, and the **Toronto Conference on the Changing Climate in 1988**.
- **1988: Establishment of IPCC** to investigate and report on scientific evidence on climate change and possible international responses.
- **1992:** First global agreement on climate change – **UNFCCC, opened for signature** at the Earth Summit in Rio de Janeiro.

UN Framework Convention on Climate Change (UNFCCC), 1992

Kigali Amendment, 2016 (to the Montreal Protocol, 1987)

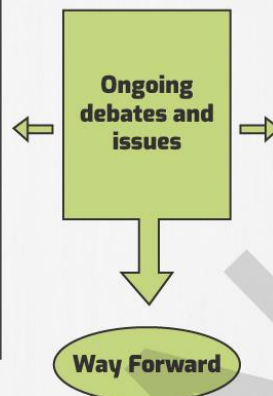
Paris Climate Agreement (PCA), 2015

Kyoto Protocol (KP), 2005



- **Fairness and equity:** Dilution of the principle of common but differentiated responsibilities may put higher burden on developing countries.
- **Ambition:** Present course of NDCs is projected to cause an increase in temperature of 2.8-3°C.
- **Finances:** As of July 2020, only \$10.3 billion had been pledged to the GCF as against envisioned US\$ 100 billion per year by 2020.
- **Effective market and non-market mechanism:** Contentious issues include avoiding double counting and ensuring an "overall mitigation in global emissions".

- **Compensation for loss and damage:** Developed countries are opposed to commitments to accept liability and provide new finance to cover losses.
- **Tracking progress:** Issues due to varying technical and financial capabilities and lack of uniform timelines and common metrics in NDCs.
- **Delays in negotiations:** due to diverse and seemingly antithetical negotiation interests of various party groupings and alliances.
- **Other issues-** Growing Disconnect, Withdrawal of USA and Commitments made under Kyoto still incomplete.



- **Emphasizing North-South cooperation** through mechanisms like the Climate Action Summit of 2019.
- **Scaling efforts from developing countries.**
- **Synchronization of rules** by developing common time frames and harmonized metrics for NDCs.
- **Encouraging ambitious targets** by setting baseline targets or shorter terms in NDCs or clear timeline for updating NDCs.
- **Climate negotiation outside of the Paris Agreement**, e.g. - Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) scheme.
- **Strong market mechanisms** that avoid double counting and ensure permanent reductions.
- **Developing additional funding mechanisms to compensate vulnerable countries for loss and damage.**
- **Embedding resilience to climate change** in COVID-19 stimulus packages.

India and International Climate Change Negotiations

- **Interests:** Early and ambitious global climate action with enough 'policy space' and 'carbon space' for domestic development.
- **Position:** Continued support to international negotiations and belief in common but differentiated responsibility (CBDR) with awareness about its responsibilities.
- **Role in Shaping Climate Change Negotiations:** India leads as a role model, represents interests of developing nations and is providing alternate channels to fight Climate Change.
- **Future Potential:** India can become "1.5°C compatible" if it enhances its NDC target, abandons plans to build new coal-fired power plants, and phases out coal for power generation before 2040.

5.1.1. UNFCCC COP 26

Why in News?

The 26th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) in Glasgow, hosted by the UK, recently concluded.

More on the news

- The Conference also included the 16th session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP 16), and the third session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA 3).
- The COP26 holds significance as it aims to **finalise the Paris rulebook**, following the 2019 COP25 summit in Madrid, where many issues had not been agreed and had been pushed into the next year under the **“Rule 16” of the UN climate process**.
- The conference ended with all 197 parties to the UNFCCC agreeing to **Glasgow Climate Pact (GCP)**, the global agreement which will accelerate action on climate this decade and completes the Paris Rulebook.
 - The pact aims to **limit global warming to 1.5 degree Celsius by 2030**, as agreed under the 2015 Paris Agreement and **cut Global greenhouse gas emissions by 45 per cent by 2030 and to zero overall by 2050**.

Intended Goals of COP26

- Net zero and 1.5 degrees:** Countries are called on to reach net-zero carbon emissions by 2050 and to keep global temperatures below 1.5C.
- Mobilise finance:** Developed nations are asked to mobilise \$100bn in climate finance per year for poorer nations to tackle climate change.
- Protect ecosystems and habitats:** States are encouraged to protect and restore ecosystems and build resilient infrastructures to withstand climate change.
- Collaboration:** Parties at COP26 will need to collaborate to finalise the Paris Rulebook, which sets out the rules of the Paris Agreement.

Key Outcomes of the COP26

Areas of discussion	Important Decisions and Developments
Ambition	<ul style="list-style-type: none"> By the end of COP26, 153 countries had submitted new NDCs (nationally determined contributions) to slash their emissions by 2030. Countries requested to revisit and strengthen their climate pledges by the end of 2022.
Target action against fossil fuels	<ul style="list-style-type: none"> First-ever COP decision to explicitly target action against fossil fuels, calling for a “phasedown of unabated coal” and “phase-out” of inefficient fossil-fuel subsidies.
Adaptation	<ul style="list-style-type: none"> Countries have been urged to at least double their collective provision of climate finance for adaptation from 2019 levels by 2025. \$352 million were pledged for the UN’s Adaptation Fund, the highest single mobilisation to the fund. <ul style="list-style-type: none"> The fund has the advantage of being focused exclusively on adaptation projects and also being 100% grant-based. Sharm el-Sheikh Work Programme on the Global Goal on Adaptation to reduce vulnerability, strengthen resilience and increase the capacity of people and the planet to adapt to the impacts of climate change.
International Carbon Markets under Article 6	<ul style="list-style-type: none"> Article 6, which covers Market- and non-market-based mechanisms of the Paris Agreement, was finalized. Key decisions regarding the Article include- <ul style="list-style-type: none"> Carbon credits generated under the Kyoto Protocol since 2013 (amounting to ~ 320m tonnes of CO₂ equivalent), will be carried over into the Paris mechanism but must be used by 2030. 5% of proceeds under traditional market mechanisms (Article 6.4), must mandatorily go toward funding adaptation. Contributing funds toward adaptation under bilateral trading of credits between countries (Article 6.2) is voluntary. Avoidance of double counting, in which more than one country could claim the same emissions reductions as counting toward their own climate commitments.

	<ul style="list-style-type: none"> ○ Exclusion of the use of credits generated historically, between 2015 and 2021, from reduced deforestation and forest degradation, under the UN scheme known as REDD+.
Loss and damage	<ul style="list-style-type: none"> ● Glasgow Dialogue created on funding for loss and damage. ● Developed countries pledged to support the Santiago network, a website set up by the UNFCCC, with links to organisations such as development banks that could support loss and damage.
Rules on transparency of climate action and support	<ul style="list-style-type: none"> ● All countries agreed to submit information about their emissions and financial, technological and capacity-building support using a common and standardized set of formats and tables.
Common Time Frames	<ul style="list-style-type: none"> ● Countries were encouraged to use common timeframes for their national climate commitments. <ul style="list-style-type: none"> ○ This means that new NDCs that countries put forward in 2025 should have an end-date of 2035, in 2030 they will put forward commitments with a 2040 end-date, and so on.

Voluntary Pledges/Declarations/Agendas launched during the COP26 talks

Name	Details	Is India a signatory?
Breakthrough Agenda	It commits countries to work together to make clean technologies and sustainable solutions the most affordable, accessible and attractive option in each emitting sector (power, road transport, steel, agriculture etc.) globally before 2030.	✓
Global Methane Pledge	A voluntary non-binding agreement under which signatory countries have promised to cut their methane emissions by at least 30 per cent by 2030.	✗
Glasgow Leaders' Declaration on Forests and Land Use	The declaration commits the countries to halt and reverse deforestation and land degradation by 2030.	✗
Forest, agriculture and commodity trade (FACT) statement	It was jointly led by the UK and Indonesia and aims to support sustainable trade between commodity-producing and -consuming countries.	✗
Sustainable Agriculture Policy Action Agenda	Signatories have agreed to urgent action and investment to protect nature and shift to more sustainable ways of farming.	✗
Declaration on "accelerating the transition to 100% zero-emission cars and vans"	It aims to work towards all sales of new cars and vans being zero emission globally by 2040, and by no later than 2035 in leading markets.	✓
Beyond Oil and Gas Alliance (BOGA)	It is an international coalition of governments and stakeholders working together to facilitate the managed phase-out of oil and gas production.	✗

Contentious issues that remain

- **Credibility, action and commitment gap:**
 - **Targets for 2030 remain totally inadequate:** Current commitments would lead to global warming in the range of 1.8 to 2.4 degree.
 - **Poor policy implementation on the ground:** Countries do not have sufficient legal and administrative structures and short- and long-term strategies in place to fulfil their commitments including the net zero targets.
- **Rifts over Finance:** Major issues pertaining to climate finance include-
 - **Unpredictability and Low accessibility:** The climate finance landscape is very fragmented, with different criteria for different funds which cause inordinate delays and difficulties for developing nations in accessing funds.
 - **Lack of Grants-based finance:** Majority of international adaptation finance is provided as loans instead of grants which pushes vulnerable developing nations into debt.

Data Bank

- Only ~USD 80 billion of climate finance was mobilised by developed countries for developing countries in 2019. (OECD)
- Adaptation received only 25% of the total climate finance in 2019.
- Around 71% of adaptation finance is provided as loans.

- **Inadequacy:** Annual costs for developing countries to adapt to extreme weather events are estimated to be around \$300 billion a year by 2030, and \$500 billion by 2050.
- **Low focus on adaptation:** Contributions in the global climate finances are **skewed towards mitigation activities**, such as renewable energy projects, which are often seen as better investments.
- **Trust issues:** Developed countries had failed to meet the promise of \$100bn a year in climate finance for poorer countries by 2020.
- **Lack of stern action for Loss and damage:** Developing countries have consistently **avoided any liability and compensation claims** for their historic responsibility in causing climate change. Glasgow climate pact does not provide any details, such as the process, structure or mechanisms for delivering funding related to loss and damage.
- **Other issues-**
 - Carrying over of Carbon credits generated under the Kyoto Protocol can disincentivize newer and stronger projects aimed at reducing global carbon emissions.
 - Several countries are still reliant on fossil fuels like coal, natural gas etc. for meeting their energy needs and would find it hard to phasedown.
 - Lack of focus on sectoral specific targets for emission reduction.

Explained: Important terms related to Climate Change Negotiations

- **Loss and Damage:** It refers to impacts of climate change that cannot be adapted to, and where losses are permanent. It covers both slow-onset processes like sea-level and temperature rise, and extreme events such as floods, hurricanes and tropical cyclones.
- **Market- and non-market-based mechanisms under Article 6:** It contains three separate mechanisms for “voluntary cooperation” towards climate goals, with the overarching aim of raising ambition. Two of the mechanisms are based on markets and a third is based on “non-market approaches”.
 - **Article 6.2** governs bilateral cooperation via “**internationally traded mitigation outcomes**” (ITMOs), which could include emissions cuts measured in tonnes of CO₂ or kilowatt hours of renewable electricity.
 - ✓ It could see countries link their emissions trading schemes, for example, or buying offsets towards their national climate goals.
 - **Article 6.4** will lead to the creation of a new international carbon market for the trade of emissions cuts, created by the public or private sector anywhere in the world, also known as the “**Sustainable Development Mechanism**” (SDM).
 - **Article 6.8** offers a formal framework for climate cooperation between countries, where no trade is involved, such as development aid.

Way Forward

- Countries need to scale up their ambitions by 2022 to fulfil the 1.5 degree pathway envisioned under Paris Agreement, accompanied by **strong and binding national legislations**.
 - There is also an urgent need for nuanced and transparent assessments of national net zero targets.
- Limiting global warming to 1.5°C requires **far-reaching transformations** across power generation, buildings, industry, transport, land use, coastal zone management, and agriculture, as well as the immediate scale-up of technological carbon removal and climate finance.
- **Establishment of a Glasgow Loss and Damage Facility** as a financial mechanism to respond to current climate damage can help vulnerable nations. It can build up on the efforts of 2013 international framework to address loss and damage – known as the **Warsaw International Mechanism (WIM)**.
- A **well-executed stocktake** can help evaluate whether nations are fulfilling their commitments and could guide decision-making on new emissions-reduction targets.
- **Countries can voluntarily avoid using credits from projects accredited under the Kyoto** regime towards their NDC targets.

Related news:**Global Resilience Index Initiative (GRII)**

- It was launched during COP26 by 10 global organisations including United Nations office for Disaster Risk Reduction (UNDRR), Insurance Development Forum (IDF), **Coalition for Disaster Resilient Infrastructure (CDRI)** etc.
- It will provide a globally consistent model for the assessment of resilience across all sectors and geographies.

Glasgow Financial Alliance for Net Zero (GFANZ)

- GFANZ was originally unveiled in **April 2021 as a forum for leading financial institutions to accelerate transition to a net-zero global economy** through de-carbonization of the economy **in line with the Paris agreement**.
 - It was now launched by **UN Special Envoy for Climate Action and Finance**, along with UNFCCC Climate Action Champions, and the **COP26 Presidency**.
 - **The Objective of ‘net Zero’ is to reach net-zero emissions by 2050.**
- Members under GFANZ include **net zero banking alliance, net zero asset managers initiative, net zero asset owners alliance, net zero insurance alliance, Net Zero Financial Service Providers Alliance** etc.

5.2. AIR AND WATER

5.2.1. AIR POLLUTION IN NATIONAL CAPITAL REGION

Why in News?

Recently, States in the National Capital Region were directed to be ready to implement actions under the 'emergency' category of the Graded Response Action Plan (GRAP) to control air pollution.

About Graded Response Action Plan

- GRAP is essentially a step-by-step guide for what to do when air in Delhi-NCR gets heavily polluted (see infographic).
- It was approved by the Supreme Court in 2016.

Reasons for high air pollution in the NCR

- Rising Pollution from vehicle exhaust:** due to factors such as high vehicle density, vehicle speed not being maintained, passage of overloaded heavy-duty vehicles, poor roads and poor management of traffic.
- Industrial pollution:** Delhi has many industrial clusters of small-scale industries in India that do not meet limits on air, water or soil emissions.
 - Also, the emission from power thermal plants near Delhi have resulted into polluted air in the region.
- Stubble Burning:** As the new harvest season starts, farmers set fire to leftover rice stalks and straw after harvest for clearing out fields resulting in a dense layer of smog over the Northern Plains, including Delhi NCR.
- Construction activities:** Fine dust from construction activities is a significant contributor to the smog.
- Geographical location and climatic conditions:**

Due to its inland location and harsh winters (see box) much more efforts are required to clean the air of the region as compared to other metropolitan cities with similar emission levels.

- Other activities exacerbating the problem of air pollution in Delhi:** Open waste burning, Burning of fuel for cooking and heating purposes especially in the poorer houses, In-situ power generation via diesel generator sets, Seasonal emissions from dust storms, forest fires, etc.

Graded Response Action Plan

Stage 1 MODERATE-TO-POOR QUALITY AIR (PM2.5 above 61µg/m ³ or PM10 above 101µg/m ³)	Stage 2 -VERY POOR AIR (PM2.5 above 121µg/m ³ or PM10 above 351µg/m ³)	Stage 4 EMERGENCY (also known as severe+, PM2.5 above 300µg/m ³ or PM10 above 500µg/m ³)
<ul style="list-style-type: none"> Mechanized sweeping, washing roads with water. Enforcing ban on firecrackers, increased scrutiny of vehicles for pollution standards. 	<ul style="list-style-type: none"> Ban on diesel generators. Parking fee to surge by 3-4 times. Stop use of coal/firewood in eateries. Urge people with respiratory or cardiac problems to stay inside. 	<ul style="list-style-type: none"> Ban entry of trucks (except for essential items). Halt construction work. Begin odd-even road scheme for private vehicles.
	Stage 3 -SEVERELY POLLUTED AIR (PM2.5 above 250µg/m ³ or PM10 above 430µg/m ³)	
	<ul style="list-style-type: none"> Increase frequency of road cleaning and washing. Shut down of brick kilns. Restrictions on operation of coal-based power plants in NCR. 	

Reasons for rise in pollution in winter

- Temperature inversion:** Low surface temperature causes lowering of temperature inversion layer which leads to entrapment of pollutant at lower levels of atmosphere.
- Denser wind:** Cold denser winds have low speed which reduces the dispersion rate of pollutants creating visibility challenges.
- Pre-Harvest season and stubble burning:** Stubble burning is a cost-effective method for clearing field and the pre harvest season coinciding with Delhi winter.
- Bursting of Firecrackers:** The coinciding of bursting of firecracker on Diwali with Delhi's winter also impact the air quality in short term.
- Burning of waste for warmth:** Chlorides in the air of Delhi indicates incineration of municipal waste and burning of plastics and rubber tyres for warmth on the streets.

IMPACT OF AIR POLLUTION

- Health**
 - Fine particles (PM_{2.5}) pose the greatest health risk, as they are minuscule and can get deep into a person's lungs and bloodstream.
 - Exposure to fine particles can affect lung function and worsen medical conditions such as asthma and heart disease.
- Economy**
 - Delhi's poor air quality could drive away top corporate heads and push work to other urban communities in India or abroad.
 - The estimated economic cost of PM₁₀ pollution for Delhi has tripled from 1995 to 2015.
- Environment**
 - Air pollution affects the ability of natural ecosystems to function and grow.
- Education**
 - Constant closing of school can leave learning gap among the students.
 - High level of air pollution can also impact the cognitive ability of students.
- Agriculture**
 - Air pollution results in acid rain that can lead to crop damage.
 - Ground-level ozone also affects the agricultural and forest yields, which further stuns the growth and sustainability of tree seedlings.

Steps taken to improve the air quality in the region

- **10-point action plan:** It is a 10-point plan which includes ten steps taken by Delhi government to reduce air pollution which includes steps like- Preparing a decomposer with the help of Pusa Institute for stubble burning, Ban on firecrackers, Installation of smog towers, construction of Eco waste park etc.
- **Stringent pollution norms for coal-based power plants:** The central government tightened pollution norms for coal-based thermal power plants in 2015.
 - However, its implementation has been extended to 2022 from 2017 earlier.
- **National Clean Air Programme (NCAP):** is a long-term, time-bound, national level strategy to tackle the air pollution problem across the country in a comprehensive manner.
 - It targets to achieve 20% to 30% reduction in Particulate Matter concentrations by 2024 keeping 2017 as the base year for the comparison of concentration.
- **Bharat Stage Norms:** Delhi was the first city in the country to implement the highest emission standards Bharat Stage VI for its vehicles.
 - The Bharat Stage (BS) emission norms are standards instituted by the government to regulate the output of air pollutants from motor vehicles.
- **Technology upgrade in industries:** Technology upgradation especially in brick kiln industry has been taken up to reduce emission intensity.
- **Commission for Air Quality Management (CAQM):** It has been constituted through an Act to have better coordination, research, identification, and resolution of problems related to air quality in the National Capital Region (NCR) and adjoining areas.
- **Ban on cheap fuel:** The Supreme Court has banned the use of petroleum coke or petcoke and furnace oil in the National Capital Region (NCR).
- **Delhi Electric Vehicle (EV) Policy:** the Delhi EV Policy provides demand incentives for purchasing electric two-wheelers, cars, auto-rickshaws, e-rickshaws, e-carts and goods carriers.
- **SAFAR forecasting system** for monitoring air pollution in Delhi.
- **Other Short-term measures:** deployed from time to time from both central and state government include Ban on Firecrackers, Odd-Even Formula, ban of entry of vehicles from other states, ban on construction and demolition activities, etc.
- **Initiatives to reduce Stubble Burning**
 - **National Policy for Management of Crop Residues** (2014) for crop residues management, to be adopted by states.
 - **Set up of biomass power projects and mandating the use of biomass** with 50% paddy straw as a supplement
 - In 2015, the **National Green Tribunal (NGT) banned crop residue burning** in the states of Rajasthan, Uttar Pradesh, Haryana, and Punjab.
 - **Burning crop residue is made a crime** under **Section 188** of the **IPC** (disobedience to order duly promulgated by a public servant) and under the **Air and Pollution Control Act of 1981**.
 - **Imposition of Penalties/fines** on stubble burning by state governments.
 - **Use of machines** like Happy Seeder, Rotavators, Balers, Paddy Straw Chopper, Reaper Binder etc. to plant new crops or clear the stubble.
 - **Use of Bio-Decomposer technology** developed by IARI to dissolve the collected straw and turn it into manure.

- **Promotion of alternative uses of stubble** instead of burning such as its use in cattle feed, compost manure, roofing in rural areas, mushroom cultivation, packing materials, fuel, paper, bio-ethanol and industrial production, etc.
- **Government Subsidy** on use of machinery for in-situ management of crop residue.
- **Bonus/Incentive** to farmers who switch to other crops instead of rice by state governments. E.g. Rs 7,000 per acre by Haryana Government under **Kheti Khaali, Fir Bhi Khushali**.

Challenges in fighting air pollution in Delhi- NCR

- **Focus on implementing ad-hoc measures** during severe conditions rather than pre-emptive and anticipatory measures to curb pollution in the region.
- **Poor implementation of air quality norms:** at all levels of government.
 - For example, the government and local municipal corporations have not adequately ensured compliance of the construction industry with environmental regulations such as covering up debris and waste management.
- **Inadequate measures in neighbouring states:** Delhi is a landlocked state, and its air quality is dependent on neighbouring states. However, there are varying gaps in policies in other states.
 - For example, cheap fuel such as petcoke is still in use in several neighbouring states of Delhi.
- **Bureaucratic inertia:** Recently, the supreme court has commented that easy or difficult all decisions to be taken for improving air quality in the Delhi-NCR region were left for the court to deal with.
- **Lack of public support and awareness:** This is evident through publics' reluctance in complying with odd-even rule and firecracker bans, unfettered open waste burning, builders' opposition on construction bans etc.
- **Constraints in stopping the practice of stubble burning:**
 - **Mixed success of Technological Interventions:** Due to **time and Cost** considerations, the success of technological interventions is mixed. The **subsidy from the government is often delayed with lack of connectivity with alternative use industries**.
 - **Limitations of Bio-Decomposer:** In rainy periods, the spraying of bio-decomposer gets delayed due to wet or submerged fields.
 - **Administrative Challenges:** With Agriculture being a sensitive issue and large number of small and marginal farmers, the implementation of the **polluter pays principle** is a challenge.
 - **Behavioral Challenge:** Due to lack of comprehension on overall ill effects, comparison with other pollutants or ease of burning stubble, many farmers lack the will to move towards other methods for stubble management.

Way forward

- **Dedicated air quality forecasting cells:** Delhi needs a dedicated air quality forecasting cell to facilitate GRAP rollout as preventive measures rather than using it ex-post after air quality concentrations reach a certain threatening level.
- **Behavioral change:** Public behaviour should be nudged, using suitable incentives, in the direction of green practices such as carpooling, public transport, bicycle, sustainable waste management, etc.
- **Promoting fuel efficient, zero and low emission vehicles:** The use of CNG in motor vehicles, e-vehicles should be encouraged through measures like tax incentives.
- **Capacity building:** among policymakers and the public to effectively implement air quality norms.
- **Inter-state coordination** is needed with neighboring states like Haryana, Punjab etc. for effectively curbing air pollution at its source.
- **Undertaking measures to eliminate stubble burning:**
 - **Setting up Rice Bioparks** (suggested by M.S. Swaminathan as part of **do-ecology approach**) to help farmers to convert rice stubble into income and employment.
 - **Improving overall infrastructure** in terms of availability of machines and custom hiring centres (CHCs) network for machinery by using farm cooperatives.
 - **Establishing an efficient logistic system** for collection and transport of paddy straw to alternative use industries for Ex-situ crop residue management.
 - **Effective monitoring of stubble burning** with enforcement of **Polluter Pays principle**, utilizing drones and ISRO capabilities for recording and monitoring of stubble burning,
 - **Handhold the small and marginal farmers** to provide **basic amenities** which are necessary to **raise awareness** on ill effects of stubble burning and the alternative uses of stubble.

5.2.2. WATER COMMODIFICATION

Why in news?

Recently, the Special Rapporteur on the human rights to safe drinking water and sanitation for the United Nations (UN) informed the UN General Assembly (UNGA) that Water is not a commodity and financial asset to be exploited.

About water commodification

- “Commodification” of water refers to **water handled as a commodity under supply and demand market dynamics** as a way of setting the price of market transactions between users.
 - In December 2020, for the first time in history, a **tradable water price futures index was launched on the Chicago Stock Exchange** on the Nasdaq Veles California Water Index (NQH2O). Nasdaq developed the NQH2O Index in partnership with Veles Water Limited.
- It is mentioned in the fourth principle of the **Dublin Statement on Water and Sustainable Development of 1992** (refer infographic) that **water should be recognized as an economic good** – an approach that serves as a basis for its consideration as a financial asset, as has been done with economic goods in general, within the dynamics of the financialization of the economy.
- **Characteristics of water trading markets**
 - **Separation of water from land** to allow water commodification;
 - **Deregulation of water rights trading** between users and between different uses;
 - **Transition** from publicly regulated pricing, usually for non-profit cost recovery, **to market water pricing**;
 - **Increasing de facto private appropriation of water**, marginalization of vulnerable users and disregard for affected third parties and non-productive values;
- **Issues associated with commodifying water**
 - Ascertaining water as a commodity and putting into competitive space shall result in **discriminatory practices making survival of the less-privileged difficult** in a country that fundamentally guarantees social and economic equality.
 - **India lacks clear and transparent pricing regulations.**
 - Trading of water use rights in markets has **erodes the notion of water as a common good** and the State as a guarantor of the general interest.
- **Potential benefits:** The risk transfer in the private sector could significantly reduce the burden of drought relief, currently borne by banks and governments.
 - There is a need for promoting reforms that **allow the purchase and sale of water concession rights**, with the aim of making the concession system more flexible to better manage scarcity.
- While no particular provision in the Indian Constitution categorically recognises water as a positive human right, the **judiciary has interpreted right to water as a fundamental right**, a facet of right to life and dignity under the ambit of **Article 21**.

Way ahead

- **Efficient regulations needed:** Baseline for calculating water available for water futures should be set **only after fulfilling the domestic supply of water** – as demonstrated and adopted by our Chinese counterparts conceptualising the ‘China Water Exchange’.



- **Managing scarcity through democratic water governance**
 - States should **manage water as a public good**, ensure sustainable management, and develop participatory climate change adaptation plans, in order to **guarantee the human rights to safe drinking water and sanitation**.
 - States should **re-think the usefulness of water trading as a tool for managing scarcity**, and to consult the public to determine whether water trading markets should be abolished or more strictly regulated.
 - States should urgently **take legal measures to prevent water from being subject to financial speculation in futures markets**, potentially causing far-reaching consequences similar to those of the food and housing bubbles.
- **Strategies to cope with climate change-related scarcity risks**
 - Design and promote hydrological, territorial and urban planning in order to **strengthen environmental and social resilience in the face of drought**;
 - **Restore aquatic ecosystems** to a healthy state;
 - Put an **end to the excessive exploitation of aquifers** and enable them to be used as strategic natural reserves that will allow future droughts to be managed;
 - Promote public consultation processes to build the basis for **adapting the concession rights** to the new realities imposed by climate change;
 - Develop modular strategies to **produce quality water in a flexible way, adapted to drought cycles**;
 - Strengthen the concession system by way of **transparent public institutions** (e.g., water banks) to negotiate the recovery of water rights with fair compensation and reallocate them during periods of drought, under adequate social and environmental regulations;
 - **Effectively prioritize the human rights to water and sanitation** in these difficult circumstances, especially for those living in the greatest vulnerability.

5.2.3. DRAFT NATIONAL WATER POLICY

Why in news?

After three national water policies—1987, 2002 and 2012—India has prepared a new national policy on water, key to addressing problems with water quality and ensuring water security for all.

More on news

- The water expert Mihir Shah, chairperson of the 13-member committee that has drafted the NWP and has asked it to be implemented by 2030 to solve the water crisis of the country.

Need for a water policy

Issue	Description
Water Scarcity and Water stress	<ul style="list-style-type: none"> • India is the largest extractor of groundwater in the world. • This has endangered vital ecosystem services provided by groundwater, e.g. of rivers such as Gomti, Chambal, Ken, which depend on groundwater flows during the post-monsoon period are drying up. • Nearly 600 million Indians face high to extreme water stress, which is set to worsen with the average annual per capita water availability estimated to fall by 37% over half a century to 2050, potentially making India water scarce. • Irrigation consumes 80-90 per cent of India's water, most of which is used by rice, wheat and sugarcane.
Urbanisation	<ul style="list-style-type: none"> • Rapid urbanisation is leading to more informal sourcing of water, mainly through tankers using groundwater, increasing demands for long-distance import of water. This not only increases the cost of supply but also wastage of water due to leakage. • Urban water bodies, which provide a safe exit for flood-waters, have been encroached upon destroying the vital role they have played in natural flood management.
WASH	<ul style="list-style-type: none"> • Only 47% of urban households have individual water connections. • Urban areas produce 62,000 million litres of sewage every day. According to the Central Pollution Control Board (CPCB), the installed capacity to treat this sewage is only 37% and just 30% is actually treated. <ul style="list-style-type: none"> ○ Some of these plants do not function, either because of high recurring costs, or because they do not have enough sewage to treat.
Reforming water governance	<ul style="list-style-type: none"> • Command-and-control approach: Rules and regulations within the policies are framed by the government agencies without giving due consideration to the region-specific, socio-economic, political, geographic and institutional factors.

- **Hydro-schizophrenia:** At present Governance of water suffers from three kinds of “hydro-schizophrenia”: that between **irrigation and drinking water, surface and groundwater**, as also **water and wastewater**. Government departments, working in silos, have generally dealt with just one side of these binaries.

Key recommendations of the draft NWP

- **Shift towards demand management**
 - **Diversifying public procurement operations** to include nutri-cereals, pulses and oilseeds for Integrated Child Development Services, the mid-day meal scheme and the public distribution system. This would incentivise farmers to **diversify their cropping patterns**, resulting in huge savings of water.
 - **Integrated urban water supply and wastewater management**, with treatment of sewage and eco-restoration of urban river stretches, as far as possible through decentralised wastewater management.
 - ✓ All non-potable use, such as flushing, fire protection, vehicle washing must mandatorily shift to treated wastewater.
- **Supply-side management:**
 - **Deploy Supervisory Control and Data Acquisition (SCADA) system:** Irrigated area could be greatly expanded at very low cost by deploying pressurised closed conveyance pipelines, combined with SCADA systems and pressurised micro-irrigation.
 - **Nature-based solutions:** Specially curated “blue-green infrastructure” such as rain gardens and bio-swales, restored rivers with wet meadows, wetlands constructed for bio-remediation, urban parks, permeable pavements, green roofs, etc. are proposed for urban areas.
 - **Participatory groundwater management:** Information on aquifer boundaries, water storage capacities and flows provided in a user-friendly manner to stakeholders, designated as custodians of their aquifers, would enable them to develop protocols for effective management of groundwater.
 - **Prior & primary importance to river protection and revitalization:** through steps like- Re-vegetation of catchments, regulation of groundwater extraction, river-bed pumping and mining of sand and boulders.
 - ✓ The NWP outlines a process to draft a **Rights of Rivers Act**, including their right to flow, to meander and to meet the sea.
- **Water quality:**
 - Every water ministry, at the Centre and states, include a **water quality department**.
 - **A task force on emerging water contaminants** to better understand and tackle the threats they are likely to pose.
 - Adoption of **state-of-the-art, low-cost, low-energy, eco-sensitive technologies for sewage treatment**.
 - **RO units to be discouraged** if the total dissolved solids count in water is less than 500mg/L.
 - ✓ Widespread use of reverse osmosis (RO) has led to huge water wastage and adverse impact on water quality.
- **Reforming governance of water:** The policy suggests creation of a unified multi-disciplinary, multi-stakeholder **National Water Commission (NWC)**, which would become an exemplar for states to follow.
 - Governments should build enduring partnerships with primary stakeholders of water such as indigenous populations, who must become an integral part of the NWC and its counterparts in the states.
- **Dedicated task group for effective implementation:** The proposed task group will oversee and coordinate the implementation, monitoring and assessment of progress on the policy. The task group will also develop a **10-year action plan** with the active involvement of stakeholders at all levels, within one year of its setting up.

5.3. SUSTAINABLE DEVELOPMENT

5.3.1. WASTE TO WEALTH

Why in News?

To enable collaborations for sustainable development through a circular economy and community participation, the government launched the **Waste to Wealth portal** on Gandhi Jayanti.

About Waste to Wealth portal

- One among nine missions under the office of the Principal Scientific Adviser, the **Waste to Wealth portal** will bring together **technology providers, government stakeholders** and urban local bodies.
- Part of **Swachh Bharat Unnat Bharat Abhiyan (SBUB)**, it will focus on **scientific processing** of waste to build a **zero landfill** and **zero waste nation** to achieve objectives of-
 - **Identifying and supporting** the development of new technologies for cleaner and greener environment,
 - **Boost and augment** the Swachh Bharat Mission and Smart Cities Project,
 - **Create financially viable** Circular Economy models for waste management, and
 - **Streamline** waste handling in India.

Data Bank

- Presently, India generates an estimated **62 million tonnes (mt) of annual waste**, including
 - ~5.6 mt of **plastic waste**
 - ~7.90 mt of **hazardous waste**
 - ~1.5 mt of **e-waste**
 - ~0.17 mt of **biomedical waste**.
- Around 70% waste is collected and 20% recycled while most of it is either **dumped at landfill sites** (around 31mt), in **water bodies** or piled up in **open areas**.

Solid Waste and its Management in India

- **Definition (Solid Waste Management Rules, 2016):** Solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste etc.
- **Concerns regarding on Solid Waste:** Most of it is recyclable naturally, however it becomes a concern when the waste generation rate becomes higher than recycling.
 - Humans can minimize/eliminate the concern through effective waste management, but it requires harmony between **Quantity of generation, collection and treatment**.



About Solid Waste Management (SWM) Rules, 2016

- Divided into **IV Schedules**, it was brought to ensure **effective implementation** of the Rules and achieve objectives of the **Swachh Bharat**.
- It removed **Municipal** from **Solid waste** to cover areas beyond **Municipal Area** such as outgrowths in urban agglomerations, notified areas, defence establishments etc.
- It **doesn't cover** plastic, e-waste, biomedical, hazardous and construction and demolition waste, as they are covered under separate rules.

Salient Features of the Solid Waste Management Rules, 2016

- **Identifies waste generators**, starting from each household and includes event organizers, street vendors, Hotels and restaurants, etc.
- **Fixing of Duties**, starting from waste generators to authorities such as District Magistrate, Ministries etc. E.g. the Ministry of Urban Development (now MoHUA) will frame National Policy on SWM and coordinate with States/UTs, provide technical guidelines, financial support, training to local bodies
- **Set up Central Monitoring Committee** by Ministry of Environment, Forest and Climate Change to monitor and review its implementation annually.
- **Revised Parameters and Standards**, starting from landfills to emission and compost standards. E.g., Landfill site shall be 100 metres away from a river, 200 metres from a pond, 500, 200 metres away from highways, habitations, public parks and water supply wells and 20 km away from airports/airbase.
- **Manufacturers to provide a pouch** or wrapper for disposal of sanitary waste like diapers and sanitary pads;
- **Waste to Energy plant** for waste with **1500 Kcal/kg and above** for co-incineration in cement and power plants, etc.

How 'waste' presents an economic opportunity for India?

- **Generate Energy:** Solid waste when taken through right processes can be relooked as potential fuel. Following techniques can be used to realize this-
 - **Gasification of the waste:** The generated waste can be converted into gas-based energy plants through technologies such as biogas plants.
 - **Pelletization:** Pelletized sludge can act as efficient sources of energy production and when created in appropriate sizes, they can also be used as rich source of fertilizer for plants.
 - **Reprocessing as irrigation waste:** Partially treating the wastewater is economically cost-efficient and can be safely used for non-consumption purposes like cooling or irrigation.
- **Reuse of recycled materials:** Recycling materials at the segregation stage itself could present a significant economic opportunity through promotion of **circular economy**.
- **Extract resources of value:** Processing of waste especially E-waste could enable extraction of precious metals such as copper, gold, aluminum etc. in economically significant amounts.
 - For example, in India, the **e-waste industry is estimated to be worth about USD 3 billion annually**.
- Creation of these economic activities and industries **indirectly encourages entrepreneurship and job creation** across the complete economic chain.

What are the challenges in realizing these opportunities?

- **Multiple Sources of Waste Generation:** The solid waste is generated from items used daily, including appliances, product packaging, food scraps, newspapers etc. with widespread sources like residential areas, schools, hospitals, restaurants etc., making segregation and processing a challenge.
- **Toxic Wastes:** Most of these waste materials contain toxic substances which require proper handling and treatment to minimize the harmful impacts.
- **Limited capabilities of Urban Local Bodies (ULBs):** ULBs such as Municipalities lack monetary resources, manpower and expertise to handle even existing solid waste while tapping waste opportunities involve **costly and complex operations**.
- **Private Participation:** Due to limited business opportunities at waste treatment with lack of backward linkage with generation sources, the private sector participation has remained poor.
- **Education and Behavioral Issues:** The lack of awareness among people on waste categories and behavioral issues such as throwing of garbage in the open or burning instead of giving it to municipal bodies.

What can be done to realize the potential of 'waste to wealth'?

- **Building the base:** Efforts could be made to encourage and ensure segregation at source and 100% waste collection. This will act as a base of processors and entrepreneurs with the available and processable raw material.
- **Institutional support to waste processing:** Institutional support in the waste processing rules, dedicated schemes or subsidies could go a long way in encouraging private sector participants to embrace the growing waste processing sector.
- **Conducive business environment:** by ensuring credit availability, streamlined regulatory framework and a network of connected economic activities
- **Creating Infrastructure:** from solid waste management plants to construction and demolition waste collection sites.
 - Prevalence of infrastructure will provide **forward and backward linkages** to the private sector and the sources of waste respectively.
- **Building awareness among citizens:** about importance of waste processing.

5.3.2. INTERNATIONAL SOLAR ALLIANCE

Why in News?

India introduced a draft resolution in the UN General Assembly for granting Observer Status for the International solar Alliance (ISA).

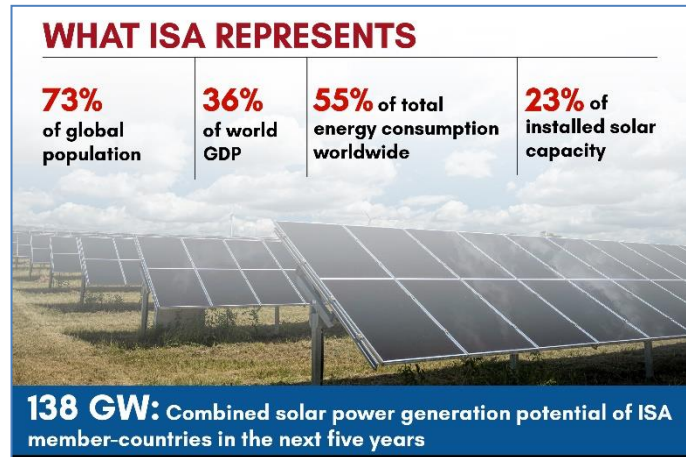
More in news

- The **United Nations General Assembly may grant Permanent Observer Status** to non-member states, international organisations and other entities. Observer status would be confined to states and intergovernmental organisations whose activities cover matters of interest to the Assembly.

- The Permanent Observers **may participate in the sessions and workings of the General Assembly** and maintain missions at the U.N. headquarters.
- The **granting of Observer Status to the ISA** in the General Assembly would help provide for a regular and well-defined cooperation between the Alliance and the United Nations that would **benefit global energy growth and development**.

About ISA

- It was **launched at Paris Climate Change Conference in 2015** by the President of France and the Prime Minister of India.
- It is a multi-country partnership organization with **membership from solar resource rich countries between the two tropics**, where the global community can make a positive contribution towards increasing the use of solar energy.
 - It has now been decided to **extend the membership of the alliance to all the UN member states**.
- The body aims to **scale up solar energy applications**, take coordinated action through programmes and activities launched on a voluntary basis and facilitate collaborative research and development activities in solar energy technologies.
 - **Each Member shares and updates, for those solar applications** for which it seeks the benefits of collective action under the ISA.
- Till October 2021, **101 countries have signed the ISA Framework Agreement and 80 countries have signed and ratified** the ISA Framework Agreement.
 - At the **COP26 in Glasgow, USA became its 101st member** to catalyse global energy transition through a solar-led approach.
- ISA is the **first international organization headquartered in India**.



Significance of ISA

- **Supporting the implementation of Paris Climate agreement:** through promotion of renewable Solar energy.
- **Break monopoly over oil and gas:** Solar is harnessed from nature free of cost and is abundantly available. This is in contrast to oil and gas-based energy, which are located in specific parts of the world like West Asia.
- **Standard of living of the population:** As most countries are located between Tropic of Cancer and Tropic of Capricorn, use of solar energy for electricity generation can significantly meet the requirement of local population which, in turn, would improve the standard of living of the population.
- **Reduce radicalization:** It has also been observed that growing radicalisation in different parts of the world can be attributed to energy geopolitics associated with trade of conventional energy like oil, gas and coal energies.
 - The Boko Haram terrorist group of Nigeria, religious extremists of Russia's North Caucasus region along with other Caspian states and the ISIS of West Asia are some good examples to demonstrate how religious extremists use oil money to further their objectives.
- **Ensure global equity:** ISA gives representation to countries like Fiji and South Sudan, along with advanced countries like Australia and France, thus taking a step to ensure global equity.

Initiatives taken by ISA

- **ISA partnered with Bloomberg Philanthropies to mobilize \$1 trillion** in global investments for solar energy across ISA's member countries.
- **Global Energy Alliance for People and Planet (GEAPP)** launched at COP26 with USD10 billions of committed capital to accelerate investment in green energy transitions and renewable energy solutions in developing and emerging economies.
- ISA's Programme on **Scaling Solar Applications for Agriculture Use (SSAAU)** focuses on **providing greater energy access and a sustainable irrigation solution** to farmers through deployment of Solar Water Pumping Systems in member countries.

- **Supported governments to make their energy legislation and policies solar friendly** through Ease of Doing Solar analytics and advisory.
- **Green Grids Initiative-One Sun One World One Grid project**

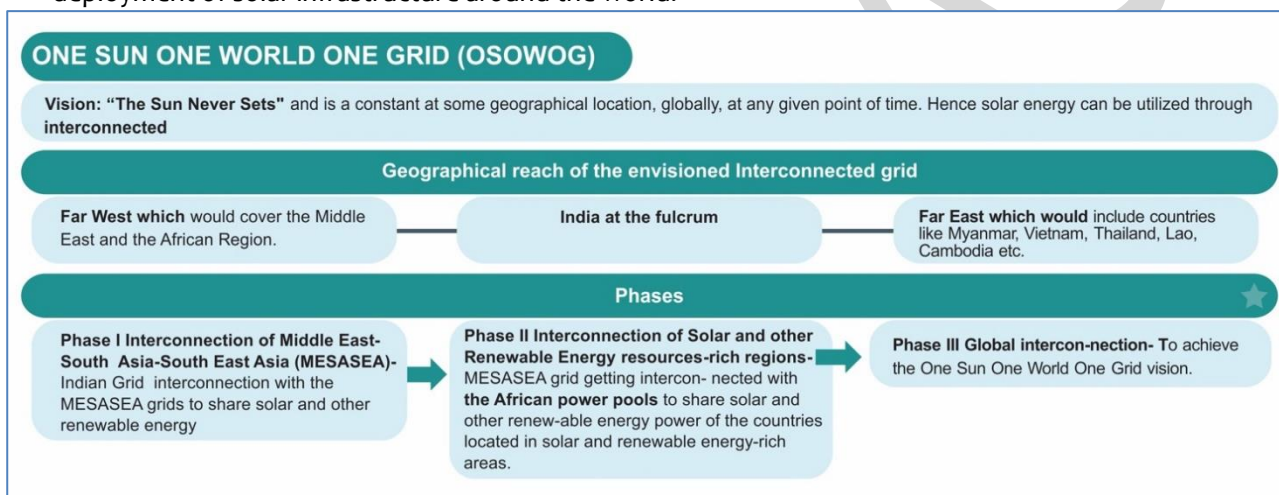
5.3.2.1. GREEN GRIDS INITIATIVE-ONE SUN ONE WORLD ONE GRID (GGI-OSOWOG)

Why in News?

The Green Grids Initiative-One Sun One World One Grid project was launched by India in partnership with the UK at COP26 in Glasgow.

About GGI-OSOWOG

- The Green Grids Initiative-One Sun One World One Grid (GGI-OSOWOG) is an international initiative to create an interconnected global power grid.
- The idea for OSOWOG was for the first time pitched by Indian Prime Minister in **2018** during the first General Assembly of International Solar Alliance (ISA).
 - Through the OSOWOG initiative India plans build a **global ecosystem of interconnected renewable energy resources** that are seamlessly shared for mutual benefits and global sustainability.
- In May 2021 a partnership was revealed with the UK's Green Grids Initiative, a coalition to accelerate the deployment of solar infrastructure around the world.



Significance of GGI-OSOWOG for India

- **Reduce reliance on coal** for meeting energy demand in time periods when renewable energy is not available.
- **Help India fulfil its commitments:** Reach net-zero emissions by 2070; Generate 50% of its electricity from renewable sources by 2030.
- **Reduce costs of renewable energy integration** by acting as potential alternative to storage, which is expensive and is used to complement intermittent solar/wind capacity and stabilise the grid.
- **Help scale up global cooperation on climate action** and bring in increased investment into research and development.
- **Mini-grids can help communities** to harness local energy resources, bringing electricity to off-grid villages and ensuring a more resilient supply during the heat waves, storms and floods

Challenges

- **Lack of Regulatory mechanisms:** Regions like South Asia lack the regional cooperation mechanisms, robust regulatory institutions and a flexible electricity market where power can be sold and purchased in near real time.
- **Absence of necessary transmission infrastructure and technology** in several regions needed to establish integrated grid.
- **Geopolitical risk:** Electricity Grids are vulnerable to accidents, weather, and cyber-attacks that can disrupt the electricity supply on mass scale. Extensive reliance on a global or regional grid could expose nations to such issues in other countries.

- **Requirement of large capital investment** to set up long transmission lines for transmission of power across vast distances.
- **Maintaining a stable grid over large geographical areas:** To function, any grid needs a constant minimum level of electricity flow, at any given time. A bigger grid becomes more difficult to stabilise with a steady electricity current because it will experience demand peaks and drops at different times in different places.
 - It's difficult to predict energy demand across a geographically diverse region such as South Asia, where population density, and consequent energy demand, varies widely.

Way forward

- **Utilising existing cross-border cables and multilateral power trading** between India and Nepal, Bhutan, Bangladesh and Myanmar to build a regional network.
- **Investing in infrastructure upgrades** in transmission and interconnections, as well as **cutting edge techniques and technologies and knowledge transfer** to modernise power systems and support green grids for underdeveloped solar markets.
- **Creating stable and equitable institutional mechanisms** to facilitate regional cooperation in electricity trade and interconnection.
- **Developing innovative financial instruments**, market structures, and facilitate financial and technical assistance to attract low-cost capital, including climate finance, for global solar grid infrastructure.
- **Undertaking measures to ensure grid stability and counter geopolitical risks:**
 - **Establishing disaggregated or smaller pools** where there is common grid management, which in turn trade electricity with other electricity market pools would diminish the need for participating countries to cede control of their grid management and operations to a single unified system operator.
 - **Establishing technical mechanisms** to ensure a grid tripping in one region does not trip the entire national grid.

5.3.3. GREEN SHIPPING CORRIDORS

Why in news?

22 countries signed the '**Clydebank Declaration for Green Shipping Corridors**' at the COP26 climate summit in Glasgow.

About Clydebank Declaration for Green Shipping Corridors

- The signatories of the Declaration are to support the establishment at least **6 green corridors by 2025**.
 - A green corridor is **defined as a shipping route between two major port hubs** on which the **technological, economic and regulatory feasibility of zero-emissions ships is accelerated by public and private action**.
- India has not signed the agreement yet.
- The strategy for going carbon neutral will include **using ships that run on zero-carbon fuels and updating port infrastructure**.

Indian Scenario in shipping

- India is a member of **International Maritime Organisation (IMO)** and signatory to **International Convention on Prevention of Marine Pollution (MARPOL)**.
- Recently, India signed an agreement under IMO to **cut the shipping industry's greenhouse gas emissions by 50% by 2050**.
- With a coastline of about 7500 km and 12 major and 200 minor ports, **India is the 16th largest maritime country in the world**.
- Approximately, **95% of the country's trade by volume (70% in terms of value)** is moved by sea.
- India is **located strategically on the international trade route** and offers ship repair and maintenance services to ships plying from west to east.

Challenges to green shipping in India

- **Lack of adequate quality of intermodal infrastructure** (railways, waterways connectivity with highways). This leads to more cargo handling by shipping which causes emissions.
- **Lack of funds:** to replace existing ships by eco-friendly ones.
- **Use of polluting fuel:** Shipping fuels contain high amounts of sulphur and release sulphur dioxide on burning.
- **Unfavourable weather conditions:** Geographically, India faces seasonal reversal of winds along with localized weather conditions which change frequently. This leads to more deviation in shipping routes, more fuel consumption and hence more emissions.

Way forward

- **Use low sulphur crude oil:** The fuel sulphur limit has been reduced from the current 3.5% to 0.5% in India as it is member of International Maritime Organisation.
- **Retrofitting existing ships:** to run on biofuels and fitting them with scrubbers can help reduce emissions.
- **Route planning:** Taking shortest possible route and running ships on optimum speed can bring down fuel consumption and emissions effectively.
- **Green ship recycling:** National Green Tribunal (NGT) has approved the 'Beaching' method of ship recycling in Alang, Gujarat. This will help in reducing emissions from ship breaking which is highly polluting in nature.
- **Green port construction:** Green ports have a small ecological footprint as they balance the economic, environmental and social dimensions of development. India intends to increase share of renewable energy to 60% of total power demand of each of its major port from present share of less than 10%.

5.3.4. NATIONAL COAL GASIFICATION MISSION

Why in News?

Recently, A blueprint for the 'National Coal Gasification Mission' prepared by the Union coal ministry.

More in News

- The government **aims to achieve gasification of 100 Million Tonnes (MT) of coal by 2030** and this is the first time that a mission document has been released.
- In order to take ahead this vision, Ministry of Coal has chalked out an implementation strategy:
 - **Mapping of gasification potential of coalfields** especially in North east.
 - **Development of indigenous technology** suitable for various feed stock (low ash coal, coal mixed with pet coke and high ash coal).
 - **Development of suitable business model** for setting up of various projects.
 - **Marketing strategy for end products.**
 - **Policy support** with a view to encourage Atmanirbhar Bharat Scheme.
 - **Coordination with various stake holding Ministries.**
 - **Providing quantifiable targets** to various companies and monitoring the implementation of activities.

About Coal Gasification

- Coal gasification is the **process of converting coal into synthesis gas** (also called syngas), which is a **mixture of hydrogen (H₂), carbon monoxide (CO) and carbon dioxide (CO₂).**
- The syngas technology allows **conversion of non-mineable coal/lignite into combustible gases through in situ gasification of the material.**
- In the past, number of efforts has been made to gasify coal in India. These efforts started in year 1960s and are continuing even now with varying capacities/scales.

Need for coal gasification

- **Help the country meet its Climate commitments:** Coal gasification is considered as **cleaner option** compared to burning of coal.
- **Multiple applications:** Syn-Gas produced from Coal gasification can be used in producing **Synthetic Natural Gas (SNG), energy fuel** (methanol & ethanol), ammonia for **fertilizers and petro-chemicals.**
- **Help move towards self-sufficiency under Atmanirbhar Bharat Abhiyaan:** The gasification technology will also help India overcome the **shortage of oil, gas, methanol, ammonia, urea and other products, making the country Aatmanirbhar.**
- **To exploit untapped reserves:** Most of India's known coal deposits are **non-recoverable.** Underground coal gasification could help extract those plentiful reserves that are **deep, scattered and covered by forests.**

Challenges in coal gasification

- **Quality of Coal:** The quality of coal available in India is **mostly of low rank high ash coal. Technology for conversion of high ash coal to syn gas is one of the major challenges.**
- **Capital-intensive:** Setting up of coal gasification plant is a capital-intensive work and will require at least 48 months of time.

- Infrastructure requirement:**
Requirement of land, water, electricity will play an important role in establishing SynGas conversion projects.
 - Further, **development of market for various products and transportation cost from point of production to consumption centre** will also be important.
- Short lifespan of refractories:** These are used to line and protect the inside of a gasifier. Currently, refractories have a **lifespan of 12 to 16 months**. The relining of a gasifier costs approximately \$1 million and requires three to six weeks of downtime.
- Water-Intensive:** Coal gasification is one of the more water-intensive forms of energy production.
 - There are concerns about **water contamination, land subsidence and disposing of waste water safely**.

Coal Gasification Products			
Source	Compounds		Products
	Precursor	Derivatives	
Bituminous coals (High grade)	Hydrogen		Refinery processes; Ammonia; Ammonium nitrate
	Carbon monoxide		Acetic acid; Chemical feedstock
		Acetic acid	Household cleaners; Waterproof sealants
	Methanol		Dyes, Formaldehyde; Fuels; plasticizers; Source for methyl acetate
		Formaldehyde	Caulks; Cements and glues; Construction adhesives; Detergents; Fingernail polish; Liquid soaps and shampoos
		Olefins:	Ethylene glycol; Polyester fibers; Engine coolant; Source for ethylene and propylene
		Ethylene	Styrene to make synthetic rubber
		Propylene	Fuel (similar to propane); Refrigerants
		Methyl acetate	Solvent for paints and glues: Source for acetic anhydride
		Acetic anhydride	Cellulosic plastics: Filter products; Photographic film

Government Initiatives/Schemes/Policies

- Ministry of Coal has created a **Resource Group of academic and research institutions for research activities related to Coal Gasification**.
- Bharat Heavy Electricals Limited (BHEL) has developed the fluidized bed gasification technology** suitable for high ash Indian coals to produce syngas and then convert syngas to methanol with 99% purity.
- Jindal Steel & Power Limited has installed world's first DRI plant based on Coal gasification technology by using domestic coal** which is already operating in Angul District of Orissa for steel making.

Way Forward

- Inter-Ministerial Collaboration:** National Coal Gasification Mission will require collaboration amongst the Government at various levels – Central, State and Local.
 - For example, if methanol is blended with gasoline and the transportation of methanol is done through inter-state pipelines – this will require close coordination of Ministry of Coal, Ministry of Petroleum & Natural Gas, and the State Governments.
- Gasification Technology Adoption:** There is a need to develop research and development facilities to promote indigenous gasification technology in India.
- Funding Requirement:** The Government can attract various private investors through financial tools such as Viability Gap Funding, long term off-take contracts, creation of special economic zones and low cost of capital.
- Policy support** to encourage coal gasification through incentives such as-
 - Waiver of GST compensation cess of Rs. 400 per tonne** on the quantity of coal consumed and/ or sold for coal gasification;
 - Tax holiday for 15 years** for coal gasification projects;
 - Subsidy for purchase of capital equipment;**
 - Interest Rate Subvention @ 20-30%** may be provided;
 - 15% methanol-blending target** with petrol to encourage investments in the sector.
- Rationalizing domestic coal prices** on an integrated basis to ensure viability of coal gasification.

5.4. CONSERVATION

5.4.1. 15TH COP TO THE CONVENTION ON BIOLOGICAL DIVERSITY

Why in News?

Recently, first part of 15th meeting of the Conference of the Parties (COP) to the United Nations Convention on Biological Diversity (CBD) was held virtually in Kunming, China.

More on the News

- The **main objective** of the COP 15 was to develop and adopt a post-2020 “**Global Biodiversity Framework**” with a to replace and update the **Strategic Plan for Biodiversity (SPB) 2011-2020** and **Aichi Biodiversity Targets**.
- The framework will include a set of global goals, targets and indicators that will guide conservation, protection, restoration and sustainable management of biodiversity and ecosystems for the next 10 years.
 - The first draft of the GBF was released in July 2021, containing **21 targets for 2030** and 4 Goals to achieve humanity “**living in harmony with nature,**” vision by 2050.
- **Parties will reconvene in 2022** for further negotiations and to come to a final agreement on the post-2020 Global Biodiversity Framework.

SPB 2011-2020

- It was adopted by the parties to the CBD, during the tenth meeting of the Conference of the Parties (**COP10**) in 2010 in **Nagoya, Japan**, with the purpose of inspiring **broad-based action in support of biodiversity** over the next decade by all countries and stakeholders.
- It was comprised of a shared vision for 2050, a mission and **20 targets organized under 5 strategic goals**, collectively known as the **Aichi Biodiversity Targets (ABTs)**.
- **Vision:** Living in Harmony with Nature where by **2050, biodiversity is valued, conserved, restored and wisely used**, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.

Key Outcomes of the conference

- **Adoption of Kunming Declaration:** The declaration called for urgent and integrated action to reflect biodiversity considerations in all sectors of the global economy.

- **More than 100 nations, including India,** made commitments to-
 - ✓ ensure the development, adoption and implementation of an effective post-2020 global biodiversity framework.
 - ✓ reverse the current loss of biodiversity.
 - ✓ ensure that biodiversity is put on a path to recovery by 2030 at the latest.

Major Targets outlined in the Draft Global Biodiversity Framework

 <p>Conservation of at least 30% of land and sea areas globally.</p>	 <p>50% greater reduction in the rate of introduction of invasive alien species.</p>
 <p>Reducing nutrients lost to the environment by at least half, and pesticides by at least two thirds, and eliminating the discharge of plastic waste.</p>	 <p>Nature-based contributions to global climate change mitigation efforts of at least 10 GtCO₂ per year.</p>
 <p>All mitigation and adaptation efforts avoid negative impact on biodiversity.</p>	 <p>Reduce subsidies and other financial programs that harm biodiversity by at least \$500 Billion per year</p>
 <p>A \$200 billion increase in international financial flows.</p>	

- It also noted the efforts and commitment of many countries **to protect 30 percent of their land and sea areas by 2030 (30 by 30 target)**, which is critical for reversing a major driver of nature’s decline.
- **Kunming Biodiversity Fund:** China established the Fund with approximately USD 230 million to support projects for protecting biodiversity in developing countries.
- **Open letter to Private sector:** The conference called for increased involvement of the private sector, including an open letter from business CEOs to world leaders, urging for bold action.

- **Global Environment Facility, the UN Development Programme and the UN Environment Programme**, committed to fast-tracking financial and technical support to developing countries for GBF implementation.

Key issues related to post-2020 Global Biodiversity Framework

- **Issues related to Adoption of the 30 by 30 Targets:**

- Could harm the rights of indigenous peoples and local communities living in biodiverse regions.
- Difficulties in multilateral cooperation for conservation of cross border land/ocean areas.
- Lack of quality targets will result in the protection of areas of little conservation value.

- **Commercial benefits of Digital sequence information (DSI) not covered by benefit-sharing mechanisms:** Countries rich in genetic resources but lacking the capacity to utilise them want DSI to be covered by benefit-sharing mechanisms – a move opposed by countries strong in biotech.

- DSI is information that has been obtained from sequencing and analysing genetic material.

- **Lack of ambition and urgency:** For example, while more than a million species have been scientifically predicted to be threatened with extinction, the draft framework fails to set a goal or target of halting extinctions directly caused by human activity.
- **Financing gap:** Current financial mechanisms fall short of estimated USD 700 billion needed annually to halt biodiversity decline.
- **Lack of convenient mechanisms to track collective ambitions, or to regularly take stock of progress:** This has led to worsening of drivers of biodiversity loss and decline in biodiversity between 2011 and 2020 despite an increase in policies and actions to support biodiversity.
 - According to the findings of **Fifth Global Biodiversity Outlook (GBO-5) report**, at the global level **none of the 20 targets have been fully achieved.**
- **Fragmented efforts:** There is a need for integrated efforts to address crises of biodiversity loss, climate change, land degradation and desertification, ocean degradation, and pollution as they share many underlying drivers of change.
- **Adverse impact on small farmers:** Redirecting agricultural, forestry and fishing subsidies which harm biodiversity will adversely impact small-scale farmers, fishers etc. in developing nations.
- **Negative impact of emphasizing carbon storage functions of Nature based Solutions:** It can lead to carbon emitters using tree-planting and other carbon offsets in developing countries to avoid their duties to cut emissions, while expropriating the forest usage rights of indigenous people and local residents.

Way Forward

- Protected areas and other effective **area-based conservation measures should be expanded** to incorporate all areas of particular importance for biodiversity, including **key biodiversity areas (KBAs)**, while recognising the rights and roles of indigenous peoples and local communities.
- **Global targets must be measurable, underpinned by science, and have explicit outcomes**, so that their implementation and impacts can be monitored and assessed.

Convention on Biological Diversity (CBD)

The CBD is an international multilateral treaty which was opened for signature in 1992 at the united nations conference on Environment and Development (the Rio "Earth Summit"). The CBD has 196 parties and India is one of them.

Three Main Objectives:

- ▶ The Conservation of Biological Diversity.
- ▶ The Sustainable use of the components of Biological diversity.
- ▶ The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Supplementary agreements of CBD (India has signed and ratified all 3 off these protocols).

- ▶ **The Cartagena Protocol on Biosafety:** It aims to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity and human health.
- ▶ **The Nagoya protocol on access and benefit-sharing:** It aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way.
- ▶ **The Nagoya Kuala Lumpur Supplementary protocol on Liability and Redress to the Cartagena Protocol on Biosafety:** It aims to contribute to the conservation and sustainable use of biodiversity by providing international rules and procedures in the field of liability and redress relating to LMO.

- Clear systems of common indicators, monitoring, reporting and review, and global stocktaking of progress and ratcheting of ambitions are needed.
- Given the links between the climate and nature crises, **targets within the framework should be aligned to existing commitments related to climate, land sea etc.**
- Governments should make efforts to raise and contribute **additional investment in nature.**
 - At least **10% of the overall recovery investment for COVID-19 crisis** can be directed **towards protecting and restoring nature.**
- **Measures for successful implementation** require capacity building, technology transfer, technical support, South-South and other forms of cooperation, gender mainstreaming, incorporation of traditional and local knowledge, public awareness and participation, and transparency.

Related News: High Ambition Coalition (HAC) for Nature and People

- **India officially joined** the High Ambition Coalition for Nature and People.
- India is the first of the BRICS bloc of major emerging economies (Brazil, Russia, India, China and South Africa) to join the HAC.
- It is an intergovernmental group of **70 countries** co-chaired by Costa Rica and France and by the United Kingdom as Ocean co-chair, championing a global deal for nature and people with the central goal of **protecting at least 30 percent of world's land and ocean by 2030.**
- The **30x30 target** is a global target which aims to halt the accelerating loss of species, and protect vital ecosystems that are the source of our economic security.



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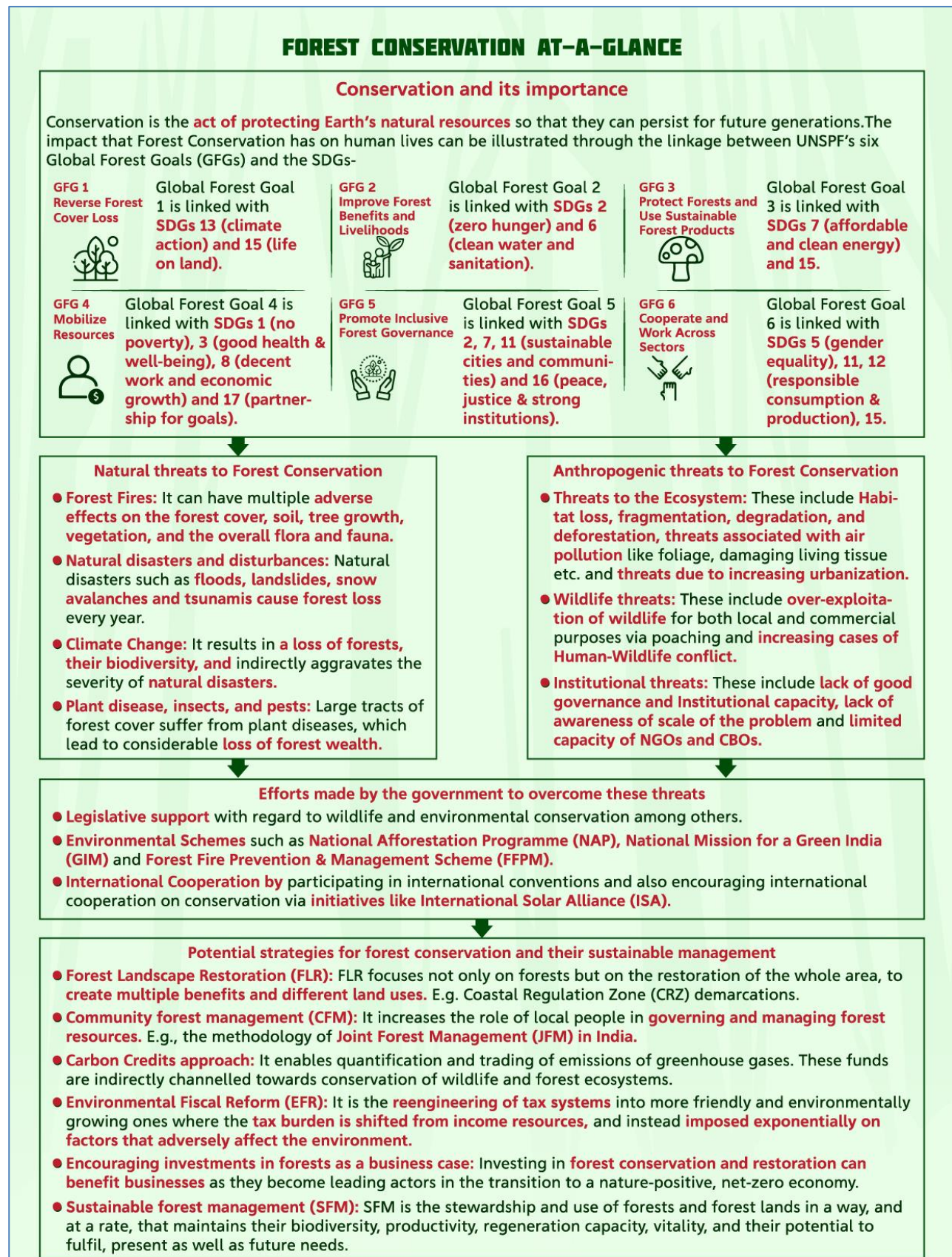
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5.4.2. AMENDMENTS IN FOREST CONSERVATION ACT

Why in News?

Recently, the Ministry of Environment, Forests and Climate Change (MoEFCC) issued a letter and consultation paper that documented proposed changes to the Forest Conservation Act, 1980 (FCA).



About Forest Conservation Act, 1980

- The Forest (Conservation) Act, 1980, came into force to provide for the conservation of forests in India.
- The Act **prohibits state and other authorities, except with the prior approval of the Central Government**, to give any order directing:
 - de-reservation of forest;
 - use of forest land for non-forest purpose;
 - assigning any forest land or its portion by way of lease to any private person or organization;
 - Clearing of trees which have grown naturally in forested land.
- **Any diversion of land for non-forest purpose requires** approval under the Act as well as **payment of stipulated compensatory levies** such as Net Present Value (NPV), Compensatory Afforestation (CA), etc.
- **Power to make rules:** The Act **empowers Central Government to make rules** for carrying out the provisions of this Act.
- **Definition of Non-forest purpose:** It means the breaking up or clearing of any forest land for the cultivation of tea, coffee, spices, medicinal plants, etc. and for any purpose other than reforestation.
 - Non-forest purposes don't include work relating or ancillary to conservation, development and management of forests and wildlife like establishment of check-posts, fire lines, wireless communications and construction of fencing, etc.
- **Constitution of Advisory Committee:** The Central Government may constitute a committee consisting to advise that Government for the grant of approval and any other matter connected with the conservation of forests.
- **Penalties:** Contravention of any of the provisions of the Act is punishable imprisonment of upto fifteen days.
 - **Offences by the Authorities and Government Departments** are punishable as well.
- **Appeal:** Any person aggrieved may file an appeal to the National Green Tribunal.

Definition of Forest: T N Godavarman case

- Till 1996 concerned authorities used to apply the provisions of the Act only to the forests notified under the Indian Forest Act, 1927.
- However, following a Supreme Court judgment in **T N Godavarman case**, the definition of “forest” was expanded to include:
 - All areas recorded as “forest” in any government (Union and State) record, irrespective of ownership, recognition and classification.
 - All areas that conformed to the “dictionary” meaning of “forest.”
 - Areas which are identified as “forest” by an expert committee constituted by the Supreme Court following the 1996 order.
- Thus, forest lands in India include unclassified forests, undemarcated forests, existing or deemed forests, protected forests, reserved forests, sanctuaries and national parks etc.

Proposed Amendment in Forest Conservation Act 1980		
	Need for amendment in the Present Act	Proposed Amendments
Scope of the Act	<ul style="list-style-type: none"> • Presently, identification of forest land is subjective and arbitrary to some extent. For instance, it includes lands bearing vegetation irrespective of ownership and classification even if they are considered forest based on some locally defined criteria. 	<ul style="list-style-type: none"> • To define ‘forests’ in an objective manner.
Land Acquired before 1980	<ul style="list-style-type: none"> • The unused land with vegetation acquired by various ministries, including Ministry of Road, Railway, Defense etc., before 1980 for construction/expansion purposes are protected under the Act. 	<ul style="list-style-type: none"> • Exempt such lands acquired before 25.10.1980 from the purview of the Act.
Differences in land records of forests	<ul style="list-style-type: none"> • There are several contrasting entries of the same land in revenue records and in the forest records, such as in case of plantations. This has created a scope of mis-interpretation and litigation. 	<ul style="list-style-type: none"> • Revenue records to be statutorily required to reflect the occupier and the nature of land including forest. • Lands identified as plantation, afforestation etc. after 12.12.1996 to remain outside the purview of the Act to encourage forestry activities.
Construction alongside road and railways	<ul style="list-style-type: none"> • Alongside roads and railway lines, strip plantations have been developed and notified as forests which creates approval issues for construction of amenities and facilities. 	<ul style="list-style-type: none"> • Exemption up to 0.05 ha for each such accesses may be allowed to alleviate the hardship of the residents/business owners.

Conservation of Pristine Land	<ul style="list-style-type: none"> There are no prohibitory (only regulatory) provisions in the Act for non-forestry use of pristine forest. 	<ul style="list-style-type: none"> Introducing an enabling provision in the Act to keep certain pristine forests showcasing rich ecological values intact for a specific period.
Development of infrastructure along the international border areas	<ul style="list-style-type: none"> Obtaining approval from central government for projects of national importance is difficult leading to delay in these projects. 	<ul style="list-style-type: none"> Such projects to be exempted from obtaining prior approval of Central Government To allow the states to permit non-forest use of such lands.
Misuse of provisions by mining companies	<ul style="list-style-type: none"> Forest land can be diverted under two provisions- <ul style="list-style-type: none"> 2(ii): For use of forest land for non-forestry purpose by paying only NPV. 2(iii): For assignment of lease which requires detailed examination of the proposal and payment of other compensatory levies such as CA in addition to NPV. However, mining leaseholder misuse provision 2(ii) and get away with paying the NPV money only. 	<ul style="list-style-type: none"> Delete 2(iii) of the Act and clarify that 2(ii) can be invoked for any kind of lease assignment having an intention of using for non-forestry purpose.
New drilling technologies	<ul style="list-style-type: none"> New environmentally friendly technologies which enables exploration or extraction of oil & natural gas deep beneath without impacting the forest soil or aquifer are coming up. 	<ul style="list-style-type: none"> Such environmentally friendly technologies to be kept outside the purview of Act.
Private land covered under definition of forests	<ul style="list-style-type: none"> Presently, current definition of forest, as updated under the T N Godavarman case, includes private areas which restrict the right of an individual to use his/her own land for any non forestry activity. 	<ul style="list-style-type: none"> Allow owners of such lands for construction of structures and residential unit up to an area of 250 sq m as one time relaxation.
Activities related to conservation of forests and wildlife	<ul style="list-style-type: none"> Currently activities like establishment of zoos, safaris, Forest Training infrastructures etc. are not excluded from definition non-forestry purposes. 	<ul style="list-style-type: none"> Such activities to be excluded from "non-forestry activity" as activities which are ancillary to conservation of forests and wildlife.
Imposition of compensatory levies	<ul style="list-style-type: none"> Currently, the compensatory levies are imposed at the time of assignment as well as renewal of lease of land. 	<ul style="list-style-type: none"> Double imposition of any levy should be removed.
Penal Provisions	<ul style="list-style-type: none"> Present penal provisions are not sufficient to deter violation of the act. 	<ul style="list-style-type: none"> Offences to be made cognizable, non-bailable and punishable with imprisonment of upto one year. In case any authority in the State Government or Union territory Administration is involved the compensation shall be deposited in the National CAMPA rather than in State CAMPA.

Concerns regarding Draft amendments

- Concerns regarding redefining forest land:** Dilution of definition of forests may lead to exclusion and degradation of certain forested areas.
- Impact on protection rights provided under Forest Rights Act, 2006:** Proposal to exempt plantations and other such lands in revenue records marked as forests after 1996 from the purview of FCA, can allow change in land use at will.
 - This can take such lands out of the purview of the Gram Sabha and affect the legal rights of Scheduled Tribes (STs) and Other Traditional Forest Dwellers (OTFDs).
- Building of Biodiversity threatening infrastructure:** Roads and railway lines can accelerate deforestation and create permanent barriers, leading to destruction of wildlife habitat and obstruction free movement of wild animals.
 - Also, environmental impacts of new methods of Extended Reach Drilling on biodiversity need further research.

- **Pressure from Ecotourism:** Use of forest land for non-permanent structures for eco-tourism would disturb forest areas and exacerbate human wildlife conflict.
- **Unknown nature of plantation:** While the amendments emphasize on creation of an enabling regulatory environment for setting up plantations, to enhance carbon sink, it does not define what the nature of these plantations should be and where they can take place.
 - Monoculture plantation projects can turn out to be ecologically destructive as they destroy biodiversity by replacing multifunctional forests and vegetations.
- **Lack of consultation with forest-dwelling communities,** whose livelihoods and rights are likely to be affected by the amendments.
- **Infringement on right of states:** The amendments propose changes in recording of land revenue. However, land revenue is categorically a State subject in Schedule VII of the Constitution.

Conclusion

The Act in its current form has created several hurdles in the way of development. Yet, any change in this act can only work if it recognizes the ‘symbiotic relationships’ between the forest, the stakeholders and the biodiversity. Therefore, better engagement with stakeholders is required while keeping biodiversity at the center is must.

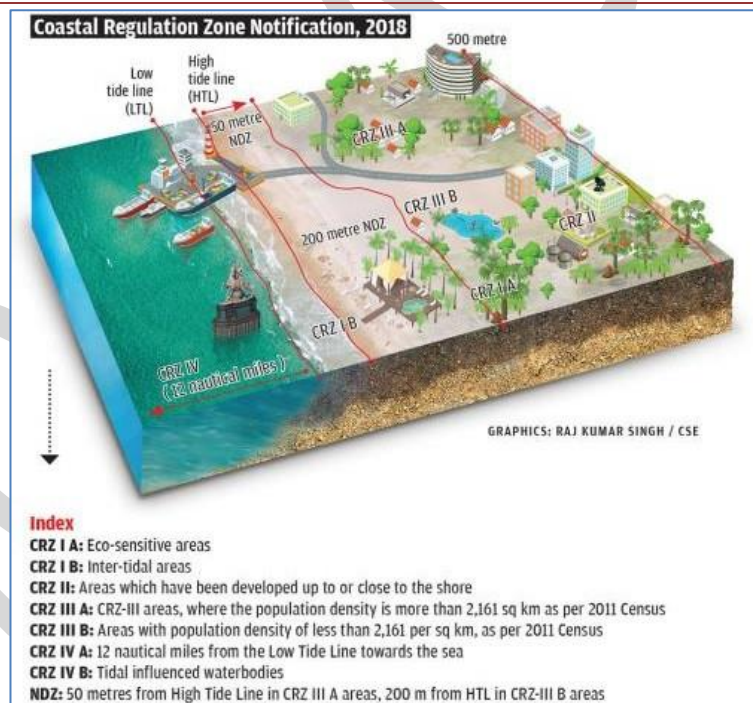
5.4.3. COASTAL REGULATION ZONE (CRZ)

Why in News?

Recently, The Ministry of Environment, Forest and Climate Change November issued a Draft Notification on amendment of Coastal Regulation Zone notification, 2019.

About Coastal Regulation Zones (CRZ) notification, 2019

- Coastal Regulation Zones, 2019 notification was notified by Ministry of Environment and Forest and Climate Change (MoEFCC) under Environment (Protection) Act, 1986 (EPA).
- It declares the **coastal stretches and the water area** up to territorial water limit excluding the islands of Andaman and Nicobar and Lakshadweep and the marine areas surrounding these islands as CRZ.
- It is third such notification after CRZ notification of 1991 and CRZ notification of 2011.
- Its several provisions are based on the recommendation of Shailesh Nayak Committee, which was formed to review the CRZ notification of 2011.



Key proposed Amendment in Draft notification.

- **Retention of temporary Shacks:** The purely temporary and seasonal structures (shacks) customarily put up and can now be retained during the monsoon season with adequate precautions.
 - In State of Goa and Maharashtra, such structures (shacks) are customarily put up between the months of September to May and now they can be retained during the month of June to August. Provided that the facilities available in these structures shall remain non-operational in these months.
- **Exemption from prior CRZ clearance:** The projects activities which have been given special dispensation under the notification e.g., Exploratory drilling operations are exempted from prior CRZ clearance.
- **Change in delegation:** As per the draft, in case the projects attract Environment Impact Assessment Notification, 2006, certain activities such as stand-alone jetties, manual erosion control bunds, salt works etc. shall be dealt by concerned Coastal Zone Management Authority or State Environment Impact Assessment Authority within 60 days.
 - Previously, all development activities in CRZ-I and CRZ-IV areas were dealt with by MoEFCC.

- **Removal of sand bars in CRZ areas:** Sand bars in the intertidal areas shall be removed by traditional coastal communities by manual method only (i.e. in non-mechanized dinghies or small boats using baskets/buckets by human beings) with permission of concerned state government.

Issue with Proposed Amendments

- **Undermines the balance between economic priority and environmental protection** by favoring oil and gas sectors.
- **Over decentralisation:** Providing regulatory power to concerned coastal zone management authorities of state may lead to increase in clearances given to stand-alone jetties, manual erosion control bunds, salt works etc. leading to additional pressure on coastal areas.
- **Impact of shacks on coastal Geomorphology:** Annual shoreline adjustments and beach configuration happens in every monsoon season and weak temporary shacks can create several issues such as uprooting vegetation, unlevel sand dunes, increasing erosion.
 - During cyclones these wooden shacks can cause various damages to the life and property too.
- **Continuous alteration of regulatory instruments** like CRZ in favour of certain sector sets up a **bad precedent** and undermines the whole legal framework related to environmental protection.
- **Neglecting life and livelihood:** The deregulation of sensitive coastal contravenes the objective of the notification set up to conserve and protect coastal stretches and ensure 'livelihood security' of fisher and other communities.

Salient Features of the Notification:

- It de-freezes the restrictions imposed on Floor Space Index (FSI) under CRZ, 2011.
- No development zone (NDZ) reduced for densely populated areas (CRZ-III areas):
 - **For CRZ-III A: NDZ of 50 meters (as against 200 meters) from the High Tide Line (HTL).**
 - **For CRZ-III B: NDZ of 200 meters from the HTL.**
- NDZ of 20 meters has been stipulated for all Islands.
- CRZ clearances needed only for projects located in CRZ-I and CRZ IV.
- **States to have the powers for clearances w.r.t CRZ-II and III.**
- All Ecologically Sensitive Areas have been accorded special importance.
- **Construction of treatment facilities in CRZ-I B area permitted** subject to necessary safeguards.
- **Temporary tourism facilities** such as shacks, toilet blocks, change rooms, drinking water facilities etc. **allowed on beaches at a minimum distance of 10 metres from HTL**, even in the NDZ of the CRZ-III areas.

Conclusion

In post-liberalisation India, regulatory instruments like CRZ were introduced to balance the government's economic priorities with the duty to protect environment and ensure social welfare. Any changes in these instruments should be done while keeping this balance in mind.

5.5. NATIONAL INTERLINKING OF RIVERS AUTHORITY (NIRA)

Why in news?

Recently, the Centre has set in motion the process of creating the exclusive body- **National Interlinking of Rivers Authority (NIRA)**- to implement river-linking projects in India.

What is National Interlinking of Rivers Authority (NIRA)?

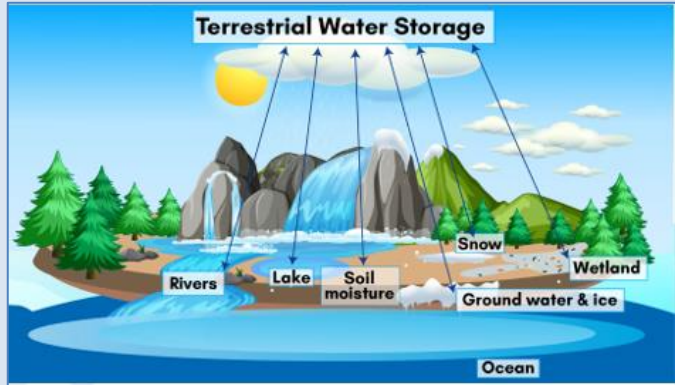
- NIRA is an **independent autonomous body** for planning, investigation, financing and the **implementation of the river interlinking projects in the country.**
- NIRA will be headed by a **Government of India Secretary-rank officer.**
- It will replace the existing **National Water Development Agency (NWDA)** and will function as an **umbrella body for all river linking projects.**
- **Function of NIRA:**
 - **Coordinate with neighbouring countries** and concerned states and departments as directed by the Ministry of Jal Shakti or the Ministry of External Affairs.
 - Have **powers on issues related to environment, wildlife and forest clearances** under river linking projects and their legal aspects.
 - Have the **power to raise funds** and act as a repository of borrowed funds or money received on deposit or loan given on interest.
 - Have the power to set up a **Special Purpose Vehicle (SPV)** for individual link projects.

For more details refer Article 8.2. NATIONAL RIVER LINKING PROJECT (NRLP) in Mains 365 2021: Environment.

5.6. CONCEPTS IN BRIEF

<p>Climate Justice</p>	<ul style="list-style-type: none"> Climate justice is a term used for framing global warming as an ethical and political issue, rather than one that is purely environmental or physical in nature. This is done by relating the effects of climate change to concepts of justice, particularly environmental justice and social justice and by examining issues such as equality, human rights; collective rights, and the historical responsibilities for climate. Significance of Climate Justice: Climate change is not only an environmental problem as it interacts with social systems, privileges and embedded injustices, and affects people of different class, race, gender, geography and generation unequally. Pillars of climate justice- <ul style="list-style-type: none"> Distributional – how the costs and benefits of climate change and action are shared. Procedural – ensuring the processes for making decisions about the impacts of and responses to climate change are fair, accountable and transparent. Recognition – Recognising differences between groups in how they experience climate change and their right to express these differences. Intergenerational- holding the current generation of decision-makers and polluters to account now for failing to act and imposing on future generations risks and dangers. Performance of Glasgow Climate Pact in terms of Climate Justice: <ul style="list-style-type: none"> Doesn't get us on track to keep temperatures below 1.5 degrees: It neither delivers the emissions cuts needed from Global North (developed) countries, nor the crucial finance needed for Global South (developing) countries to do the same. Fails to deliver on loss and damage: The Pact does not provide any details, such as the process, structure or mechanisms for delivering funding related to loss and damage. <ul style="list-style-type: none"> ✓ Finance is badly needed to address the increased risk faced by countries in the Global South, to finance services such as providing compensation for losses, adequate climate information, risks and needs assessments as well financial tools to support social protection schemes. Complexity and urgency of phasing out fossil fuels isn't properly addressed. Way Forward- Just Transition: It is a vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy. <ul style="list-style-type: none"> This means approaching production and consumption cycles holistically and waste-free. The transition itself must be just and equitable; redressing past harms and creating new relationships of power for the future through reparations.
<p>Green recovery</p>	<ul style="list-style-type: none"> The Emissions Gap Report 2021 released by United Nations Environment Programme (UNEP) found investments in Green recovery in most countries to be inadequate. <div style="text-align: center; border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>PRINCIPLES FOR A GREEN RECOVERY</p> </div> <ul style="list-style-type: none"> Green recovery is a proposed package of environmental, regulatory and fiscal reforms to recover prosperity in the wake of the COVID-19 pandemic.
<p>Energy Accounting (EA)</p>	<ul style="list-style-type: none"> Ministry of Power Mandates Electricity Distribution Companies (DISCOMS) to Undertake Energy Accounting (EA) EA prescribes accounting of all energy inflows at various voltage levels in the distribution periphery of the network, including renewable energy generation and open access consumers, as well as energy consumption by the end consumers.

	<ul style="list-style-type: none"> EA will provide detailed information about electricity consumption by different categories of consumers & the transmission and distribution losses in various areas. Enable fixation of responsibility on officers for losses and theft. Enable the DISCOMS to plan for suitable infrastructure up-gradation as well as demand side management efforts. Contribute towards India's climate actions in meeting our Paris Agreement Goals. <ul style="list-style-type: none"> Key regulations <ul style="list-style-type: none"> Quarterly energy accounting by DISCOMs, through a certified Energy Manager, within 60 days. Annual energy audit by an independent Accredited Energy Auditor. Both annual and quarterly reports will be published in the public domain. The regulation was issued by Bureau of Energy Efficiency (BEE) under the provisions of Energy Conservation (EC) Act, 2001.
<p>Terrestrial water storage</p>	<ul style="list-style-type: none"> Recently, a Report '2021 State of Climate Services' released by the World Meteorological Organization (WMO) stated that terrestrial water storage (TWS) dropped at a rate of 1 cm per year in 20 years (2002-2021). Terrestrial water storage can be defined as the summation of all water on the land surface and in the subsurface. <ul style="list-style-type: none"> It includes surface soil moisture, root zone soil moisture, groundwater, snow, ice, water stored in the vegetation, river and lake water. TWS modulates the hydrological cycle and is a key determinant of water availability and an indicator of drought.



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6. SOCIAL ISSUES

KEY HIGHLIGHTS OF THE NATIONAL FAMILY HEALTH SURVEY (NFHS-5) PHASE II FINDINGS

Indicator	NFHS (2019-21)	NFHS (2015-16)
» Total Fertility Rates (TFR) (an average number of children per women) » TFR of about 2.1 children per woman is called Replacement-Level Fertility, considered essential to keep population growth in check.	2.0	2.2
» Sex ratio of the total population (females per 1,000 males) » This is the first time, in any NFHS or Census, that the sex ratio is skewed in favour of women.	1020	991
» Neonatal mortality rate » Number of deaths among all live births during the first 28 days of life expressed per 1000 live births.	24.9	29.5
» Infant mortality rate (per 1,000 live births) » Infant mortality is the death of an infant before his or her first birthday and Infant mortality rate is the number of infant deaths for every 1,000 live births.	35.2	40.7
» Under-five mortality rate (per 1,000 live births) » It is the probability of a child born in a specific year or period dying before reaching the age of five.	41.9	49.7
» Women age 20-24 years married before age 18 years (%)	23.3%	26.8%
» Institutional births	88.6%	78.9%
» Children under 5 years who are stunted (height-for-age)	35.5%	38.4%
» Children under 5 years who are wasted (weight-for-height)	19.3%	21%
» Children under 5 years who are wasted (weight-for-height)	32.1%	35.8%



KEY DATA ON HEALTH AT- A- GLANCE

THE NATIONAL HEALTH ACCOUNTS (NHA) ESTIMATES FOR INDIA FOR 2017-18

Key trends		
» Specification	2013-14	2017-18
» Out-of-pocket expenditure (DOPE) as a share of total health expenditure (THE)	64.2%	48.8%
» Share of Government health expenditure in the total GDP of the country	1.15%	1.35%
» Share Government Health Expenditure in THE	28.6%	40.8%
» Government health expenditure in per capita terms	1.042	1.753
» Share of primary healthcare in current Government health expenditure	51.1%	54.7%
» External/ Donor Funding for health as per cent of THE	0.3%	2.3%
» Other findings » Primary and secondary care accounts for more than 80% of the current Government health expenditure. » The share of social security expenditure on health, which includes the social health insurance programme, Government financed health insurance schemes, and medical reimbursements made to Government employees, has increased.		



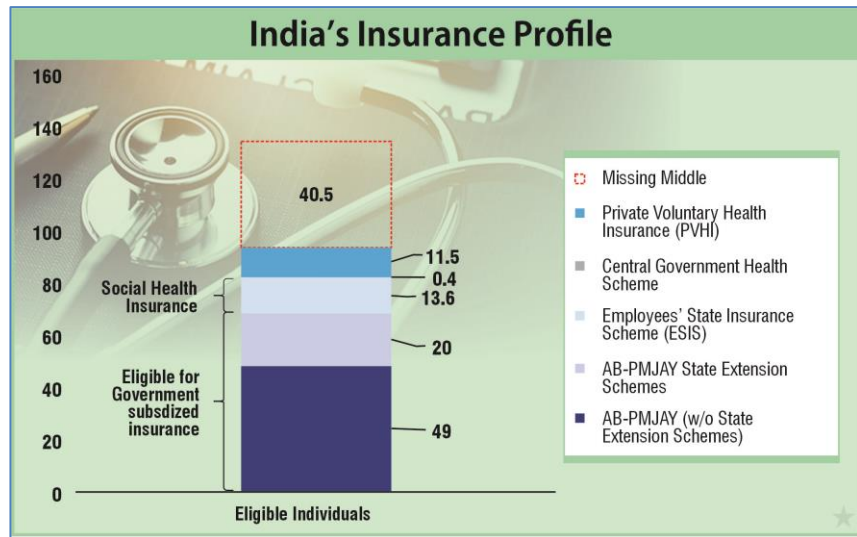
6.1. HEALTH INSURANCE FOR INDIA'S MISSING MIDDLE

Why in news?

NITI Aayog has recently released the report “Health Insurance for India’s Missing Middle”.

More on news

- India has a **decentralized approach to health care** and that allows **health insurance to be optional**.
- **Government Subsidized health insurance schemes** include Centrally Sponsored AB- PMJAY and state specific schemes such as ‘Arogya Karnataka Scheme’.
 - **Social Health Insurance (SHI) Schemes** like Employee State Insurance Scheme (ESIS) run by Employee State Insurance Corporation (ESIC), Central departments such as Railways and Defence have separate schemes for their employees, and Paramilitary has large hospitals in border areas.
 - **Private voluntary health insurance (PVHI) schemes**
- Report highlights the **gap in India’s insurance coverage for 30% of India’s population, or 40 crore individuals named as the ‘missing middle’**.
 - **Missing middle** is the **non-poor segments of the population positioned between deprived poorer sections, and relatively well-off organized sector** who remain prone to impoverishing health expenditure, **despite the financial capacity to pay for contributory health insurance**.
 - It **predominantly constitutes the self-employed** (agriculture and non-agriculture) informal sector in rural areas, and a broad array of occupations – informal, semi-formal, and formal – in urban areas.



Related Data

- India currently accounts for **less than 1.5% of the world’s total insurance premiums** despite being the second most populous nation.
- The **insurance penetration** (ratio of total premium to GDP (gross domestic product)) for FY 18 stood at **3.69%**
- The **insurance density** (ratio of total premium to population) for the same period was **US\$ 73**.

Reasons behind low & poor health insurance coverage in India

- **Low awareness about insurance products:** Thereby, even when people opt for insurance policies, they aim to pay the least premium which doesn’t provide them with adequate coverage and security.
- **Perception issues:** There is lack of education amongst the customers and **customers consider it as a cost rather a long-term asset** which may come to rescue.
- **Product design issues:** Insurance policies are more often than not **complicate and difficult to grasp**. Also there require lot of paperwork and formalities.
- **Internal roadblocks in the insurance sector:** Given the vast geographic and economic variations of India it is difficult for insurance sector to cater to these differing markets with similar policies.
- **Unavailability of branches in the rural area.**

What could be done to address the pressing issues in Healthcare sector?

- **Three models, phased in at different times ensuring coverage for the missing middle population:**
 - **Short-term:** Expanding private voluntary insurance through commercial insurers.
 - **Medium-term:** Once the supply-side and utilization of PMJAY and ESIC is strengthened, their infrastructure can be leveraged to allow voluntary contributions to a PMJAY plus product, or to ESIC’s existing medical benefits.
 - **Long-term:** Once the low-cost voluntary contributory health insurance market is developed, expansion of PMJAY to the uncovered poorer segments of the missing middle should be considered.
- **Role of the government:** Developing a modified, standardized health insurance product, building consumer confidence by ensuring quality of services through swift grievance redressal, improve the

product's uptake by lowering the distribution and operational costs, offering its data and infrastructure as public goods to build distribution and operational efficiencies in private health insurers

- **Role of Insurance companies** - Long-term commitment to the rural sector as well and will have to design products which are suitable for rural people. They also need to build efficient distribution mechanisms in rural areas, and move towards **application of technology in insurance**.
- **Other steps include:** Increasing consumer awareness, developing a modified, standardized health insurance product like 'Aarogya Sanjeevani'.
 - Aarogya Sanjeevani Insurance Policy was launched by the Insurance Regulatory Development Authority of India (IRDAI) in April 2020 to cover the hospitalisation expenses of the COVID-19 patients.
 - **Expanding government subsidized health insurance through the PMJAY scheme** to a wider set of beneficiaries.

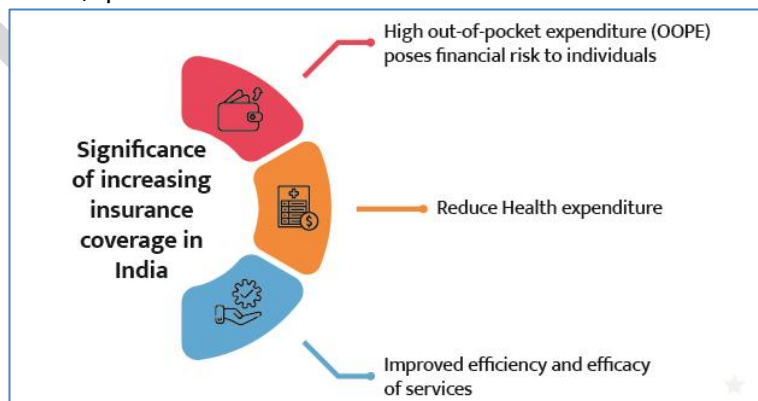
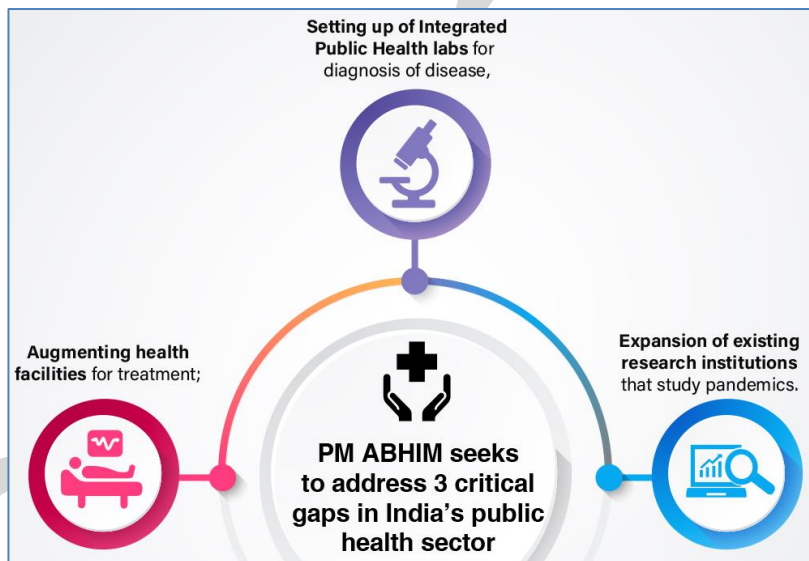
6.2. PM AYUSHMAN BHARAT HEALTH INFRASTRUCTURE MISSION

Why in News?

Prime Minister recently launched the PM Ayushman Bharat Health Infrastructure Mission.

About PM Ayushman Bharat Health Infrastructure Mission (PM ABHIM)

- It is the largest pan-India scheme for the **creation and improvement of long-term public healthcare infrastructure**.
- It is also known as **Pradhan Mantri Atmanirbhar Swasth Bharat Yojana (PMASBY)**.
- It will be **implemented in each district of the country**.
- **Objectives:**
 - **To strengthen grass root public health institutions** to deliver universal Comprehensive Primary Health Care, including surveillance, active community engagement etc;
 - **To strengthen public health institutions and public health governance capacities**, to meet challenges posed by the current and future pandemics/epidemics.
 - **To expand and build an IT enabled disease surveillance system** by developing a network of surveillance laboratories at block, district, regional and national levels,
 - **To support research on COVID-19 and other infectious diseases**, including biomedical research to generate evidence to inform short-term and medium-term response to COVID-19 like pandemics.
 - **To develop core capacity to deliver the One Health Approach** to prevent, detect, and respond to infectious disease outbreaks in animals and humans.
- It is **in addition to the National Health Mission (NHM)**.
- **3 Components of the mission**



First component	<ul style="list-style-type: none"> • To establish comprehensive surveillance of infectious diseases. • At the district level, Integrated Public Health laboratories in all 730 districts will be set up. • At the state level, five regional branches and 20 metropolitan units of the National Centre for Disease Control. • At the national level, an Integrated Health Information Platform (IHIP) will be established.
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Second component	<ul style="list-style-type: none"> • The creation of comprehensive diagnostics and treatment facilities. • At the district level, <ul style="list-style-type: none"> ○ New rural & urban health and wellness centres will be set up; ○ Critical care hospital blocks will be established in districts with a population of more than 5 lakh. • At the state level, 15 health emergency operation centres will be set up. • At the national level, <ul style="list-style-type: none"> ○ two container-based mobile hospitals will be set up; ○ critical care hospital blocks in 12 Government of India hospitals will be set up — which will also act as mentor institutions for training and capacity building.
Third component	<ul style="list-style-type: none"> • Comprehensive pandemic research. • At the district level, strengthening of existing 80 viral diagnostics and research labs will be undertaken. • At the state level, 15 new bio-safety level III laboratories will be operationalised. • At the national level, 4 new regional national institutes for virology will be operationalized and a regional research platform (digital) for WHO southeast Asia Region will also be set up.

In addition to above Scheme, other approach/steps that can be taken in the right direction of improving health infrastructure includes:

- **4 Guiding Principles to be adopted:**
 - **First**, universal access, and access to an adequate level, and access without excessive burden.
 - **Second** fair distribution of financial costs for access and fair distribution of burden in rationing care and capacity and a constant search for improvement to a more just system.
 - **Third** training providers for competence empathy and accountability, pursuit of quality care and cost effective use of the results of relevant research.
 - **Fourth** special attention to vulnerable groups such a children, women, disabled and the aged.
- **Regulator:** The need of the hour is to have a regulator who can work with states and ensure that the focus shifts to affordable health-care, availability of more health-care professionals, well-equipped facilities, and disease prevention instead of disease management.
- **Reduce inequity:** Inequity among states in terms of facilities needs to be minimized.
- **Geo-coding:** It involves the introduction of data systems for monitoring health status. Such systems would allow entities at all levels to have a geographic information system capable of showing diseases portrayed through maps, risk of spread of diseases, environmental hazard and service delivery.
- **Reduce urban bias:** Health facilities should be developed in the rural sector by public authorities and incentives for the same should be provided to private bodies.

6.3. SBM 2.0 AND AMRUT 2.0

Why in news?

Recently, Swachh Bharat Mission-Urban 2.0 and Atal Mission for Rejuvenation and Urban Transformation 2.0 have been launched by Union government.

More on news

- Both the missions have been designed to realise the aspiration to make all cities **'garbage free'** and **'water secure'**.
- These flagship missions are meant to address challenges of rapidly urbanizing India and also contribute towards achievement of the sustainable development goals 2030.

About Swachh Bharat Mission – Urban 2.0

- It will focus on **sustaining** the sanitation and solid waste management outcomes achieved and **accelerating** the momentum generated, thus achieving vision of **"Garbage Free" Urban India**. Its continuation has been approved till **2025-26**.
- The Mission is **paperless** and will **leverage digital technology** through GIS-mapped waste management infrastructure, online grievance redressal system and end-to-end online monitoring of projects on GIS-based platform. This shall ensure transparency and accountability.
- **Key Components of SBM-U 2.0**
 - **Sustainable sanitation:**

- ✓ It will ensure **complete access to sanitation facilities** to serve additional population migrating from rural to urban areas through construction of over 3.5 lakhs individual, community and public toilets.
- ✓ **Complete liquid waste management in cities with less than 1 lakh population** – is a new component introduced under SBM-Urban 2.0 to ensure systems and processes setup in every city so that all wastewater is safely treated and pollution of water bodies is prevented.
- **Sustainable Solid Waste management**
 - ✓ 100% source segregation of waste along with functional Material Recovery Facilities (MRFs) in every city, with a focus on phasing out single use plastic.
 - ✓ Setting up of construction & demolition (C&D) waste processing facilities and deployment of mechanical sweepers in cities under National Clean Air Programme (NCAP) and those with more than 5 lakh population.
 - ✓ Remediation of all legacy dumpsites to free 14000 acres of locked up land.
- **Robust capacity building** of ULBs and all relevant stakeholders, and intensified focus on **citizen engagement** through communication and advocacy, for further scaling up the **Jan Andolan**.

Achievements of SBM-U

- Over **70 lakh household, community and public toilets** have been built providing safe and dignified sanitation for women, transgender communities, and persons with disabilities (Divyangs).
- Over 65,000 public toilets across 3,300+ cities have been made live on Google Maps.
- **Urban India** was declared **open defecation free** in **2019** with over 3,300 cities and over 960 cities being certified ODF+ and ODF++ respectively.
- Waste processing in India has gone up **over 4 times** from **18% in 2014 to 70% today**.
- **100% door-to-door waste collection in 97% wards** and source segregation of waste being practised by citizens across 85% wards.
- **Active participation of 20 crore citizens** (comprising over 50% of India's urban population) in the program has successfully transformed it into people's movement (Jan Andolan).
- Digital enablements such as **Swachhata App**, the digital grievance redressal platform introduced by **MoHUA in 2016**, has resolved **over 2 crore citizen complaints till date**.
- **Swachh Survekshan - world's largest urban cleanliness survey**, has become a unique management tool to accelerate ground level implementation to achieve sanitation outcomes.
- Capacity building of state and city level officials has been undertaken with **over 10 lakh municipal officials and staff** trained on various Mission components.



• **Expected Outcomes of SBM-U 2.0**



About AMRUT 2.0

- It is a step towards **AatmaNirbhar Bharat** with aim of making the cities 'water secure' and providing **functional water tap connections to all households**.
- This will be achieved through **circular economy of water** by conserving water sources, rejuvenation of water bodies and wells, recycle/ reuse of treated used water, and rainwater harvesting.
- Mission also targets to provide **100% sewage management** in 500 AMRUT cities.

• **Key Components**

- ULBs will submit detailed **City Water Balance Plans (CWBP)** and **City Water Action Plans (CWAP)** through online portal covering proposed projects in thrust areas.
 - ✓ **CWBPs** will give the status of water availability, water demand and supply in the city culminating in gaps in services.
 - ✓ Projects to fill gaps will be formulated in form of **City Water Action Plan (CWAP)** aggregated at State level in form of **State Water Action Plan (SWAP)**.
- **Outcome based funding is the most important defining feature** of this Mission. The cities will submit roadmap for outcomes to be achieved by them.
- It mandates implementation of **10% funds allocated to cities (population more than million) in PPP mode**. Taking up projects on **24x7 water supply in 500 AMRUT cities with population above 1 lakh** is encouraged.

Achievements of AMRUT 1.0

- AMRUT was launched as the **first water – focused Mission in 2015, with a total Mission outlay of ₹1,00,000 crore**. The Mission caters to 500 major cities covering 60% of the urban population.
- Under the Mission, **1.14 crore water tap connections have been provided** taking total connections to 4.14 crore in AMRUT cities.
- **85 lakh sewer connections including households covered** under septage facilities have been provided taking coverage to 2.32 crore.
- 6,000 MLD of Sewage Treatment capacity is to be developed through AMRUT, **of which 1,800 MLD of treatment capacity has been developed**. Further, 907 MLD capacity is created for recycle/reuse of treated used water.
- Through green spaces projects, **3,850 acre of permeable green spaces have been added** and another 1,600 acre of green area will be added.
- **2,200 water logging points have been eliminated & another 1,500 water logging points** through ongoing projects will be eliminated. Rejuvenation of 106 water bodies has been taken up.

- **Pey Jal Survekshan** will assess quality and quantity of water supplied to the citizens and instill healthy competition among cities to provide better water related services to the citizens.
- **Information Education and Communication (IEC) including Behavior Change Communication** targets to convert water conservation into a **Jan Aandolan**.
- **Start-ups in water sector** will also be encouraged through **Technology sub-Mission**.
- **Community Participation with focus on woman self-help groups (SHG)** to be co-opted in management of water infrastructure and quality assessment. This will be facilitated through **National Urban Livelihood Mission (NULM)**.
- **Evidence based evaluation of outcomes** using **online monitoring platform** combined with **citizen feedback** through **gig economy** will **enable community partnership**.
- It has a **reform agenda** focused towards financial sustainability and water security of ULBs.
 - ✓ Meeting 20% of water demand through recycled water

- ✓ Reducing nonrevenue water to less than 20%
- ✓ Rejuvenation of water bodies
- ✓ Implementation of **reforms on Property Tax and user charges is mandatory to get uninterrupted funding from third year onwards.**
- Mission will be **paperless** and **monitored** on a robust technology-based monitoring & evaluation platform.

Given the current rapid pace of India's urbanisation, these 2 missions are the centre points to cater to increasing demands and aspirations of the urban population. Implementation of these will further bring us close to the SDG 11 (Sustainable cities and communities), taking us one step closer to achieving the 2030 SDG agenda.

6.4. STREET VENDORS

Why in news?

Recently, The Delhi High Court expressed concern over rising number of street vendors in the national capital.

More about news

- The **Delhi High Court issued notices** seeking direction to **strike down various provisions of the Government of National Capital Territory of Delhi Street Vendors (Protection of Livelihood and Regulation of Street Vending) Scheme, 2019.**
 - In order to recognize the street vendors and formalize their operations, Government of India has enacted the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014.
 - Subsequently, Government of NCT of Delhi has notified the **Delhi Street Vendors (Protection of Livelihood and Regulation of Street Vending) Rules, 2017 and Delhi Street Vendors (Protection of Livelihood and Regulation of Street Vending) Scheme, 2019.**
 - To avoid arbitrariness of authorities, the 2014 Act provides for a survey of all existing street vendors, and subsequent **survey at-least once in every five years, and issue of certificate of vending to all the street vendors** identified in the survey, with **preference to SC, ST, OBC, women, persons with disabilities, minorities etc.**
 - The Act **empowers state governments to constitute TVCs** for identifying street vendors, issuing vending certificates, and keeping records of vendors. It stated that no eviction or relocation should be enforced without consultation with TVCs.
- The court has a **batch of petitions challenging the validity of Street Vendors Act, its implementation, certain provisions of the scheme and other connected issues** raised by various market associations and vendors and hawkers.



About Street Vendors

- Anyone who doesn't have a permanent shop is considered as a street vendor. Street vendors constitute the most significant and deprived segment of the country's unorganised sector.
 - According to government estimates, street-vending accounts for **14% of the total (non-agricultural) urban informal employment** in the country.
 - Largest concentrations of street vendors in the cities of **Delhi, Mumbai, Kolkata, and Ahmedabad.**
- Other than being a **source of self-employment for the poor**, vending is vital to provide **convenient, affordable services to the urban populace.**
- Under Entries 26 (Trade and commerce) and 28 (Markets and fairs) State List under the Seventh Schedule to the Indian Constitution, **it is the State Government which is empowered to enact laws** pertaining to markets, which includes street vending.

Challenges faced by street vendors

- **Lack of Social Security:** Problems of eviction, bribe payment, inability to access various government facilities, lack of basic amenities such as toilet, lighting, etc.
- **Unrealistic License caps:** In most cities like Mumbai which has a ceiling of around 15,000 licences as against an estimated 2.5 lakh vendors.
- **Fluctuating markets:** The street vendors always suffer competition with other street vendors because of fluctuation in market prices, insecure and irregular employment.
- **Urban sprawl:** Encroachment of public spaces, causes traffic congestion, inadequate hygiene, and poor waste disposal.
- **Safety of street food:** No Government agency is authorized to verify the content of food as they are not regulated by any government agency.
- **E-Commerce:** There has been negative impact of online shopping on retailers and street vendors.

SIGNIFICANCE OF STREET VENDORS					
Create jobs: Street vendors create jobs for others in the supply chain farmers and drivers. They represent around 4% of the total urban workforce.	Flexibility: The street businesses operate with a great deal of fluidity. Millions of street vendors can change their entire inventory, supply chain, target segmentation, pitch, and method of selling, every month.	Inter-connected with the formal economy Street vendors have strong linkages with the formal economy.- Those who buy and sell fresh food are an essential part of the urban supply chain.	Cheap price: It is an ecosystem in itself, providing food and other items at affordable prices. Street vendors purchase goods at wholesale prices and make them available at the doorsteps of the middle and lower-middle classes.	One vendor, many mouths to feed: Most street vendors are the sole earning members for their households, responsible for bringing food for the family.	Helps in even distribution of wealth: The distribution of wealth in the informal sector is far more than in the formal sector. This happens due to the cutting down of operations costs.

Way Forward

- **Inclusive and thoughtful urban design:** To allocates open public space to vendors and build connections between the citizens and the street vendors.
- **Authenticate the quality of products sold on the streets:** This would curb the menace of counterfeit products. For those selling cooked food, **the health and hygiene department must conduct periodic checks and implement safety norms.** Integration with smart city mission
- **Inclusive, market-led sustainable development:** It will ultimately arrive with the **empowerment of our street entrepreneurs** struggling at the very last mile.
- **Buying locally:** It will facilitate India's tryst with self-reliance and **strengthen local supply chains** to innovate and capitalize even during the time of pandemic.

Organizations for Street Vendors:

- **The National Hawker Federation (NHF):** It is a federation of 1,400 street vendor organisations and trade unions that has a presence in 28 states.
- **National Association of Street Vendors of India (NASVI):** It is a membership based organization of 1,024 street vendors organizations representing 10,00,000 street vendors from almost all parts of India.

PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) Scheme

- The scheme is a **Central Sector Scheme** which is fully funded by **Ministry of Housing and Urban Affairs** with the following objectives:
 - To facilitate working capital loan up to Rs 10,000
 - To incentivize regular repayment
 - To reward digital transactions
- It will help **formalize the street vendors** with above objectives and **will open up new opportunities to this sector to move up the economic ladder.**

Main Bhi Digital Drive

- **Ministry of Housing and Urban Affairs** in collaboration with the **Ministry of Electronics and Information Technology** launched the pilot drive 'Main Bhi Digital'
- It is a **special Campaign for Digital Onboarding and Training** for street vendors under PM SVANidhi scheme across 223 cities in the country.
 - **The street vendors will be trained to accept and make digital payment transactions.**

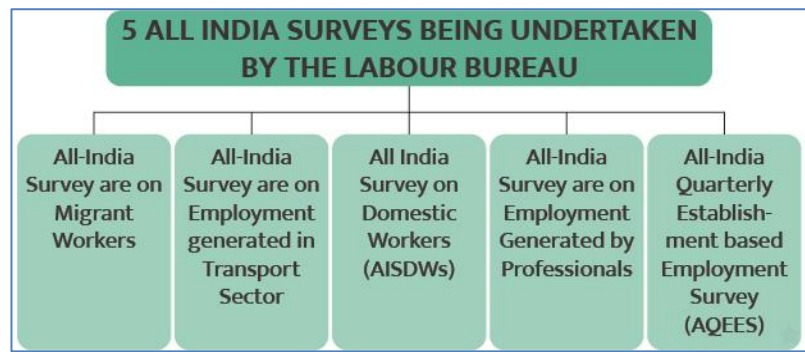
6.5. ALL INDIA SURVEY ON DOMESTIC WORKERS (AISDWS)

Why in news?

Recently, the **Union Minister for Labour and Employment** flagged off the **first ever AISDWS**.

More on news

- The survey is aimed at **estimating the number and proportion of DWs at the national and state level**, percentage distribution of domestic workers for live-in/live-out, formal/informal employment, and other socio-economic characteristics.
 - It will **plug-in the data gap** and also **aid evidence-based policy making processes**.



About domestic workers

- Domestic worker is a person who is **employed in any household on a temporary or permanent basis to do the household work**.
- According to the estimates by the International Labour Organisation (ILO), **there are at least four million domestic servants in India**. Most of them are the migrants, women, many are minors, and belong to lowest end of Economic Spectrum.
 - Most of these are from vulnerable communities – **Adivasis, Dalits or landless OBCs**. Nearly all of them are migrant workers. And an overwhelming number are women.
- India is a **signatory to ILO's 189th convention**, known as Convention on the Domestic Workers; but has **not ratified it yet**.
- **Gender skewed:** The ILO says about 1 in 25 women workers in the world are domestic workers.

Issues faced by domestic workers in India

- **Significant yet invisible contribution in the economy:** DWs are the **third-largest category** of workers after agriculture and construction. Rapid urbanisation would lead to migration of workers and a rise in the number of domestic workers.
- **Legal precarity:** The lack of data on domestic workers means that they often slip through the cracks when the government announces relief measures. Also, they are excluded from the Minimum Wages Act, 1948; Maternity Benefit Act, 1961; Workmen's Compensation Act, 1923; etc.
- **Poor working condition:** They are underpaid, overworked and abused by their employers. Most of them are not allowed to use the washroom, have no designated place to rest (particularly if they are residing with the employer).
- **Child Labour:** The ILO estimates that globally, as many as 7.4 million children under age of 15 work in domestic service, especially in the developing world.
- **Exploitation of vulnerability by police:** If anything goes missing in house, they are the first to be accused with threats, physical violence, police interrogation, conviction, and even dismissal.
- **Covid-19 has pushed DWs further to the margins:** For example, nearly 60% of them were not paid during the lockdown, as per a survey commissioned by Self-Employed Women's Association (SEWA).

Way ahead

- **Comprehensive legislation:** Legislate a comprehensive, uniformly applicable, national legislation that guarantees fair terms of employment and decent working conditions for DWs.
- **Organization & Voice:** DWs should be organized into trade unions and to have representative voice not only in the policy making but also at workplace.
- **Ratifying ILO's 189th convention:** Convention mandates that the domestic workers be given **daily and weekly rest hours**, their payment must meet **minimum wage** requirement, and that they should be allowed to choose place where they live and spend their leave.
 - Ratifying States are required to take the **protective measures against violence** against such workers and are required to enforce the **minimum age** for the employment purposes.
- **Sensitisation of employer:** The ILO has launched a campaign **"Your Work Is Important"** to generate public awareness on the value of the work undertaken by domestic workers.
- **Emulating the best global practices:** A Magna Carta for Household Helpers in the Philippines; a right to organize, coverage under the Employment Ordinance, and contracts with minimum standards required by the Immigration Department in Hong Kong; a Basic Conditions of Employment Act, 1997, with a binding mandate to protect domestic workers in South Africa among others.

6.6. SPORTS AND SOCIAL CHANGE

Why in News?

Ministry of Youth Affairs and Sports has formulated several schemes to promote sports in the country, including in rural, tribal and backward areas.

More in news

- **'Sports' being a State subject**, the responsibility for development of sports, including opening sports schools, rests with the State / Union Territory Governments. Central Government supplements their efforts in this regard.
- The Ministry of Youth Affairs & Sports has formulated the following schemes to promote sports in the country
 - Khelo India Scheme
 - Assistance to National Sports Federations;
 - Special Awards to Winners in International sports events and their Coaches;
 - National Sports Awards, Pension to Meritorious Sports Persons;
 - Pandit Deendayal Upadhyay National Sports Welfare Fund;
 - National Sports Development Fund; and
 - Running Sports Training Centres through Sports Authority of India.

Significance of Sports

- **Sports encourage national unity:** Be it the Olympics or any world cup tournament, sports encourage people across the globe to come together & show their support to their country. Sports act as a common denominator in all the divided society as people of all ages & group equally enjoy sports. Sports automatically brings solidarity that helps in positively engaging all the people & encourage national unity.
- **Sports promote gender equality:** Both men and women have access to resources, structure, and active membership in a leading position which helps in promoting gender equality through sports. By giving the females the same opportunities as their male counterpart, it can change the patriarchal mindset of society.
- **Sports contribute to the socio-economic progress:** Entertainment sports represent a billion-dollar company that has a huge impact on the economy of the country. It generates employment and boosts the local economy which helps in creating a tangible change in society.
- **Sports bridges social identities:** Sports teaches people with conflicting social identities to work or play together without placing their social differences forward.
- **Sports help in tackling obesity:** The young children who take sports athletes as their inspiration are more likely to follow in their footsteps and stay fit. Sports inspire the young generation to tackle obesity by staying active from an early age.
- **Sports promote discipline & non-violence:** Major poor communities in the world have the problem of lack of discipline & violence due to lack of direction & education. Sports play a crucial role in educating the important lessons which further helps in creating a positive social change.
 - Sports instill the skill of team building & conflict resolution which largely helps in bringing a positive change in society.
- **Sports teaches important life lessons:** Sports help in developing the mind by teaching important life lessons. Sports has always taught the world to appreciate diversity which further strengthens democracy.

The goal of the Olympic Movement is to contribute to building a peaceful and better world by educating youth through sport practiced without discrimination of any kind and in the Olympic spirit, which requires mutual understanding with a spirit of friendship, solidarity and fair play.

Reasons behind underdevelopment of sports in India

- **Lack of a local sporting culture:** In India, there is no investment of the local community in sports. They do not watch matches; they do not come to cheer on their kids.
- The sports teacher is the least important figure because parents are not concerned about success in sports.
- **Socio-cultural bias:** The existence of socio-economic, language, religious, cultural, dietary habits, social taboo, gender bias etc. impacted the development of sports.

- **Lack of infrastructure:** Since infrastructure is necessary for training and organizing games, its non-availability and its access to only a few sections of the society have adversely impacted the sport participation and the quality of sports persons.
 - Lack of facilities at the grass root level is a major problem. Schools and colleges lack basic infrastructure that can encourage sports.
- **Administrative issues:** There is no common code/rule/legislation/law for governing the administration (elections, funding, schedules and events, qualifications and time limit for different admin posts etc.) of different sports associations.
- **Absence of sports hierarchy:** There is no appropriate mechanism to nurture the talent at school, block and district levels and then promote the talented athletes to state and national levels.
- **Sport governance:** India's sport governance is marred by nepotism, corruption scandals, ineffective leadership, lack of transparency, and mismanagement.

Way forwards

- **Provide a conducive environment:** Teachers, parents, and communities need to come together to encourage sports persons and ensure sports is treated as the priority for them.
 - A changed outlook towards sports in school coupled with enhanced quality of leagues in India can potentially transform the sporting landscape and open up greater opportunities for sportspersons.
- **Improve fiscal incentives:** Administering fiscal incentives such as tax exemptions for earnings from sports or reduction in import duties on expensive sports equipment would help to promote sports.
- **Recognize sports as industry:** Industrialising sport gives India the opportunity to create a revenue generating mechanism from sport, allowing it to substantially contribute to the country's economy.
 - Recently, Mizoram declared sport as an industry in a move to provide an impetus to the sector.
- **Media and Cinema:** They can play a constructive role in transforming Indian sports by spreading awareness, popularizing and revolutionizing the women participation.
- **Technical cooperation and capacity development:** Governments, UN entities and other key stakeholders should ensure the provision of capacity development and technical cooperation services to support the development and implementation of national policies and approaches for the best use of sport to advance health and well-being, particularly in the age of COVID-19.

6.7. DRUG ABUSE

Why in news?

Calling for a humane approach towards **drug users and addicts**, the Union Ministry of Social Justice and Empowerment has recommended changes to the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985 to **exempt them from a prison term**.

More about news

- The ministry has suggested that drug users and addicts be **treated as 'victims'** who need **de-addiction and rehabilitation**. Criminal action should not be taken against them.
- It has also called for **decriminalising possession of 'small quantities'** of drugs for personal consumption.

Drug abuse: Meaning, causes and extent in India

- **Definition: Drug abuse or Substance abuse** refers to the harmful or **hazardous use of psychoactive substances**, including alcohol and illicit drugs. Psychoactive substances are substances that, when taken in or administered into one's system, **affect mental processes**.
- **Causes of Drug abuse:**

Causes of Drug Abuse

Biological Factors

- Family history and genetic predisposition.
- Pre-existing psychiatric or personality disorder, or a medical disorder.
- Reinforcing effects of drugs

Social Factors

- Peer pressure and Easy availability of alcohol and drugs;
- Lack of social or familial support.
- Romanticization of drugs by media.
- A National Survey by the Ministry of Social Justice and Empowerment (2002) found that 29% of the drug abusers were **illiterates** and a significant number of them came **from lower strata**.

Psychological Factors

- Low self-esteem (Anomie), Poor stress management.
- Childhood loss or trauma, To escape reality.
- Sensation seeking and poor control.
- Lack of care in modern families.

Economic Factors

- Poverty and Unemployment.
- Work stress and financial worries.

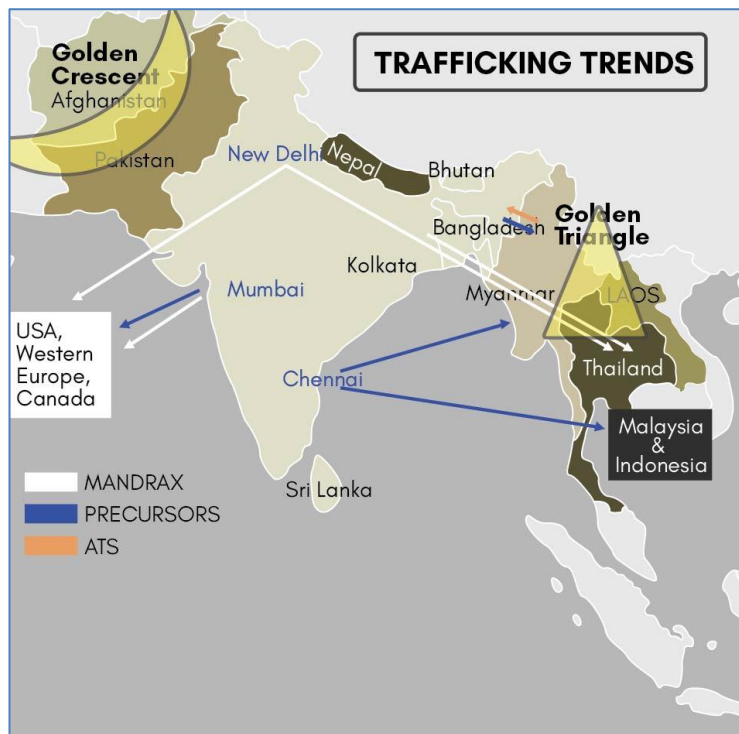
- **Extent of Drug abuse in India:** According to the Social Justice and Empowerment Ministry and All India Institute of Medical Sciences' report on magnitude of substance abuse in 2019, there were **3.1 crore cannabis users** and **2.3 crore opioid users**.
 - **Consumption across states:** **Uttar Pradesh has the highest number** of cannabis users, followed by Punjab, Sikkim, Chhattisgarh, and Delhi, according to the AIIMS report.
 - However, in terms of population percentage, the **north-eastern states top the list**. Nearly **seven per cent of the population in Mizoram**, for instance, consume opioids.

Major Initiatives taken by government to curb drug abuse

- **Narcotic Drugs and Psychotropic Substances Act, 1985 (NDPS Act):** It was enacted with the objective to make **stringent provisions and consolidate the law** in relation to narcotic drugs and psychotropic substances.
 - The Act created **Narcotics Control Bureau** which carries out functions like **coordination** among various agencies engaged in drug law enforcement, collection, and dissemination of **intelligence**, etc.
- **Central Sector Scheme of Assistance for Prevention of Alcoholism and Substance (Drugs) Abuse for Social Defence Services:** The scheme helps Voluntary Organizations for Prevention of Alcoholism and Drug abuse.
- The **Mental Health Care Act (2017)** has included **alcohol and drug use** disorders under its ambit. This measure is likely to increase the availability and access to the minimum standard of **care and rehabilitation for people with substance use disorders**.
- **National Survey:** To analyse the **extent of drug abuse** in the country, Government conducted the **first National Survey** on Extent and Pattern of Substance Use in India through the National Drug Dependence Treatment Centre (NDDTC) of the AIIMS, New Delhi **during 2018**.
- **National Action Plan for Drug Demand Reduction (NAPDDR) for 2018-2025:** It aims at **reduction of adverse consequences** of drug abuse through a multi-pronged strategy involving Awareness generation programmes, Community outreach, Capacity Building Programmes etc.
- **'Nasha Mukh Bharat Abhiyaan'** or a **'Drugs-Free India Campaign'** launched in 2020 across **272 districts of the country found to be most vulnerable** based on the data available from various sources.
- **UN Conventions:** India is a party to the **three United Nations drug conventions:** Single Convention on Narcotic Drugs 1961, Convention on Psychotropic Substances, 1971 and Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

Issues in curbing Drug Abuse in India

- **India acts as a hub for drug trafficking:** Geographically, India lies between the **Golden triangle and the golden crescent**, the major opium production regions in the world making it a hub for drug trafficking in the continent.
- **Treatment gap:** The National Mental Health Survey (2015-2016) showed a **treatment gap of more than 70% for drug use disorders**. Further, **merely 5%** of people with illicit drug use disorders received **inpatient care**. This indicates **poor accessibility, utilization and quality of health care**.
 - There is an acute **shortage of psychiatrists and counsellors** for de-addiction.
- **Criminalising drug consumption:** India sees drug consumption as a **criminal offence**, believing that criminalising drug use is the **strongest symbol of society's condemnation**.
- **Drug peddling is an organised crime:** Hence, it is challenging for the police to catch the persons involved from the point of source to the point of destination.
 - Also, drug abuse **linked with other serious crimes** such as organized crimes, human trafficking, and money laundering.
- **Increased digital penetration:** Use of the **dark web** by online markets, rapid proliferation of **internet-based pharmacies** and **bitcoin-based transactions** has further enhanced the accessibility of drugs.
- **COVID-19 pandemic:** It has exacerbated the factors that fuel the **vicious circle of socio-economic vulnerability** and drug use disorders (Refer infographic)



What can be done to overcome these issues?

- **Financing:** India needs **massive investments** for ensuring scientific evidence-based treatment at the required scale.
- **Prevention programmes:** To ensure that **young people grow and stay healthy** into adulthood, enabling them to realize their potential and become productive members of their community and society.
- **Awareness:** It can play an important role in establishing substance use disorders as **bio-psycho-social health**

Practices around the globe that can be replicated in India

- **Portugal:** After Portugal **decriminalised the personal use and possession** of all illicit drugs in July, 2001, the HIV transmission rate that was once highest amongst all the European Union countries, have plummeted and the **usage of drugs amidst certain vulnerable groups have decreased**.
- **Iceland:** Iceland witnessed acute drug abuse among its children and the youth. The government decided to **tackle the issue right from the school level**. From introducing **aptitude tests** which revealed the inclinations of students to persuading parents to keep liquor and cigarettes out of reach of the youth. It has successfully **weaned away 70-80% of its young population from drugs**.

conditions (and not just moral failings) and effective tool in **minimizing the stigma** associated with substance use.

- **Other Steps:** There needs to be an **efficient coordination** between the drug supply control sector as well as the entities involved in drug demand reduction and harm reduction.
 - Various NGOs can be involved to initiate **vocational training** and other employment programs for unemployed addicts.
 - **Appropriate linkages** between health workers, community leaders, religious leaders, and teachers for **planning prevention and rehabilitation activities** for drug abuse should be established.

6.8. GAMING DISORDER

Why in news?

The gaming disorder is quickly growing as the pandemic spurred an increased use of Internet devices.

More on news

- According to the All India Gaming Federation, India's **online gaming industry is expected to be worth ₹15,500 crore by 2023.**
- A 2019 survey by the U.S.-based Limelight Networks found that
 - **India had the second largest number of gamers** after South Korea, and **almost a quarter of adult Indian gamers had missed work** while playing games.
- Last month, **China limited gamers under 18 years to just three hours of online games per week** and made the industry responsible for enforcing the restriction.

About gaming disorders

- The World Health Organization (WHO) **categorised gaming disorder as a mental health condition in 2018.**
- According to the WHO's definition, a person who has gaming disorder will show the **following characteristics for at least 12 months:**
 - Lacking control over their gaming habits.
 - Prioritizing gaming over other interests and activities.
 - Continuing gaming despite its negative consequences.
- Thus, according to WHO, the **criteria doesn't include a certain number of hours spent playing.** Instead, the description is of someone with an **inability to stop playing** even though it interferes with other areas of one's life, such as family relationships, school, work, and sleep.

Case study: Gaming to gambling

- NIMHANS published a case study in the Industrial Psychiatry Journal last year illustrating the "pathways of migration from gaming to gambling".
- They found that a **14-year-old addicted to online games without monetary rewards later became addicted** to online poker with financial stakes in his early 20s.
- Individuals who **played more social casino games** (online games where you do not either bet or win or lose real money) and **won occasionally, usually developed a craving and urge for betting real money** in the anticipation of winning.

Consequences

- Gaming disorders cause **physical, social and emotional damages, impairing sleep, appetites, careers and social lives.**
- **Financial distress:** For a poor family, even the money needed to recharge a mobile phone to feed a gaming addiction can bankrupt a family.

Way ahead

- **Legal:** A bare minimum, statutory warnings and mandatory breaks should be enforced to prevent binge gaming.
- **Digital fasting:** Digital fasting among families are also important steps to combat the disorder.
- **Treatment:** Gaming disorder is a new classification, so there is no clear treatment plan in place. However, it is likely that treatments for other addictive behaviors, such as gambling addiction, will also be relevant for gaming disorder.

Psychoeducation	Treatment as usual	Intrapersonal	Interpersonal	Family intervention	Development of a new lifestyle
This involves educating the person about gaming behaviors and their effects on mental health.	Adapt addiction treatment to fit gaming disorder. The treatment focuses on helping the person to control cravings, deal with irrational thoughts, etc.	Help addicts to explore their identity, build self-esteem, and enhance their emotional intelligence.	Addict will learn how to interact with others by working on their communication skills and assertiveness.	If gaming disorder is negatively affecting relationships with others, family members may need to take part in some aspects of therapy.	To prevent excessive gaming, people should explore their skills and abilities, set goals for themselves, and find activities other than gaming that they enjoy.

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7. SCIENCE AND TECHNOLOGY

7.1. 5G TECHNOLOGY

Why in News?

Reliance Jio, BhartiAirtel and Vodafone Idea received a six-month extension from the Department of Telecommunications (DoT) to conduct 5G trials till May 2022.

About 5G

- » 5G is designed to **address the legacy issues of speed, latency and utility** of earlier/current generation of mobile networks.
- » **Enhanced throughput to handle more simultaneous connections.**
- » **Potential to add between 0.35 to 0.5 percent to the GDP of India.**
- » 5G **mainly works in 3 bands**, namely low, mid and high frequency spectrum.

Opportunities by 5G

Advancing societies	Transforming Industries	Elevating Experiences
<ul style="list-style-type: none"> » Smarter Electricity Grids » More connected vehicles » Connected sensors for early warning systems » Drones key tools for various situations » Remote Patient consultations 	<ul style="list-style-type: none"> » Flexible, Efficient business » Smart production lines » Autonomous Logistics network » Powerful Robots for enhanced safety » Increased use of IoT in Agriculture » Smart warehouses 	<ul style="list-style-type: none"> » Greater role of VR,AR » Powerful sensory experiences » Engaging methods of teaching » Virtual meetings to boost team productivity » Better experiences for live and remote events

Challenges to 5G evolution in India

- » **Lack of Infrastructure** (Inadequate optical fibre infra, interrupted power supply etc)
- » **High Auction Prices**
- » **Telcos issues** (Financial constraints, lack of relevant skill set, low Average revenue per user etc)
- » **Consumer Constraints** (Data privacy, Network Coverage, Handset affordability etc)
- » **Other Challenges** (Threaten security of critical infrastructure, Security and strategy issues because of Chinese vendors like ZTE, Huawei)

5G AT- A- GLANCE

Key Interventions Required

Industry	Government
Infrastructure Investment	Streamlining regulations to facilitate development
Interoperability between devices	Provide policy flexibility to encourage innovation
Enhanced data privacy	Release sufficient and affordable spectrum
Reskilling and upskilling	Easing financial stress on stakeholders
Focus on Innovation	

Steps taken by Government

- » A 5G High Level Forum was set up in 2017.
- » Cellular Operators Association of India (COAI) formed 5G India Forum (5GIF)
- » 'Building an End-to-End 5G Test Bed' programme.
- » National Digital Communication Policy-2018 (NDCP-2018) also lays out objectives with respect to 5G services.

Spectrum	Uses/Advantage	Limitations
Low band	<ul style="list-style-type: none"> Great promise in terms of coverage and speed of internet and data exchange, the maximum speed is limited to 100 Mbps (Megabits per second). For commercial cellphone users who may not have specific demands for very high speed internet. 	<ul style="list-style-type: none"> May not be optimal for specialised needs of the industry.
Mid-band	<ul style="list-style-type: none"> Higher speeds compared to the low band. May be used by industries and specialised factory units for building captive networks. 	<ul style="list-style-type: none"> In terms of coverage area and penetration of signals.
High-band	<ul style="list-style-type: none"> Offers the highest speed (as high as 20 Gbps (giga bits per second)) of all the three bands. 	<ul style="list-style-type: none"> Extremely limited coverage and signal penetration strength.

3G vs 4G vs 5G vs 6G					
		3G	4G	5G	6G
	Deployment	2004-06	2006-10	2020	2028-2030
	Bandwidth	2 mbps	200 mbps	>1 gbps	1 tbps
	Latency	100-150 millisecond	20-30 millisecond	<10 millisecond	<1 microsecond
	Average Speed	144 kbps	25 mbps	200-400 mbps	About 50 times faster than 5G

5G and Quad
<ul style="list-style-type: none"> Quad provides an ideal test bed for a shared 5G risk and resilience framework that can be expanded to the broader Indo-Pacific. Risks identified <ul style="list-style-type: none"> Technical Risk: from 5G architecture and protocols. Supply Chain and Connectedness Risk: disruptions due to natural and man-made causes, including conflict, but also geopolitical pressures, complex supply chain interdependencies, and national powers to control national suppliers. Capability and Capacity Risk: to address insufficient institutional capability and capacity, including in terms of expertise, institutional relationships, and personnel, to monitor and manage 5G security risks. Approaches Quad countries have taken to secure their 5G deployments: <ul style="list-style-type: none"> Blocking High Risk Vendors: Quad members decided to exclude Chinese vendors (Huawei and ZTE) from their national 5G networks build-out because of growing geopolitical tensions and profound mistrust towards China. Mitigating third-party supply chain risk: Changes in government procurement authorities and policies, in the form of strict cyber and supply chain security requirements, are the measures Quad countries have applied. Providing Financial Incentives to Industry for Secure 5G Deployments. Strengthening International Cooperation: Japan and India for instance signed a MoU on ICT cooperation in January 2021, covering 5G technologies and telecom security, among other issue areas. Imposed cybersecurity obligations on their telecommunications providers, for example, through regulatory telecommunications and critical infrastructure protection authorities.

7.2. GEOSPATIAL TECHNOLOGY

Why in news?

Recently, the United Nation Economic and Social Commission for Asia and the Pacific (UNESCAP) published the report titled “Geospatial Practices for Sustainable Development in Asia and the Pacific 2020.”

Key findings of the report

- Asian and Pacific nations are **increasingly leveraging space technology and geospatial information** to respond to challenges on the ground including containing COVID-19 pandemic.
 - **Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018- 2030)** was adopted to capitalize on the technological and geospatial innovations in the region.
- Report praised India on India's initiatives like '**BHUVAN**', **Water Resource Information System (WRIS)** etc.
- Report calls for **re-skilling of young workers to enhance their knowledge, integrating geospatial data with other data sets**, enhancing data security and privacy etc.

About Geospatial Technology

About Geospatial Technology

- » Includes **Geographic Information System (GIS), Remote Sensing (RS) and Global Positioning System (GPS)**.
- » Enables **acquiring data that is referenced to the earth and using it for analysis**, modeling, simulations etc.
- » Would be **central to information management** and can have great social as well as national relevance.
- » **Several GIS based initiatives in India**
 - » Natural Resource Information System (NRIS)
 - » National Spatial Data Infrastructure (NSDI)
 - » National Urban Information System (NUIS)

Application of Geospatial Technology

- » **Disaster risk reduction and resilience** (early warning systems, vulnerability mapping, for taking preventive measures)
- » **Social Development** (agriculture, satellite-based fishing, precision agriculture, monitoring and modelling of crop conditions)
- » **Energy** (suitability of a location for generating solar energy)
- » **Connectivity** (Road Asset Management system, accurate and scientific maintenance planning, enhance road safety measures etc)
- » **Informed decision making**
- » **Natural resource management**

GEOSPATIAL TECHNOLOGY AT- A- GLANCE

Challenges in effective use of geospatial information

- » Absence of a comprehensive geodata policy
- » Technological challenges & infrastructural challenges (lack of supercomputing and quantum computing capabilities)
- » Limited accessibility of space-derived data

Way Forward

- » **Invest in national experts** for building geospatial applications.
- » **Integrate ground and space data, crossover data**, with geo-referenced tags and statistical processing.
- » **Ensure privacy, safety and ethics of data.**
- » **Provide open data access** by making use of cloud-based platforms.
- » **Collaborate across local and international levels** to address the geospatial digital divide and other related issues.

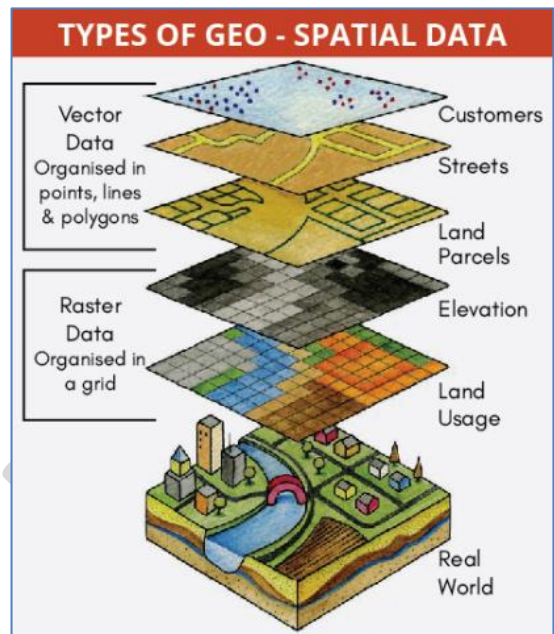
7.3. GEO SPATIAL DATA

Why in news?

Recently, the Ministry of Science and Technology released **new guidelines for the Geo-Spatial Sector** in India, liberalising the policies governing the acquisition and production of geo-spatial data.

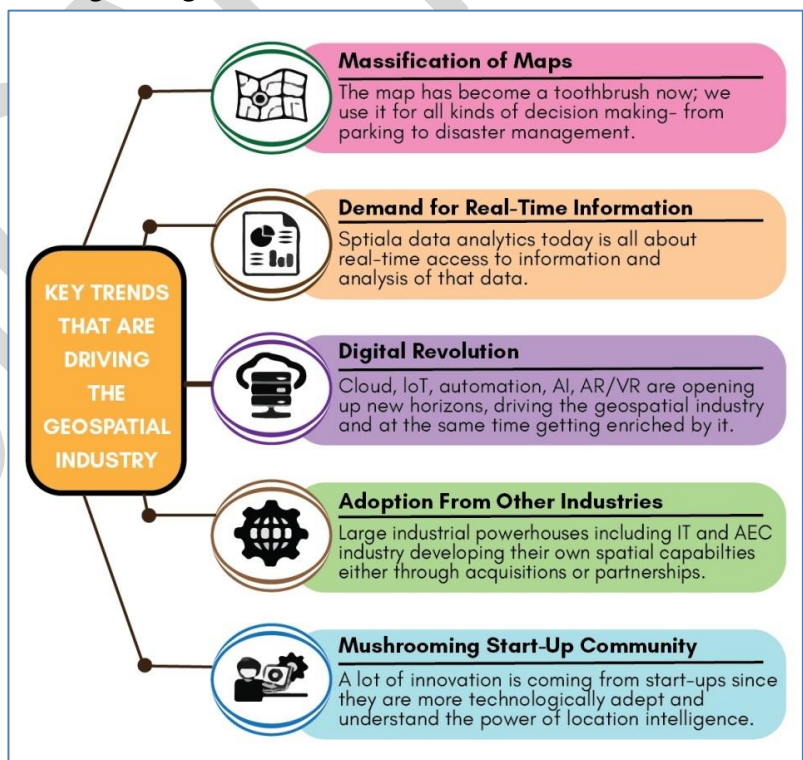
About Geo-Spatial Data

- Geospatial data (also known as “**spatial data**”) is used to describe data about objects, events, or phenomena (man-made or natural) that have a location on the surface of the earth. At present, **80% of any data has a geo spatial component.**
 - Examples include the location of a road, an earthquake event, malnutrition among children, or dynamic like a moving vehicle or pedestrian, the spread of an infectious disease etc.
- **The two main types of geospatial data are vector data and raster data.**
 - **Vector Data:** It uses geometric shapes to show the location and shape of geographic features. Points, lines and polygons can represent things like cities, roads and waterways. Vector data is scalable, has small file sizes and ideal for depicting boundaries.
 - **Raster Data:** It represents data through a digital image such a scanned map or photograph. It also includes aerial and satellite imagery. Raster data uses a cell-based format called stair-stepping to record data as pixels or grids with an image. Spatial analysis depends heavily on raster datasets.



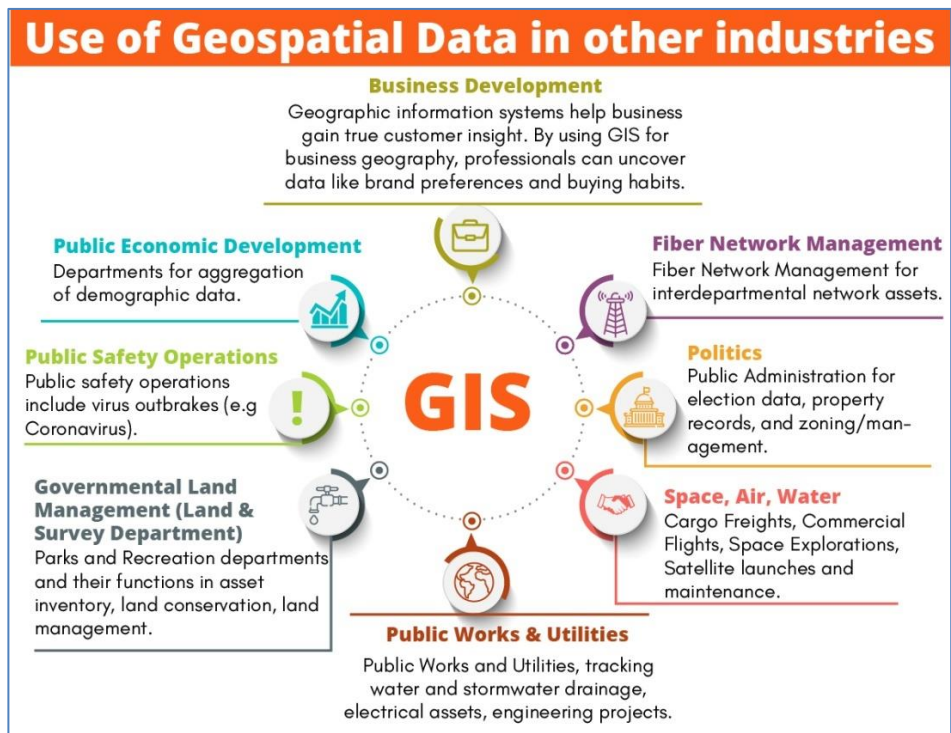
Major provisions of the guidelines

- **Coverage:** The new guidelines will apply to geospatial data, maps, products, solutions and services offered by government agencies, autonomous bodies, academic and research institutions, private organizations, non-governmental organizations and individuals.
- **Approval:** There shall be no requirement for prior approval, security clearance, license or any other restrictions on the collection, generation, preparation, dissemination, storage, publication, updating and/or digitization of geospatial data and maps within the territory of India. Self-certification will be used to convey adherence to these guidelines.
- **Processing:** Individuals, companies, organizations, and government agencies, shall be free to process the acquired geospatial data, build applications and develop solutions in relation to such data and use such data products, applications, solutions, etc. by way of selling, distributing, sharing, swapping, disseminating, publishing, deprecating and destructing.
- **Negative List:** There will also be a negative list **of sensitive attributes that would require regulation** (for instance defence or security-related data) before anyone can acquire and/or use such attributable data.



Significance of liberalising and deregulating the sector

- **Increasing participation and competitiveness of Indian companies** as sector so far is dominated by the Indian government as well as government-run agencies such as the Survey of India.
- **Spur domestic innovation** by relaxing cumbersome system of pre-approvals and permissions.
- **Increasing employment avenues** and unlocking opportunities for start-ups, private sector, public sector and research institutions.
- **Investment opportunities and exports:** Increased investment in the sector will result in democratisation of existing data sets, indigenisation and also increase in export of data, which in turn will boost the economy.
- **Increased accessibility:** For instance, maps and accurate geospatial data are useful in projects such as linkages of rivers, creation of industrial corridors, and deployment of smart power systems etc.
 - Also, it will play a significant role in the SVAMITWA scheme to map rural lands.
- **Resource Management:** Locally available and locally relevant maps and geospatial data would also help in improved planning and management of resources and better serve the specific needs of the Indian population.
- **Supporting emerging government initiatives:** such as Digital India, Smart Cities, e-Commerce, autonomous drones, delivery, logistics and urban transport etc..



Related News

Geographical Information System (GIS) Plans for around 75% Gram Panchayats (GPs) Completed

- Ministry of Rural Development has **completed GIS plans for 2 lakh GPs out of 2.69 lakh GPs** under MGNREGA using remote sensing technology **based on ridge to valley approach**.
- Under MGNREGA, **GIS solutions are used for asset related data** (Watershed locations, Farm ponds, check dams, road layer etc) **along with better understanding of their impact/ outcome**.
- **Scope of work under MGNREGA GIS includes**
 - **Geo-referencing** of satellite images and scanned images.
 - **GIS Mapping:** Creation of Digital data (Assets) for pan rural India for specified works.
 - **Geotagging of images** and integrating with respective assets.
- **Other initiatives taken to facilitate GP level planning of MGNREGA activities**
 - **Yuktdhara Geospatial Planning portal** to help other Ministries to see geographical location of planned assets on a map.
 - **Climate Resilience Information System and Planning (CRISP-M) tool** to enable the local communities to understand the climate change impact.

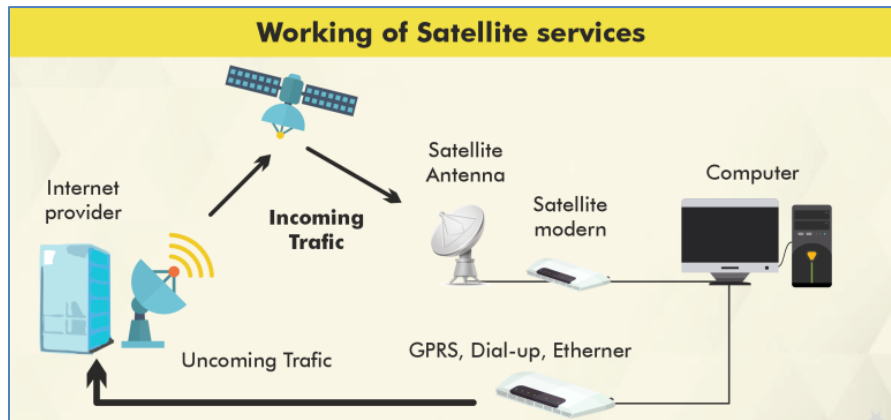
7.4. SATELLITE INTERNET SERVICES

Why in News?

Recently, the government issued a public advisory to stop Starlink Internet Services from offering satellite-based services in India and asked citizens not to subscribe to it as it is not licensed in India.

More on News

- For commercial launch of Satellite Internet Services a company needs GMPCS (global mobile personal communication by satellite) license, with **Department of Telecommunications** as the licensor under **Section 4 of the Indian Telegraph Act of 1885**.
- GMPCS is a personal communication system providing transnational, regional or global coverage** from a constellation of satellites accessible with small and easily transportable terminals.



What is Satellite Internet Service?

- Satellite Internet Services is a **wireless internet connection** which uses satellites in space to get an internet signal from the Internet Service Provider (ISP) to users.
- It operates using two way satellites like **VSAT (Very Small Aperture Terminal)** or telecommunication satellites to liaison between ISPs and Users with satellite dishes.
- These can be the geostationary satellites or satellites in **Low Earth Orbit (LEO)**; in 500-2000 km by **Starlink (SpaceX), Kupier (Amazon) and OneWeb**.
- It is **different from satellite television** as Internet signals have to go **both ways** with a much **greater amount of bandwidth** to move all that data.
- Likely to be **commercially available in 2022**, it can play an important role in creating a **'Digital India'** through internet services to unconnected areas like **rural and hilly terrains**.

Benefits of Satellite Internet Services	Challenges in Satellite Internet Services
<ul style="list-style-type: none"> Cheap and easy internet option for rural areas, hilly terrains, and islands for Last Mile connectivity. Faster than Digital Subscriber Line (DSL) connection with continuously improving technology with present speeds reaching around 100 mbps. Can play a significant role in emergency or disaster recovery due to limited ground infrastructure. 	<ul style="list-style-type: none"> Low Speed and High Latency* in comparison to fiber optic cables, High Cost as compared to wireless cellular networks and others, Limitations of Bandwidth with high impact of weather aberrations, Potential to damage spacecrafts/satellites or interrupt higher satellites frequency because of its large satellite network need, Potential to increase space junk Not compatible for virtual private network (VPN) Services. <ul style="list-style-type: none"> A VPN gives online privacy and anonymity by creating a private network from a public internet connection.

*- Latency, also known as ping time, refers to how long it takes a single piece of information to make a round trip back and forth over a satellite connection.

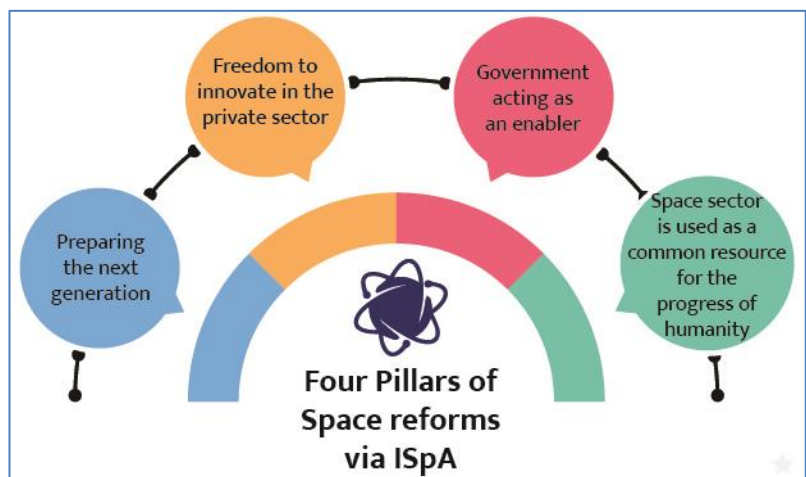
7.5. PRIVATE SECTOR PARTICIPATION IN SPACE

Why in news?

The Prime Minister recently **launched the Indian Space Association (ISpA)**, an industry body consisting of various stakeholders of the Indian space domain.

More about news

- ISpA will act as an **independent and a "single-window" agency** for enabling the opening up of the space sector to start-ups and the private sector.



- ISpA will also work towards **building global linkages** to bring in **critical technology and investments** into the country to create more high-skill jobs.

Status of India's Space industry

- **Driven by public sector** (Indian Space Research Organisation (ISRO)).
- **High economic potential:** projected to increase at a ~48% CAGR over the next five years to reach US\$ 50 billion (From present US\$ 7 billion).
- **Limited participation in satellite and ground based services**

The gamut of Space activities envisaged to be taken up by private sector

- **Production of components and subsystems of a launch vehicle**, launch vehicle **integration and testing** which is meant for space launch.
- **Production of components of a spacecraft**, spacecraft **Integration and testing** for the purpose of space launches.
- **Space launch of spacecraft** and establishment/ operation of **launch infrastructure**.
- Providing **space-based services** including operation, control and station keeping of spacecraft by establishing and operation of **ground segment/ stations**.
- Development of **space-based applications** using satellite data and rolling out of commercial services.

At present, the government **drives a certain level of participation** by the Indian private sector, **primarily in the rocket and satellite launch services** segment.

NEED FOR PRIVATE SECTOR PARTICIPATION

Growing Demand

- » ISRO alone can't cater to the **rising demand for space-based applications and services** (from sectors like agriculture, transport) within India.
- » **Increase India's share in global space market and to expand satellite-based services**

Enabling ISRO to fulfil its strategic objectives

- » If private companies take over ISRO's routine activities, ISRO will be able to focus **more on strategic programmes like R&D activities, exploration missions and human spaceflight programme**.

To secure our space capabilities

- » By distributing them across many different satellites and spacecraft, so that **business continuity is unaffected even if an adversary manages to disable one or more of our satellites**.

Geopolitical objectives

- » Availability and demonstration of **emerging technologies** have a great significance in **defining the modern-day geopolitics**.

New Space in India

- » It is a global phenomenon of entrepreneurs developing **products, and service enterprises** focusing on space, **using private funding**.
- » Basic ethos of the NewSpace has been to **challenge the traditional ways** of space exploration that are widely considered as **too expensive, time-consuming and lacking in room for inventive risk-taking**.

Other factors

- » **Attracting innovation and cutting-edge technology, enhanced competitiveness, creation of job opportunities, realising vision of Aatma nirbhar Bharat and reducing dependence on taxpayer's money.**

However, enhanced private sector participation will be necessary to **penetrate satellite-based services and ground-based system segments.**

Charting the road ahead

- **Regulatory clarity:** To ensure compliance with India's international obligations, ensuring safety, covering liabilities and to facilitate ISRO's partnership with industries and entrepreneurs.
 - Rekindling debate on **draft Space Activities Bill** could be a good start.
- **Independent regulator:** to govern ISRO and its affiliates as well as new private sector firms can help in instilling confidence among private players.
- **Incentives to private companies:** By opening up ISRO testing facilities to the private sector, Indian rocket-making companies to build their satellites or test their rockets.
- **IP-centric policy** to create reforms where local industry can invest in building their own IP and/or products that can **match global standards.**

Challenges Associated with Private Sector Participation

- Conflicts of interest as ISRO is both a regulator and an operator.
- Limited technological advancements as ISRO works on the traditional vendor-supplier model, most intellectual property (IP) is owned by the organisation.
- Absence of coherent policy to provide support and guidelines to technology manufacturing businesses.
- Multiplicity of approvals and procedural ambiguity.
- Lack of clarity on level of private involvement given that governments still consider some domains in space too crucial for national interest.

Concerns related to Private sector participation

- **Monopolistic trends:** Space technology is **expensive and needs heavy investment.** This kind of lucrative power is available only with **selected rich corporates**, thus can lead to **monopolisation of the sector.**
- **Social welfare may take a backseat:** The space program by ISRO always worked on applications like remote sensing, tracking of land use, resource mapping etc., **enhancing social welfare.** However, private companies will have **more profitable interests than developing solutions that cater to the immediate socio-economic needs** of the country.

Recent steps taken for private sector participation

- To enhance utilization and maximize benefits from the space assets, it has been proposed to change the approach from **“Supply Based Model” to “Demand Based Model”.**
- **IN-SPACe** was created to **encourage, promote and hand hold** the private sector for their participation in Space Sector. Private players will also be able to **use ISRO infrastructure** through INSPACE.
- **New Space India Limited (NSIL)** is the commercial arm of ISRO and primarily responsible for **enabling Indian industries to take up high-tech, space-related activities.** It is also responsible for **promotion and commercialisation** of products and services in the space industry.

7.6. LASER INTERFEROMETER GRAVITATIONAL-WAVE OBSERVATORY (LIGO) PROJECT

Why in News?

Hingoli revenue department (Maharashtra) has handed over land for Laser Interferometer Gravitational-Wave Observatory (LIGO) project **for setting up a laboratory** along with some other related infrastructure.

General Theory of Relativity

- It holds that what we perceive as the force of **gravity arises from the curvature or warping of space and time.**
- The more massive an object, the more it warps the space around it.

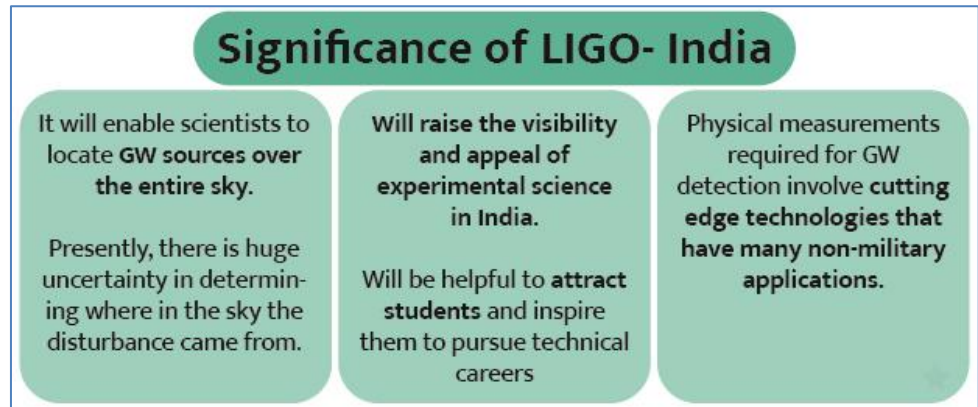
More on News

- In 2016, **central government had given approval to LIGO-India** (a Joint India-US detector) for research on gravitational waves.
- Technology being developed includes **design and fabrication of ultra stable laser, quantum measurement techniques,** handling of complex control system for enforcing precision control, large-scale ultra-high vacuum technology, **data analysis and machine learning.**
- Project will be funded by **Department of Atomic Energy (DAE) and Department of Science and Technology (DST).**

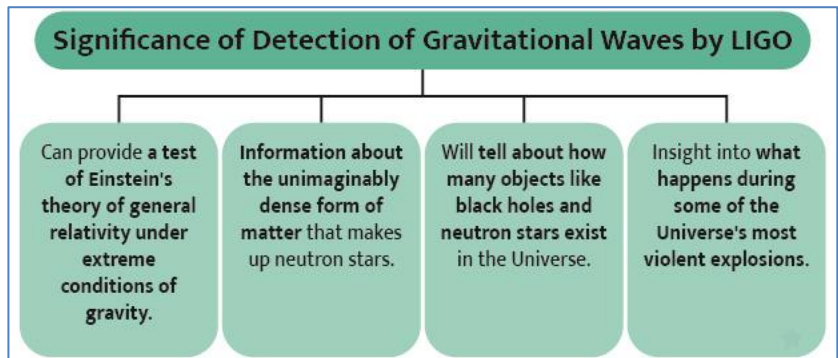
About LIGO

- It was **designed for direct detection of gravitational waves** predicted by Einstein's General Theory of Relativity.

- It is being operated at two sites in US (Washington and Louisiana).
 - Also, there are 3 LIGO's sisters' facilities: Virgo in Italy, GEO600 in Germany and KAGRA (Kamioka Gravitational-wave Detector) in Japan and LIGO-India.



- Data LIGO collects may have far-reaching effects on many areas of physics including gravitation, relativity, astrophysics, cosmology, particle physics, and nuclear physics.
- LIGO use laser interferometry to measure the minute ripples in space-time caused by passing gravitational waves from cataclysmic cosmic events such as colliding neutron stars or black holes, or by supernovae.



- It is different from other observatories as
 - LIGO is blind: Unlike optical or radio telescopes, LIGO does not see electromagnetic radiation (e.g., visible light, radio waves, microwaves) as gravitational waves are not part of the electromagnetic spectrum.
 - LIGO isn't round and can't point to specific locations in space: Since LIGO doesn't need to collect light from stars, it doesn't need to be round or dish-shaped.
- In 2017, Gravitational waves from a binary black hole merger were observed by LIGO.

About Gravitational Waves

- They are 'ripples' in space-time travelling at speed of light caused by some of most violent and energetic processes in Universe.
- They carry with them information about their cataclysmic origins, as well as invaluable clues to nature of gravity itself.
- Different types of gravitational waves are
 - Continuous gravitational waves: thought to be produced by a single spinning massive object like a neutron star.
 - Compact binary inspiral gravitational waves: produced by orbiting pairs of massive and dense ("compact") objects like white dwarf stars, black holes, and neutron stars.
 - Stochastic Gravitational Waves: are smallest and most difficult gravitational waves to detect and are passing by from all over the Universe all the time and are mixed together at random.

Gravitational Waves are created when

- A star explodes asymmetrically (called a supernova)
- Two big stars orbit each other
- Objects move at very high speeds
- Two black holes orbit each other and merge

7.7. ELECTRIC VEHICLES IN INDIA

About Electric Vehicles (EVs)

- » An EV is one that operates on an electric motor, instead of an internal-combustion engine.
- » EVs use a battery pack to store the electrical energy that powers the motor.
- » While some EVs used lead acid or nickel metal hydride batteries, **standard for modern EV is now considered to be lithium-ion batteries.**
- » **EV market is estimated to be a Rs 50,000 crore (US\$ 7.09 billion) opportunity in India by 2025.**
- » **Two- and three-wheelers will lead the electrification movement in India in the medium term.**



Need/Opportunities for EV push

- » **To minimise GHG emissions** (Transport sector in India is the second largest source of CO2 emissions)
- » **To reduce crude oil import bill** (Transportation sector accounts for one-third of the total crude oil consumed in the country).
- » **To meet Paris agreement goals** (Green mobility required to meet INDCs).
- » **Rising motorization rates** (national target of achieving 30% EV sales penetration by 2030).
- » **Economic opportunities** (New EV related startups and also interest from conventional vehicle manufacturers).



Challenges and gaps existing in the EV ecosystem

Policymakers and Regulators	EV component and Battery Original equipment manufacturer (OEM)	Consumers	Others
<ul style="list-style-type: none"> » No mandate for EV adoption in FAME/ State policies » Regulatory uncertainty in charging infrastructure 	<ul style="list-style-type: none"> » Limited suppliers » Lack of focus on skill development » Availability of limited financing options 	<ul style="list-style-type: none"> » Lack of awareness » High charging time » Limited availability of charging infrastructure » Limited financing options 	<ul style="list-style-type: none"> » No mandate for DISCOMs to develop charging infrastructure. » No mandate for financial institutions to provide funding for EVs



ELECTRIC VEHICLES AT-A-GLANCE

Steps needed for uptake of EV mobility in India

- » Phased Manufacturing Program, Aatma Nirbhar Bharat to strengthen the battery manufacturing.
- » Active participation of DISCOMs in planning for EV charging infrastructure.
- » Need policy guidance on standardization of battery for Evs.
- » Dedicated tariffs and incentives for EV to encourage adoption.
- » Creation of non-financial incentives such as priority lanes, reserved parking for better response from consumers.



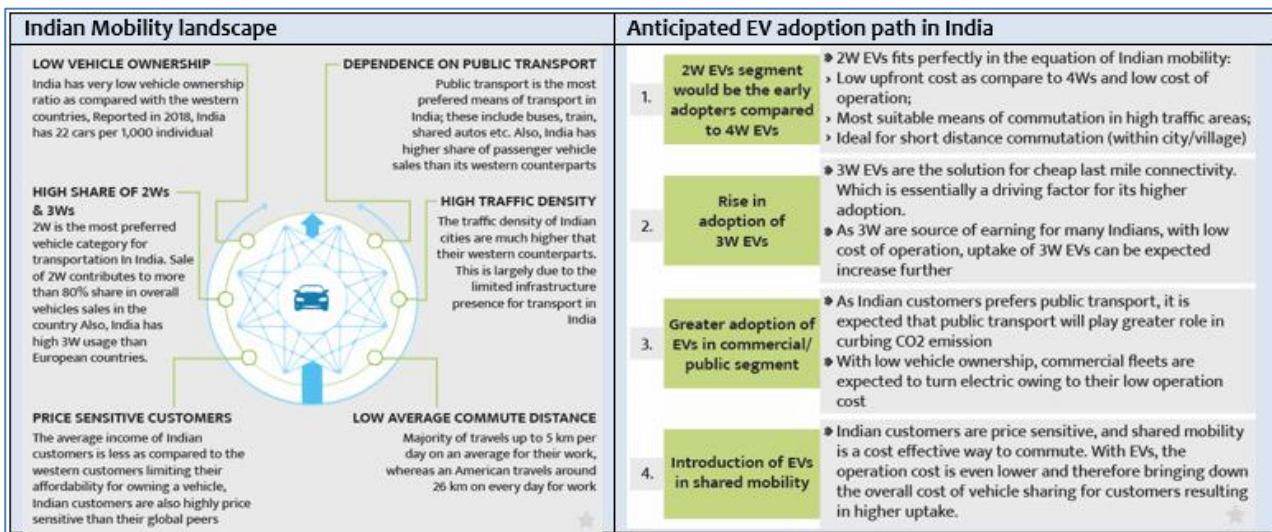
Initiatives taken

- » India launched **E-Amrit portal** (at COP26 Summit) as a one-stop destination for all information on Evs.
- » **National Electric Mobility Mission Plan (NEMMP) 2020**
- » **FAME/ FAME II Scheme**
- » **States announcing EV policies** for promoting manufacturing and increasing demand.
- » Ministry of Power **guidelines on EV charging infrastructure.**
- » **ISRO has commercialized** indigenously developed **lithium ion battery technology.**

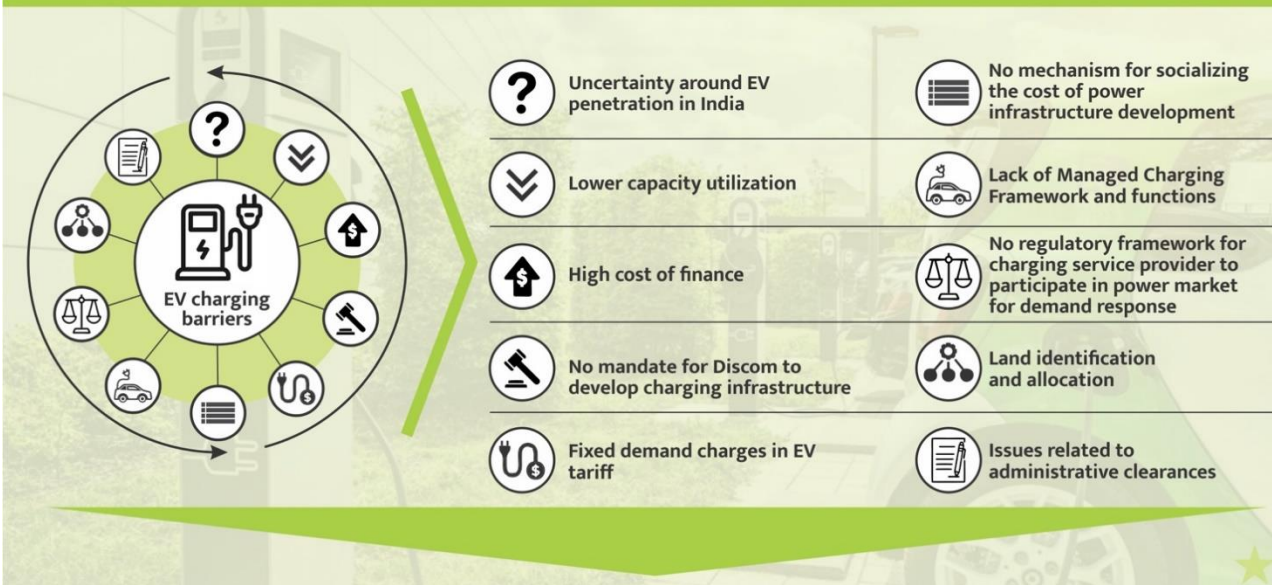


Why in News?

In recent years, India has taken many initiatives to accelerate adoption of electric mobility in the country.



Key barriers in EV charging infrastructure



Way forward for uptake of electric mobility in India

- **Phased Manufacturing Program, Aatma Nirbhar Bharat**, and incentives announced by several states in their EV policy should be leveraged to **strengthen the battery manufacturing** in medium to long run.
- **Discoms need to actively participate in planning for EV charging infrastructure** because of their inherited capability of existing infrastructure, existing consumer base and superior technical skills.
- **Need policy guidance on standardization of battery for EVs**, and strategies to address huge upfront capital requirement for a massive uptake of battery swapping business model.
 - Battery constitutes approximately 25 - 40% of the vehicle cost.
- Financial Institutions should be encouraged to extend their lending facility to electric mobility sector.
- Global experience suggests that **having dedicated tariffs and incentives for EV encourages adoption**. However, a large number of states in India are yet to introduce EV specific tariffs for public and home charging.
- **Develop frameworks for public private partnerships / franchisee agreements** for developing EVSE (Electric Vehicle Supply Equipment).

Related information

Lithium-ion batteries

- Battery plays a vital role in overall development of electric vehicle industry. In the last decade Lithium-ion batteries have emerged as a perfect combination for electric vehicles.
 - These batteries offer higher number of cycle life as compared to traditional lead-acid batteries.
 - Also, **High energy density allows lithium-ion batteries to store more energy** in less weight / volume.
- Along with lithium-ion batteries, there have been advancements in other battery technologies such as metalair, solid-state, lithium-sulfur batteries etc., however, these are still under research.
- Currently, **India is heavily dependent on import of lithium cells** and China, Hong Kong and Vietnam are the top three nations exporting batteries to India.
- **Steps taken by India**
 - **India recently inked a pact with an Argentina** (also exploring options in **Chile and Bolivia**) to jointly prospect lithium.
 - ✓ **Argentina, Bolivia and Chile are part of South America's Lithium Triangle nations.** Region hosts about 54% of the world's lithium resources.
- India's first Lithium refinery will be set up in Gujarat to produce battery-grade material.



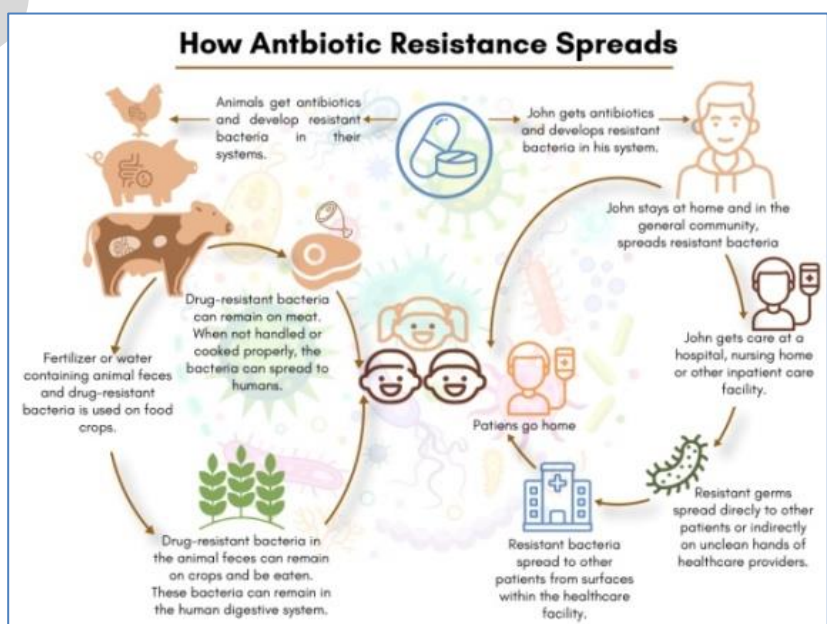
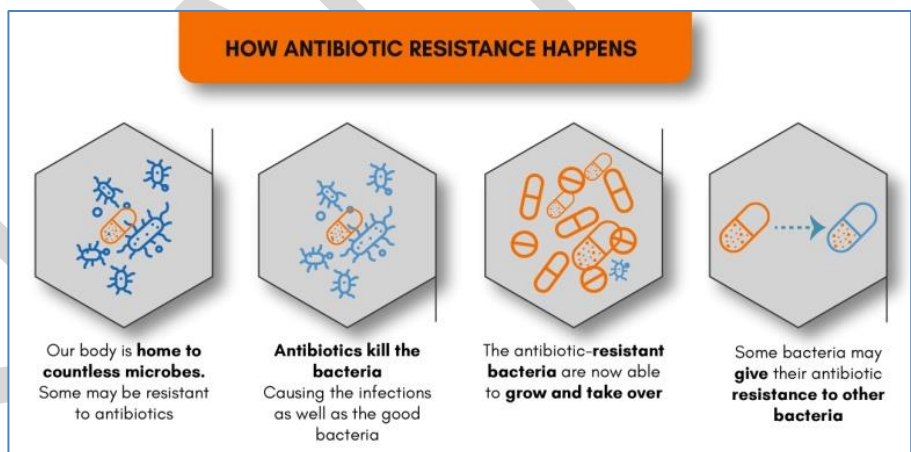
7.8. ANTIMICROBIAL RESISTANCE

Why in news?

Recently, a study published in the Lancet Planetary Health by the Global Research on Antimicrobial Resistance (GRAM) Project showed that Global antibiotic consumption rates increased by 46% in the last two decades.

About Antimicrobial Resistance (AMR)

- It is the ability of a microorganism (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it.
- WHO has declared that AMR is one of the top 10 global public health threats facing humanity.



Threats from AMR



Health:

Antimicrobial resistance is a **man-made planetary health problem** due to misuse, abuse and overuse of antibiotics. It manifests by **making illnesses last longer, prolonging hospital stays, increasing mortality, and adverse outcomes for patients** undergoing joint replacement, cancer care or even simple surgeries.



Environment:

Antibiotics containing discharge from hospitals, pharma manufacturing plants, poultry and cattle farms and even our homes, causes **irreparable damage** to the environment.



Social:

It pushes more people into **extreme poverty, endangers global health security and jeopardize progress towards the Sustainable Development Goals**. Low- and middle-income countries with a higher rate of resistance (40-60%) will bear a greater part of this burden.

Government Initiatives to curb AMR

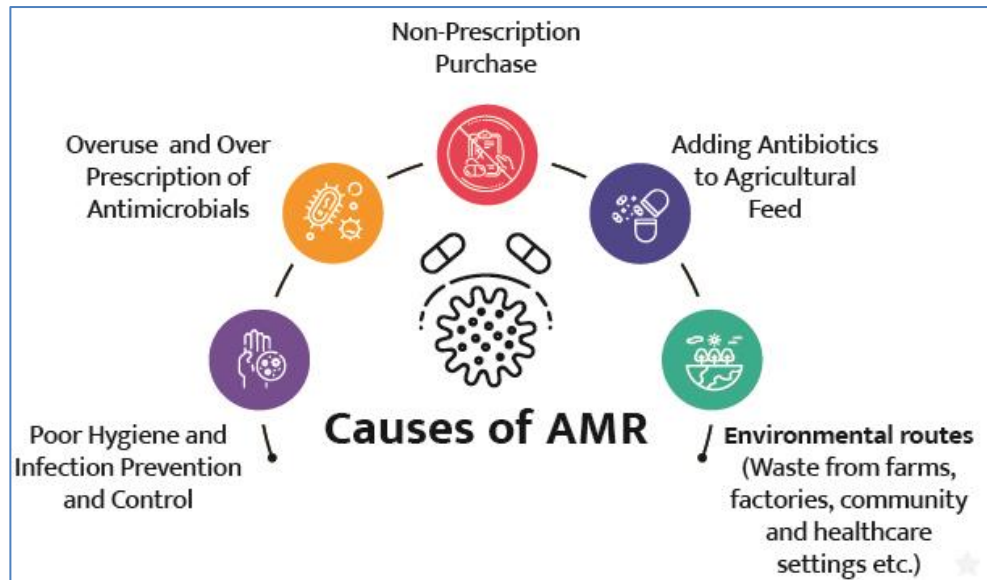
- ▶ **National programme on AMR containment** (launched during 12th FYP) for strengthening AMR Surveillance Network.
- ▶ **National Action Plan on Antimicrobial Resistance (NAP-AMR)** to establish and strengthen governance mechanisms, to change prescription practices and consumer behaviour etc.
- ▶ **Red Line campaign** to discourage the over-the-counter sale of antibiotics.
- ▶ **AMR Research & International Collaboration by ICMR.**
- ▶ **FSSAI guidelines limiting the antibiotics in food products** such as fish and honey.
- ▶ **National Health Policy, 2017** prioritizes the development of guidelines regarding antibiotic use and check on restricting the growth of antibiotics.

Global Efforts

- ▶ **Global Action Plan (GAP) 2015.**
- ▶ **WHO launched the Global Antimicrobial Resistance and Use Surveillance System (GLASS)** in 2015.
- ▶ **WHO is working with FAO and World Organisation for Animal Health (OIE)** in a 'One Health' approach to promote best practices to reduce the levels of AMR and slow its development.
- ▶ Also, an international 'Go Blue for AMR' colour campaign has been launched this year by the AMR tripartite organisations (WHO, FAO and OIE).
- ▶ **Global Antibiotic Research and Development Partnership (GARDP).**

Way forward

- **Preventing Infections** through immunization, safe food preparation, handwashing etc.
- **Active participation of healthcare professionals** in recommending antibiotics practices and doses.
- **Developing new drugs and diagnostics tests.**



7.9. NOBEL PRIZES

Why in news?

The Nobel Assembly and the Royal Swedish Academy of Science have **announced the winners** of Medicine, Physics and Chemistry Nobel for the year 2021.

About Nobel Prize

- The Nobel Prize is an **international award** administered by the Nobel Foundation in **Stockholm, Sweden**, awarded to people "who have conferred the **greatest benefit to humankind**" in the previous 12 months.
- **Categories:** Instituted in 1901, Prizes were initially awarded in five categories: **Physics, Chemistry, Physiology or Medicine, Literature and Peace**. A sixth award, the **Nobel Prize in Economic Sciences** was instituted in 1968 by the Royal Bank of Sweden and was first awarded in 1969.

7.9.1. THE NOBEL PRIZE IN PHYSICS 2021

Prize awarded for contributions to understanding of **complex physical systems**.

Awardees

- One half of the prize was awarded to **Syukuro Manabe and Klaus Hasselmann** for their work in the **physical modeling of Earth's climate**, quantifying variability and reliably predicting global warming.
- Second half was awarded to **Giorgio Parisi** for the **discovery of the interplay of disorder and fluctuations in physical systems** from atomic to planetary scales.

INDIAN NOBEL PRIZE WINNERS*



RABINDRANATH TAGORE

Nobel Prize for Literature (1913)

For - Profoundly sensitive, fresh and beautiful verse, by which with consummate skill, he has made his poetic journey

C V RAMAN

Nobel Prize for Physics (1930)

For - Work on scattering of light and discovery of Raman Effect



HAR GOBIND KHORANA

Nobel Prize in Physiology or Medicine (1968)

For - Interpretation of genetic code and function in protein synthesis

MOTHER TERESA

Nobel Peace Prize (1979)

For - Work in bringing help to suffering humanity



SUBRAMANYAN CHANDRASEKHAR

Nobel Prize for Physics (1983)

For - Studies of Physical processes of importance to structure and evolution of stars

AMARTYA SEN

Nobel Memorial Prize in Economic Sciences (1998)

For - Work Contributions to welfare economics



VENKATRAMAN RAMANKRISHNAN

Nobel Prize in Chemistry (2009)

For - Studies of structure and function of ribosome



KAILASH SATYARTHI

Nobel Peace Prize (2014)

For - Struggle against the suppression of children and young people and for the right of all children to education



ABHIJIT BANERJEE

Nobel Prize in Economic Sciences (2019)

For - Experimental approach to alleviating global poverty
* Five of them are Indian citizens and four are of Indian origin.

About complex physical systems and the work of Nobel laureates

- **Complex systems** are characterised by **randomness and disorder** and are difficult to understand. They can be difficult to **describe mathematically** – they may have an enormous number of components or be governed by chance. The Prize recognises **new methods** for describing them and predicting their **long-term behaviour**. The **Earth's climate** is one of many examples of complex systems.
- **Syukuro Manabe** demonstrated how **increased levels of carbon dioxide** in the atmosphere lead to **increased temperatures** at the surface of the Earth.
- **Giorgio Parisi** discovered **hidden patterns** in disordered complex materials with his **spin glass experiments (refer infographic)**. With this, he discovered hidden structures within the systems and represented them mathematically.

IMPLICATIONS OF THE WORK

Climate Change Models

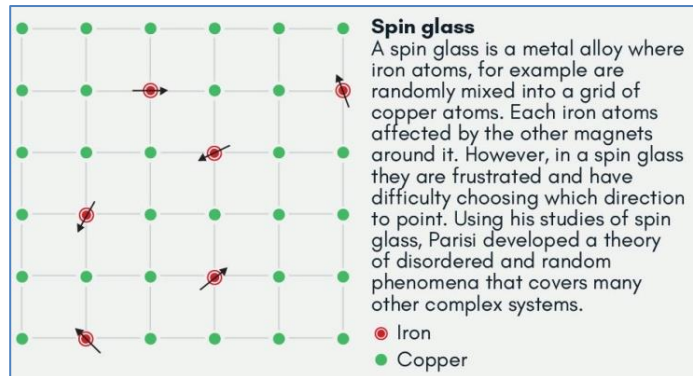
In the 1960s, the development of physical models of the Earth's climate laid the foundation for the development of current climate models.

Mathematical Representation of Random Phenomenon

Helping in understanding random materials and phenomena, in physics and in other areas, like mathematics, biology, neuroscience and machine learning.

Complex Systems Theory

Has been used in many disordered systems and become a cornerstone of the theory of complex systems



7.9.2. NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE

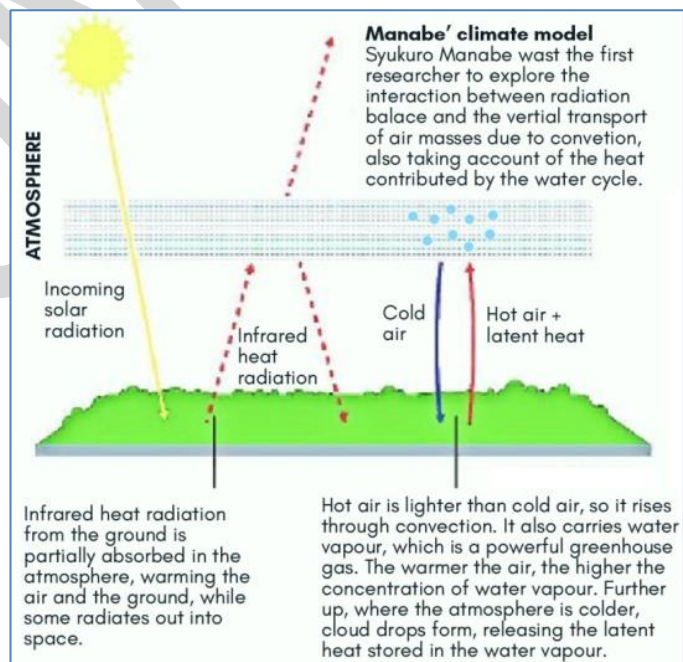
Prize awarded for discoveries of receptors for temperature and touch.

Awardees

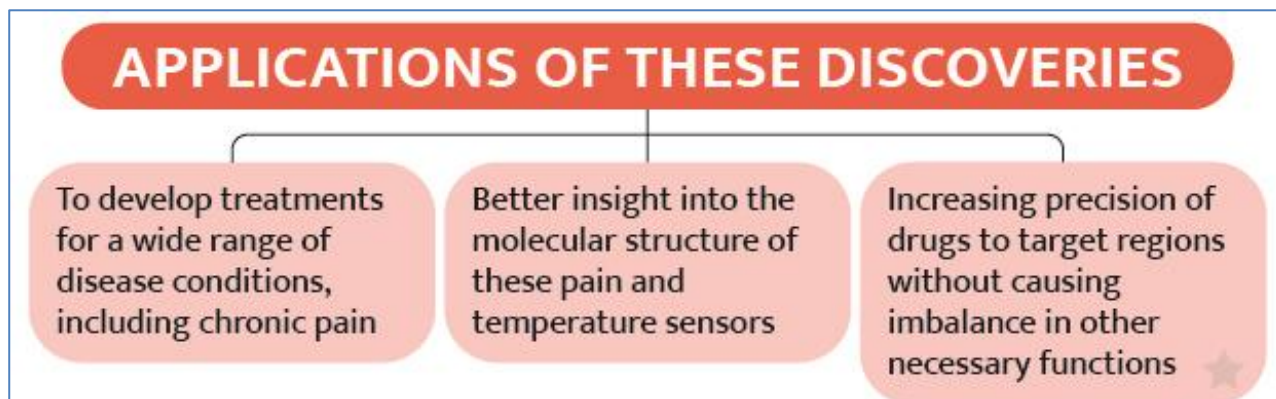
The 2021 Nobel Prize in Physiology or Medicine was jointly awarded to **David Julius** and **Ardem Patapoutian**.

About the receptors and work of Nobel laureates

- In the human body, all the molecules are **not sensitive to heat or mechanical pressure**. Only very specific are, and it is their job to **relay this signal to the nervous system**, which then triggers an appropriate response.
- David Julius utilized **capsaicin, a pungent compound from chili peppers** that induces a burning sensation, to identify a **sensor in the nerve endings** of the skin that responds to heat.
- He and his team looked for a **gene that could induce a response** to capsaicin in cells that usually wouldn't react to it. They found one in a **novel ion channel protein, later called TRPV₁**, where TRP stands for **transient receptor potential**, and VR₁ is **vanilloid receptor**.
 - They were part of a **super family of TRP**, and it was found that TRPV₁ was activated when **temperatures were greater than 40 degrees Celsius**, which is close to the body's pain threshold.
- Ardem Patapoutian used **pressure-sensitive cells** to discover a **novel class** of sensors that respond to **mechanical stimuli in the skin and internal organs**.
- Patapoutian and his colleagues identified **72 potential genes** that could encode an ion channel receptor and **trigger sensitivity** to mechanical force, and it emerged that one of them coded for a **novel ion channel protein, called Piezo₁**.



- Via Piezo1, a **second gene** was discovered and named **Piezo2**. Sensory neurons were found to express **high levels of Piezo2** and further studies firmly established that Piezo1 and Piezo2 are ion channels that are directly activated by the **exertion of pressure on cell membranes**.
- Later it was demonstrated that the Piezo2 ion channel is essential for the **sense of touch**. Moreover, Piezo2 was shown to play a key role in **proprioception as well as regulate blood pressure, respiration, and urinary bladder control**.
- **Both David Julius and Ardem Patapoutian also identified another new receptor called TRPM8**, a receptor that is activated by cold.



7.9.3. NOBEL PRIZE IN CHEMISTRY

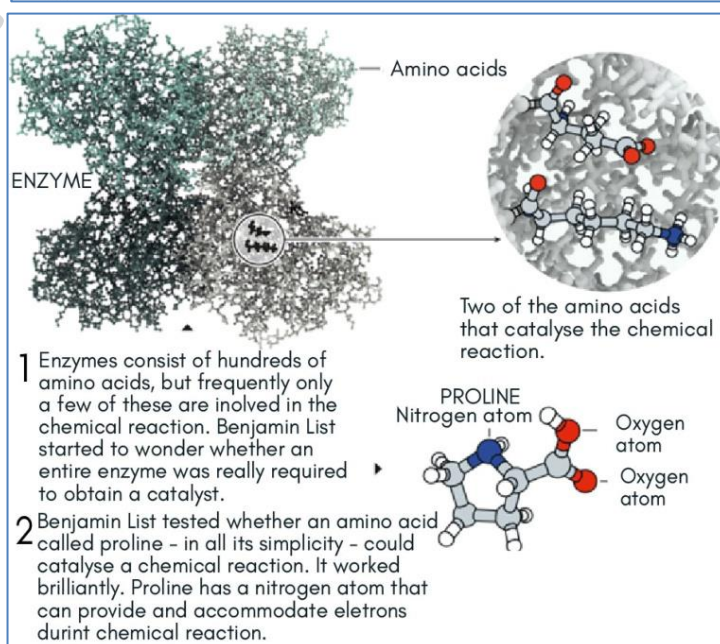
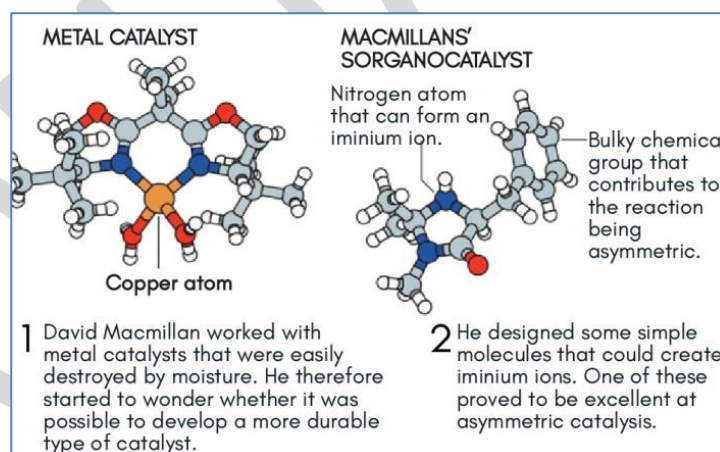
Prize awarded for development of a precise new tool for molecular construction: organocatalysis.

Awardees

The Nobel Prize in Chemistry 2021 was awarded to **Benjamin List and David MacMillan**.

About Catalysts, catalysis and organocatalysis and the work of Nobel laureates

- Catalysts are substances that **control and accelerate chemical reactions**, without becoming part of the final product.
 - For example, catalysts in catalytic converters of cars **transform toxic substances** in exhaust fumes to **harmless molecules**.
- Researchers long believed that there were, in principle, **just two types of catalysts available: metals**, mainly heavier metals; and **enzymes**, naturally occurring heavy molecules that facilitate all life-supporting biochemical processes.
- Both these **had limitations**:
 - Heavier metals are **expensive and toxic** to humans and the environment. Also, metals required an environment **free of water and oxygen**, which was difficult to ensure on an industrial scale.
 - Enzymes on the other hand, **work best when water is used** as a medium for the chemical reaction. But that is **not an environment suitable for all kinds of chemical reactions**.



- Benjamin List and David MacMillan, independent of each other, developed a **third type of catalysis**. It is called **asymmetric organo-catalysis** and builds upon small organic molecules.

Significance of these discoveries

SIGNIFICANCE OF THESE DISCOVERIES

Eco-Friendly

- Organic catalysts have a **stable framework** of carbon atoms and often contain **common elements** such as oxygen, nitrogen, sulphur or phosphorus.
- Thus these catalysts are both **environmentally friendly and cheap to produce**.

Efficient

- Organic catalysts can be **used to drive multitudes of chemical reactions**.
- Using these reactions, researchers can now **more efficiently construct anything** from **new pharmaceuticals to molecules that can capture light in solar cells**.

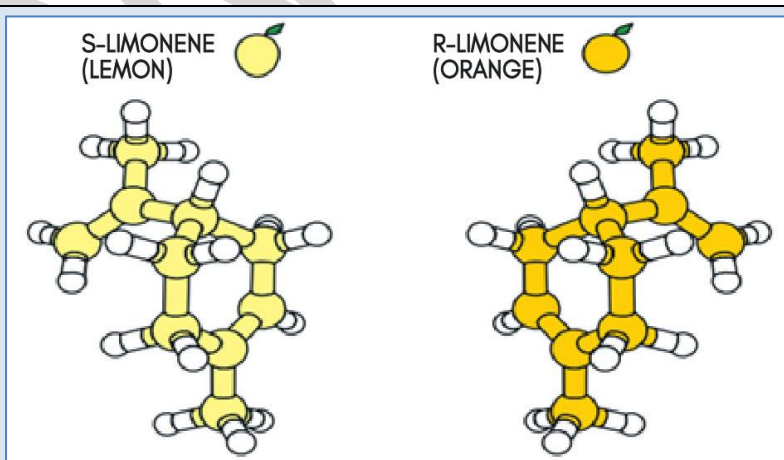
Economic benefits

- Catalysts help in **production of varied products** like pharmaceuticals, plastics, perfumes and food flavourings.
- It is estimated that **35% of the world's total GDP** in some way involves **chemical catalysis**.

Asymmetric Catalysis

During chemical construction a situation often arises in which two molecules can form, which – just like our hands – are **each other's mirror image**. Chemists often **just want one of these mirror images**, particularly when producing pharmaceuticals, but it has been difficult to **find efficient methods** for doing this.

- List and MacMillan discovered that by using a natural compound like an amino acid as a catalyst, they were obtaining **only one specific mirror image** of the end-product. This was later named **asymmetric catalysis**.
- They experimented with **simple organic compounds**. Organic compounds are **mostly naturally-occurring substances**, built around a framework of carbon atoms and usually containing hydrogen, oxygen, nitrogen, sulphur, or phosphorus.
 - Life-supporting chemicals like **proteins**, which are **long chains of amino acids** (carbon compounds containing nitrogen and oxygen) are organic.



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10 IN TOP 10 SELECTIONS IN CSE 2020

from various programs of *Vision IAS*

1
AIR



SHUBHAM KUMAR
(GS FOUNDATION BATCH
CLASSROOM STUDENT)

2
AIR



JAGRATI AWASTHI
(ALL INDIA
TEST SERIES)

3
AIR



ANKITA JAIN
(ALL INDIA
TEST SERIES)

4
AIR



**YASH
JALUKA**
(ABHYAAS
TEST SERIES)

5
AIR



**MAMTA
YADAV**
(ALL INDIA
TEST SERIES)

6
AIR



**MEERA
K**
(ALL INDIA
TEST SERIES)

7
AIR



**PRAVEEN
KUMAR**
(ALL INDIA TEST SERIES)
ESSAY TEST, ABHYAAS , PDP)

8
AIR



**JIVANI KARTIK
NAGJIBHAI**
(GS FOUNDATION BATCH
CLASSROOM STUDENT)

9
AIR



**APALA
MISHRA**
(ABHYAAS
TEST SERIES)

10
AIR



**SATYAM
GANDHI**
(ALL INDIA TEST
SERIES , ESSAY TEST)



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