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# ABHYAAS

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## NOTE:

Dear Students,

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



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



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



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



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

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# 1. POLITY AND GOVERNANCE

## 1.1. 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

- Union Government was responding to a suit filed by the West Bengal Government against the Union of India **under Article 131 of the Constitution.**
  - 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.
- The State has challenged the CBI’s jurisdiction to register FIRs and conduct investigations in the State in numerous cases.
  - West Bengal said it had **withdrawn “general consent” to the CBI** in 2018 and CBI’s actions were a direct attack on the federal structure of governance.
- **Eight states have currently withdrawn consent to the CBI** like Maharashtra, Punjab, Rajasthan, etc.
- This recent clash arises the question on Cooperative Federalism in India and there is need to ensure **smooth functioning of federal system in India.**
- Apart from CBI issue there are many other clashes between Centre & State like implementation of Centre-run schemes, implementation of GST and the **actions taken by central agencies like the Enforcement Directorate and Narcotics Control Bureau** etc.



### About CBI

#### FEATURES

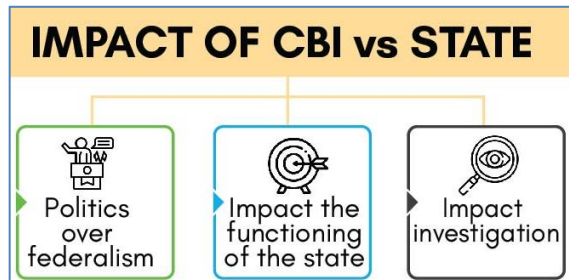
- ✳ It is the **main investigation agency of the central government** for cases relating to corruption and major criminal probes.
- ✳ It is **not a statutory body.**

#### 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.**
- ✳ 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.



### What are the aspects of federalism are affected with respect to CBI vs States tussle?

- **Police:** Under 7<sup>th</sup> Schedule, List II made 'Police' a **state subject conferring exclusive domain** to the state to make laws regarding the same. However, the Delhi Special Police Establishment Act 1946 which establishes the CBI continues to function as a central agency carrying out its functions as 'Police'.
  - **Sections 5 and 6 of the DSPE Act deal with the extension of powers and jurisdiction** of special police establishment to other areas and 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.

### 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 requires in multijurisdictional crimes, yet its concurrence with the local police force and pre-emptions cause re-current federal issues.
- **Power tilted to Centre:** At the same time, it would become injurious to the interests of the country to provide for a weak central authority which 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.
  - **Ex:** under Article 131 by the Chhattisgarh government against the Centre challenging the National Investigation Act, 2008 passed by the Centre in spite of police being a state subject.
- **No body to foster coordination, manage bargaining & conflict resolution:** 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.
  - Presently there is no independent institution to resolve Centre-state and inter-state issues.
- **Centralization of power creating friction:** Trust deficit between Centre and States is widening. Centre's divisible pool of taxes has shrunk due to a rise in the share of surcharge and cesses, which can be used only for purposes specified and are not devolved to States.
- **Different political parties:** When different political parties form governments at the Centre and State, often their interests don't align. Hence, it becomes vital to adequately utilise the constitutional and statutory institutions set up to resolve such conflicts and further the welfare of the people, which is the ultimate goal of governance.

### Way forward

- **Transparency and coordination among Centre and states:** There is need to be transparent about the current macro-economic scenario through an honest appraisal that revisits revenue projections and offers a set of strategic pathways for consultation with states through a special session between the Union Ministers and state ministers.
- **Suggestions from Centre states relations committee: Sarkaria Commission and Punchhi Commission** on centre-state relations gave several recommendations to cultivate cooperative federalism and suggested actionable steps. Certain constitutional amendments can better federalism and its actualisation. To list a few:
  - the **office of the Governor should be apolitical**, and the terms of his removal should be altered;
  - extending **the mandate of the Inter-State Council** beyond advice and recommendations;
  - laying down guidelines to prevent misuse of the **President's veto of the legislation**;
  - it's only fair to **include states** when the Centre enters into any international agreements.
- **Giving Fiscal space:** Gradual widening of the fiscal capacity of the states has to be legally guaranteed without reducing the Centre's share.
- **Electoral reforms:** Adequate 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.

## 1.2. PUBLIC PROCUREMENT AND PROJECT MANAGEMENT

### Why in News?

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

### Public Procurement and Project Management Framework in India

- **Public Procurement and Project Management** 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.

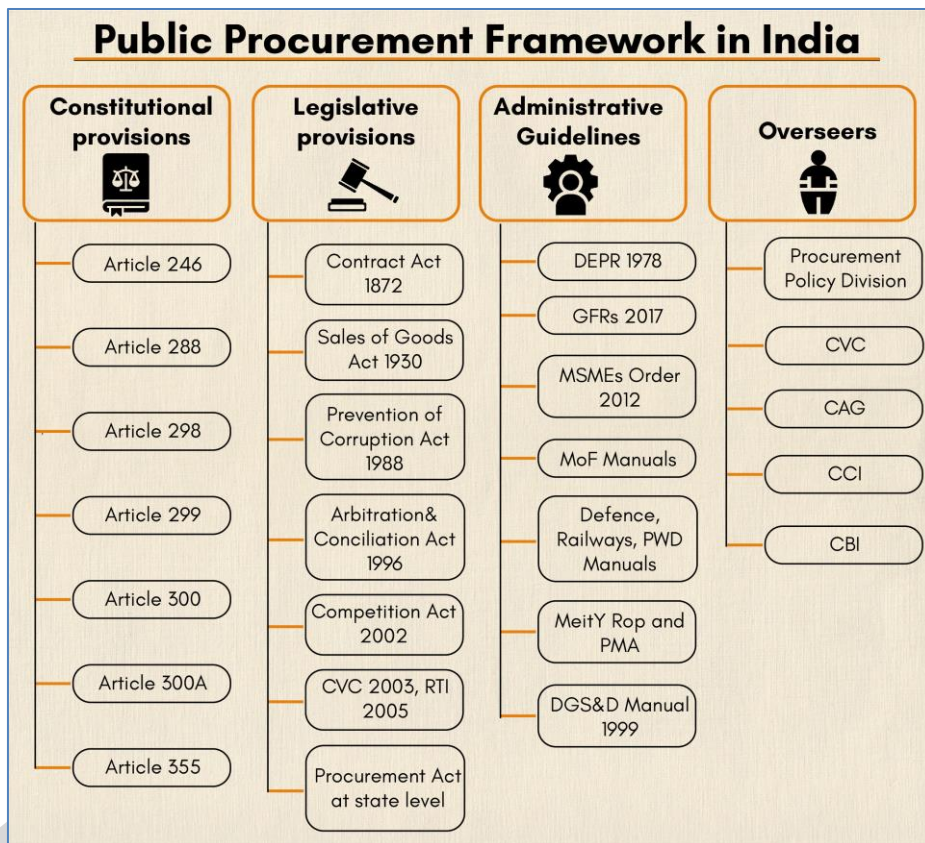
### Why was a need felt to tweak the framework?

- **Absence of a comprehensive law:** With large sums of taxpayers or country resources spent on them, **competitive, transparent, and efficient** public procurement and project management is vital for ensuring **prudent use of public finance** and **good governance**. But despite such large sums of money and vital role, India **lacks a comprehensive law** on activities like Public Procurement.
- **Complex regulatory framework:** **Three-tiers of governance with diverse ministries and objectives**, large number of **statutory bodies, autonomous institutions, PSUs** etc. with different needs.
- **Growing share of public procurement:** Competition Commission of India estimates public procurement in India to be 30% of the GDP (in 2013).
- **Adherence to Least Cost Selection (or 'L1') method:** While this method may hold good for procurement of routine works, goods and non-consulting services; but in high impact and technologically complex procurements it 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**.

In this context, the new guidelines work on **aligning all stakeholders' interests** for successful project execution within **specified time, cost, and quality** for **faster, efficient and transparent** project execution and **empowerment of executing agencies** for **quicker and efficient decision-making** in public interest.

### Key Provisions under latest Guidelines

Prepared **after consultation with stakeholders**, the new guidelines are released as '**general instructions**' under the **General Financial Rules (GFR), 2017** with main guidelines as:



- **Procedural Clarity** via. 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; **Defining the role of Project Management Consultant (PMC)** clearly in the contracts etc.
- **Digital Thrust** through **Open Online Tendering** as default; Implementation of **Electronic-Measurement books (e-MBs)** and its integration with IT-enabled project monitoring system for recording progress of works etc.
- **Better Project Execution and Quality** via. **Detailed Project Reports and Feasibility Study/Ground Survey** before undertaking a project; Inclusion of **Quality Assurance Plan** in tender documents; Permitting **alternative contractor selection** methods like **Quality cum Cost Based Selection (QCBS)** as an alternative to traditional L1 system; **Stage-wise progress** and **quality review** of large contracts; 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.
- **Introduction of incentives** by allowing public authorities to devise strategies for giving incentives to stakeholders including bonus, better rating etc.
- **Allowing Fixed Budget-based Selection (FBS)** for consultancy service and **Consultant substitution** only in compelling or unavoidable circumstances.

#### What are the challenges that remain in Public Procurement and Project Management?

- **Inefficient use of resources:** Timely completion of public projects within the estimated cost and with desired quality is a distant dream due to frequent cost overrun, project delays and wastage of resources.
- **Presence of Unfair practices and Corruption:** Despite more regulations added over time, the **transparency and accountability** has remained poor. This has led to **unfair practices** and **corruption** to limit the competitions at various levels. E.g.
  - **Institutional requirements** on prior vendor registration (limiting suppliers), social obligations on procurement from Micro and Small Enterprises (MSEs) and Technical guidelines or qualifications;
  - **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 and hazards have increased. It leads to irregularities with lack of decision-making in order to avoid future questioning.
- **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:

- **Back the General Financial Rules** through **legislative power** for a transparent, accountable, and competitive procurement regime. For example, giving penalty for poor project deliveries legal backing.
- **Simplify existing procedures** to provide flexibility on use of discretion while maintaining enough transparency and active supervision.
  - This can be done by **bringing the policy planners, public procurement officials and other stakeholders together to work in tandem.**
- **Identify alternative procurement mechanisms** based on emerging trends along with regularly used methods for flexibility and better public service delivery. E.g.
  - **Promotion of E-procurement methods** such as **Central Public Procurement Portal** and **Government e-Marketing (GeM)** portal.

#### 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**.



- Incorporating **Performance Rating in Competitive Bidding** to provide a quality premium to superior bidder rather than simply awarding the contract to L1 bidder,
- **Introduction of a Debriefing Procedure** to let unsuccessful bidders know why they were not successful as part of 'Right to Know'.
- **Incorporate Integrity Pacts** where possible and appoint more Independent External Monitors (first approved by CVC in 2016 for 132 procuring entities).
- **Close coordination** between CCI and Governments/ Departments/ PSUs to detect and deter unfair practices. Revamp and strictly enforce blacklisting rules for corrupt firms.
- **Periodic awareness and training** of procurement officials in all aspects of public procurement for capacity building at various governance levels.

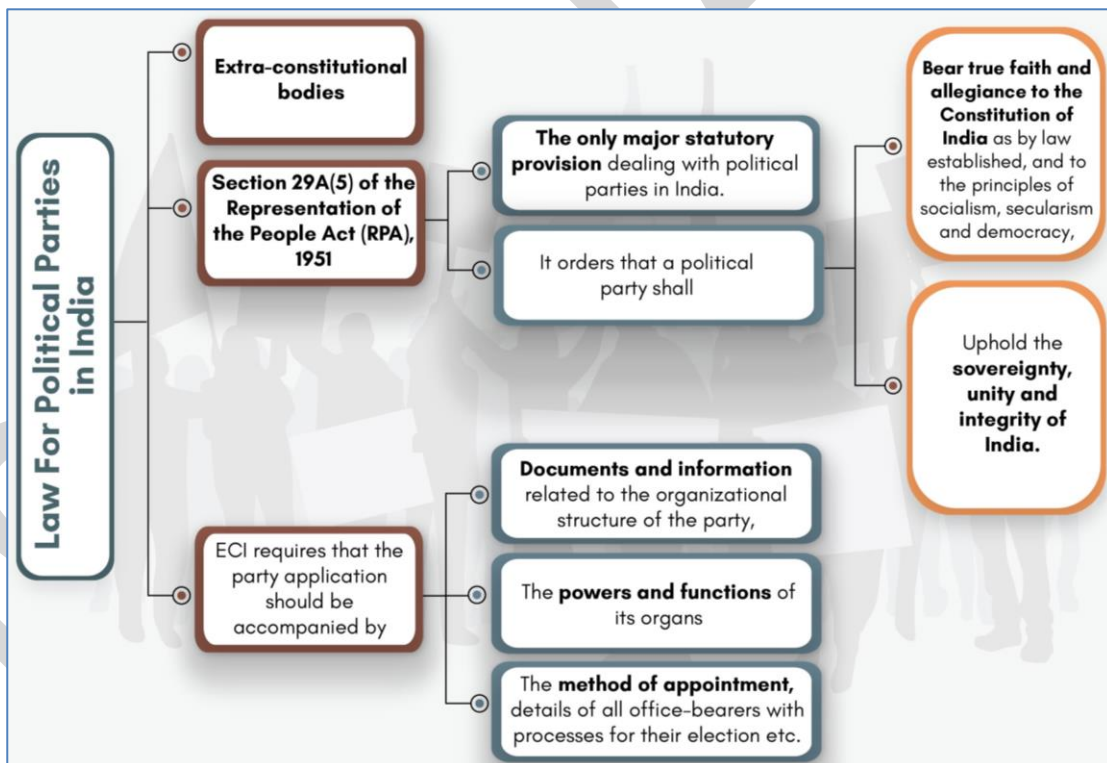
### 1.3. INTERNAL PARTY DEMOCRACY

#### 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.

#### Why Internal Party democracy becomes significant in Indian democratic system?

India is one of the **most vibrant and robust multi-party democracies** in the world which has sustained despite all challenges for over seven decades now. However, it needs Internal Party democracy to succeed and sustain its democracy.

- **Political parties as a link:** They are **indispensable links between the people and the representative machinery** of government.
  - They maintain a **continuous connection between the people** and those who represent them either in government or in the opposition. Any issues within political parties may harm the interests of the people itself.

- **Democratic accountability of a political party:** Political parties are the agents of democracy and safety valves in the political system. They have extra-legal growth in almost every democratic country.
- **Impacts the constitutional right of all citizens:** The procedure for determining the leadership and composition of the parties are not completely open and inclusive.
  - This adversely impacts the constitutional right of all citizens to equal political opportunity to participate in politics and contest elections.
- **Elitism leading to faulty distribution of tickets:** Centralised and ambiguous working of the parties has led to distribution of party ticket to certain sections of the population and excluding the rest of the society.
  - Party members with adequate social and financial resources are given primacy while distributing tickets for contesting elections.
- **Reduce 'criminalisation of politics':** A large number of 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.
- **Lack of transparency and accountability in the inner functioning of the political parties:** This has serious consequences for the steady functioning of parliamentary democracy in the country.
- **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.

### Challenges in setting up in Party Democracy

- **Inadequate power with Election Commission:** Election Commission of India (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.
  - This **makes the regulation of the conduct and functioning of the political parties extremely difficult**, reducing the chances of democratic working of parties in the country.
- **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

- **Giving a constitutional status:** Political parties in developed nations maintain high levels of internal democracy. Ex: **Germany** gives constitutional status to political parties. As per its law, their internal organisation **must conform to democratic principles**.
  - Such a **practice can also be brought to India** to make them accountable as well conform to democratic principles.
- **Responsible body within Political parties:** Political parties in developed nations maintain high levels of internal democracy.
  - Ex: 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**.
- **Disclose their funding:** They must publicly account for their assets and for the sources and use of their funds.
- **Rethink anti-defection law:** Instead of looking at internal party processes, one way to decentralise power is by getting rid of the anti-defection law. The need to canvass votes in the legislature will create room for negotiation in the party organisation too.

- **Implement suggestions from committees etc:**

- Several government constituted committees like the **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.
- **A draft Political Parties (Registration and Regulation of Affairs) Act, 2011** was submitted to the Union Law Ministry.
  - ✓ Act aims to regulate the **constitution, functioning, funding, accounts and audit, and other affairs** of and concerning political parties participating in elections.

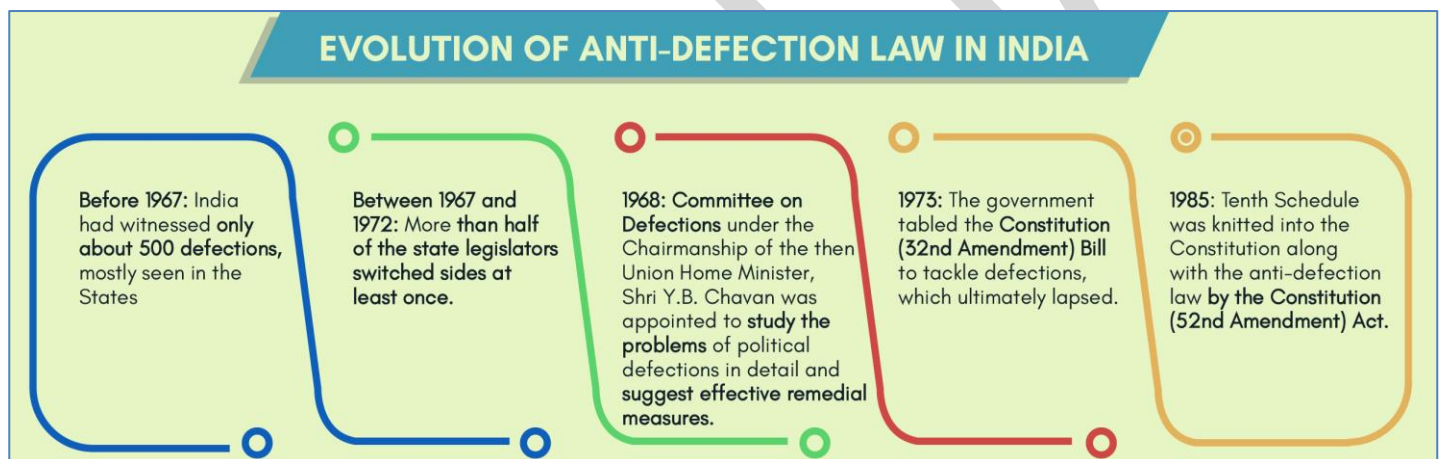
## 1.4. ANTI-DEFECTION LAW

### Why in news?

The Calcutta High Court has given West Bengal Assembly Speaker a deadline to pass an order in the **defection case**.

### What is defection?

Defection may be defined as the **practice of floor-crossing** by a member of **one political outfit to another** (also, commonly referred as Horse Trading). For instance, in Lok Sabha, if MPs of Party A join Party B, they are said to have defected and thus will face the prevalent anti-defection proceedings.



### About Anti-defection Law

The **Tenth Schedule** contains the following provisions with respect to the disqualification of members of Parliament and the state legislatures **on the ground of defection**.

- **Disqualification:** A member of a House belonging to any political party **becomes disqualified** for being a member of the House if
  - He **voluntarily gives up his membership** of such political party; or
  - He **votes or abstains from voting in such House contrary to any direction issued** by his political party without obtaining prior permission of such party and such act has not been condoned by the party within 15 days.
- **An independent member** of a House becomes disqualified to remain a member of the House if he joins any political party after such election.
- **A nominated member** of a House becomes disqualified for being a member of the House if he **joins any political party after the expiry of six months** from the date on which he takes his seat in the House.
- **Exceptions:** Legislators may change their party without the risk of disqualification in certain circumstances.
  - The law **allows a party to merge with or into another party** provided that at least two-thirds of its legislators are in favour of the merger.
  - If a person is **elected as the speaker of Lok Sabha or the Chairman of Rajya Sabha** then he could resign from his party, and rejoin the party once he demits that post.
  - It must be noted here that the provision of the Tenth Schedule pertaining to **exemption from disqualification in case of split** by one-third members of legislature party has been deleted by the 91st Amendment Act of 2003.

- **Deciding authority:** Any question regarding disqualification arising out of defection is to be **decided by the presiding officer** of the House.
- **Rule-making power:** The **presiding officer** of a House is empowered to make rules to **give effect to the provisions** of the Tenth Schedule.

### What is the need for an anti-defection law?

- **Political stability:** It provides for greater stability in the body politic by **checking the propensity of legislators** to change parties. Uncontrolled **Horse-Trading** and corruption **negatively influences the working** of the legislature and executive and ultimately **affects the progress of the country** as a whole.
  - Considering **nascent nature** of our democracy and the **political defections indiscriminately** taking place in India, the **anti-defection law is an inevitability to ensure smooth functioning of parliamentary system.**
- **Ensuring loyalty of members:** It is an attempt to ensure that **members selected in the name of the party and its support as well as the party manifesto** remain loyal to the political party and its policies.
- **Upholds the will of people:** Floor changing after being elected as representative of people is almost a **betrayal committed against the will of the people** especially when the electorates hold their **trust on the potential of any political parties.**
- **Other advantages:** It facilitates **democratic realignment** of parties in the legislature by way of **merger** of parties. Further, it helps in **reducing corruption** at the political level as well as **non developmental expenditure** incurred on irregular elections.

### What are the issues with Anti-defection law?

#### Issues in the prevalent idea of Anti-defection

- **Restricts freedom of speech and expression of legislators:** The law puts the members of the party into a bracket of obedience in accordance with the rules and policies of the party, restricting the legislator's **freedom to oppose any acts, policies, leaders, or bills of the party.**
  - In essence, disqualification on grounds of defection, which may actually be a valid dissent, **blurs the distinction between the defection and dissent.**
- **Reduces accountability of elected representatives:** In India's parliamentary democracy, the legislature's check on the executive **remains weak** due to reasons like **absence of effective opposition and the executive being part of the legislature.**
  - By curbing dissent, anti-defection law further **undermines the executive's accountability** to the legislature.
- **Undermines representative government:** In a bid to not attract the provisions of the Tenth Schedule, legislators can **feel compelled to toe party lines** even if that does not represent the will of their constituents. It restricts a legislator from voting in line with **his conscience, judgement and interests of his electorate.**

#### International scenario on Anti Defection Law

- Among the Commonwealth countries, anti-defection law is **prevalent in 23 nations.** The anti-defection law in **Bangladesh, Kenya, South Africa, and Singapore** disqualifies a legislator on his **ceasing to be member** of the party or when he is **expelled.**
- The perceptible presence of anti-defection laws in countries where **democracy is in a growing stage** indicate that the legislators in those countries are **less informed on the principles of democracy.**
- But the **political ambience in developed democracies** poses a picture of legislators with democratic values.
  - In the **UK Parliament**, a member is **free to cross over** to the other side, without being daunted by any disqualification law.
  - In the **US, Canada, and Australia**, there is no restraint on legislators switching sides.

#### Issues with the current law

- **No liability for political parties:** It only punishes legislators for switching parties. Political parties who are at the heart of the politics have no liability under the law. They benefit from defections and are **often accused of enticing legislators of rival parties** to switch loyalties.
- **Problem with merger provision:** It safeguards the members of a political party where the original party merges with another party subject to the condition that at least two-third of the members have agreed to such merger.
  - The exception is based on the number of members rather than the **reason behind the defection.**
- **Power to the presiding officer:** The presiding officer has been given wide and absolute powers to decide the case related to disqualification of the members on the grounds of defection. However, **Speaker still remains the member of the party** which had nominated him/her for the post raising **concerns regarding his/her impartiality.**

- Further, s/he may **not have legal knowledge and expertise** to look upon and perform such acts in such cases.
- **Unable to curb instability:** With not enough room for elected representatives to harbour a difference of opinion, **en-masse departures of rebelling legislators have become the 'political' normal**. Along with **uprooting incumbent governments**, such departures can also bring **governance to a grinding halt**.
- **Expulsion does not attract disqualification:** The law focuses on voluntary defection and **remains silent about expulsion** of a member from the party. Once expelled, such a member **would then be an independent in the House**, with an option of joining another party, which presents a possible loophole for **exploitation of the Schedule**.

#### How has the law been interpreted by the Courts while deciding on related matters?

- **Interpretation of the phrase 'Voluntarily gives up his membership':** The phrase has a **wider connotation than resignation**. The Supreme Court has interpreted that in the absence of a formal resignation by the member, the giving up of membership can be **inferred by his conduct**.
  - Members who have **publicly expressed opposition** to their party or support for another party should **deemed to have resigned**.
- **Decision of the Presiding officer is subject to Judicial Review:** The law initially stated that the decision of the Presiding Officer **is not subject to judicial review**. This condition was **struck down by the Supreme Court in Kihoto holohan Case, 1992**, thereby allowing appeal against the Presiding Officer's decision in the High Court and Supreme Court.
  - However, it held that there may not be any judicial intervention **until the Presiding Officer gives his order**.
- **Time limit within which the Presiding Officer has to decide:** The law does not specify a time-period for the Presiding Officer to decide on a disqualification plea. Courts have expressed concern about the **unnecessary delay in deciding such petitions**. High Courts can **direct Speakers to rule on disqualification petitions** if they do not do this within reasonable time.

#### What can be done to overcome these issues?

- **Narrowing the definition of defection:** Defining actions or conduct (on the part of legislators) which constitutes defection, in a manner that **does not inhibit them to independently think and express** their opinions. This will ensure that **dissent among party members does not necessarily translate into instability** and disagreement does not become a ground for disqualification.
  - Several experts have suggested that the law should be valid **only for those votes that determine the stability of the government** (passage of the annual budget or no-confidence motions).
- **Intra party democracy:** Changes are required in the **Representation of People Act and the current political culture** to make political parties **more democratic** in the selection of their leadership. This will indirectly create **more acceptance for divergence of opinion** and stance within the party.
- **Involvement of Ethics committee:** The active involvement of the Ethics Committee, as done in the Cash for Query scam, can help in curbing horse trading of legislators. If every incident of defection tainted with monetary factors is **inquired into and dealt with by Ethics Committee**, practice of floor crossing **can be contained to a great extent**.
  - In cash for query incident (2005) Members of Parliament **accepted money** from stakeholders and **raised questions** in Parliament **apparently to the benefit of money givers**.
- **Deciding authority:** **2<sup>nd</sup> Administrative Reforms Commission's** has recommended that the issue of disqualification of members on grounds of defection should be **decided by the President/Governor on the advice of the Election Commission**.
- **Making defection an internal issue of party:** The imposition of sanctions can be watered down in India to **only allow expulsion of a defecting member from his party** without costing him his seat in the Parliament and by making it an **internal issue of every political party**.
- **Bring more clarity:** The law must **explicitly set out what it means by the words 'voluntarily giving up Membership'** in order to avoid any confusion.

#### Conclusion

The Parliament should recheck whether the anti-defection law in current form **can achieve the goals** for which it was enacted. If not, a discourse can be started for developing a consensus on why it has not been able to achieve its goals and moving ahead, where should we take this law.

## 1.5. NEWS IN SHORTS

### 1.5.1. FURLOUGH NOT PRISONER'S RIGHT, SAYS SUPREME COURT (SC)

- Reversing a Gujarat High Court order granting relief to a convict, **SC discussed differences between 'furlough' and 'parole' and the principles relating to grant of them.**
  - Furlough and parole (covered under The Prisons Act of 1894) **envisage a short-term temporary release from custody.** Both were introduced with a view to humanising the prison system.
  - While **parole is granted to the prisoner to meet a specific exigency, furlough may be granted** (after a stipulated number of years have been served) **without any reason.**
  - **Period of furlough** granted to a prisoner is **treated as remission of his sentence.** Whereas **parole is a system of releasing a prisoner with suspension of the sentence.**
- **SC stated that** although furlough can be claimed without a reason, **prisoner does not have an absolute legal right to claim furlough.**
  - Grant of furlough **must be balanced against the public interest** and can be refused to certain categories of prisoners.
  - Prisoners convicted of multiple murders or under the anti-terror Unlawful Activities Prevention Act (UAPA) **are not eligible for parole.**
- **Prisons Act of each state government** (Prison is a state subject) defines the **rules under which parole is granted** in that state.



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## 2. INTERNATIONAL RELATIONS

### 2.1. 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 (US\$ 2.8 billion, 0.22 percent of GDP), South Korea (0.15 percent of GDP) and Austria (0.27 percent of GDP), considering India's US\$ 2 billion in credit lines.
- 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.

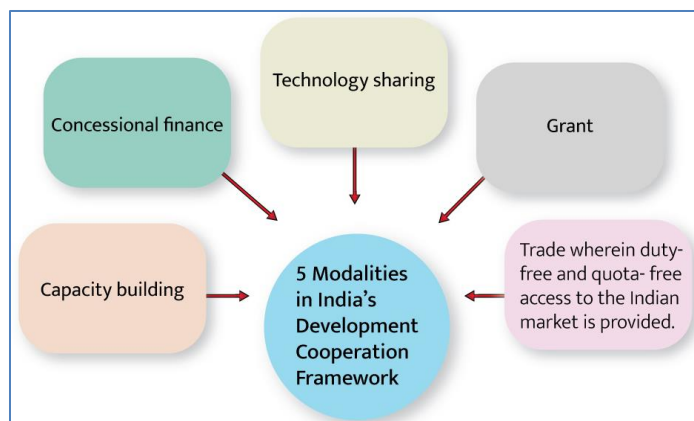
#### Efforts by India in development cooperation

- **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, apart from support for packaging for better access to European markets.
- India has been supporting the **developmental endeavours of several partner countries in Africa and Asia**.

#### 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. The lack of information disseminated in the public domain about India's current development cooperation framework has been widely criticised by policy experts.
  - This opacity makes monitoring and **evaluation difficult and creates a credibility crisis.**



### 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.

## 2.2. 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.

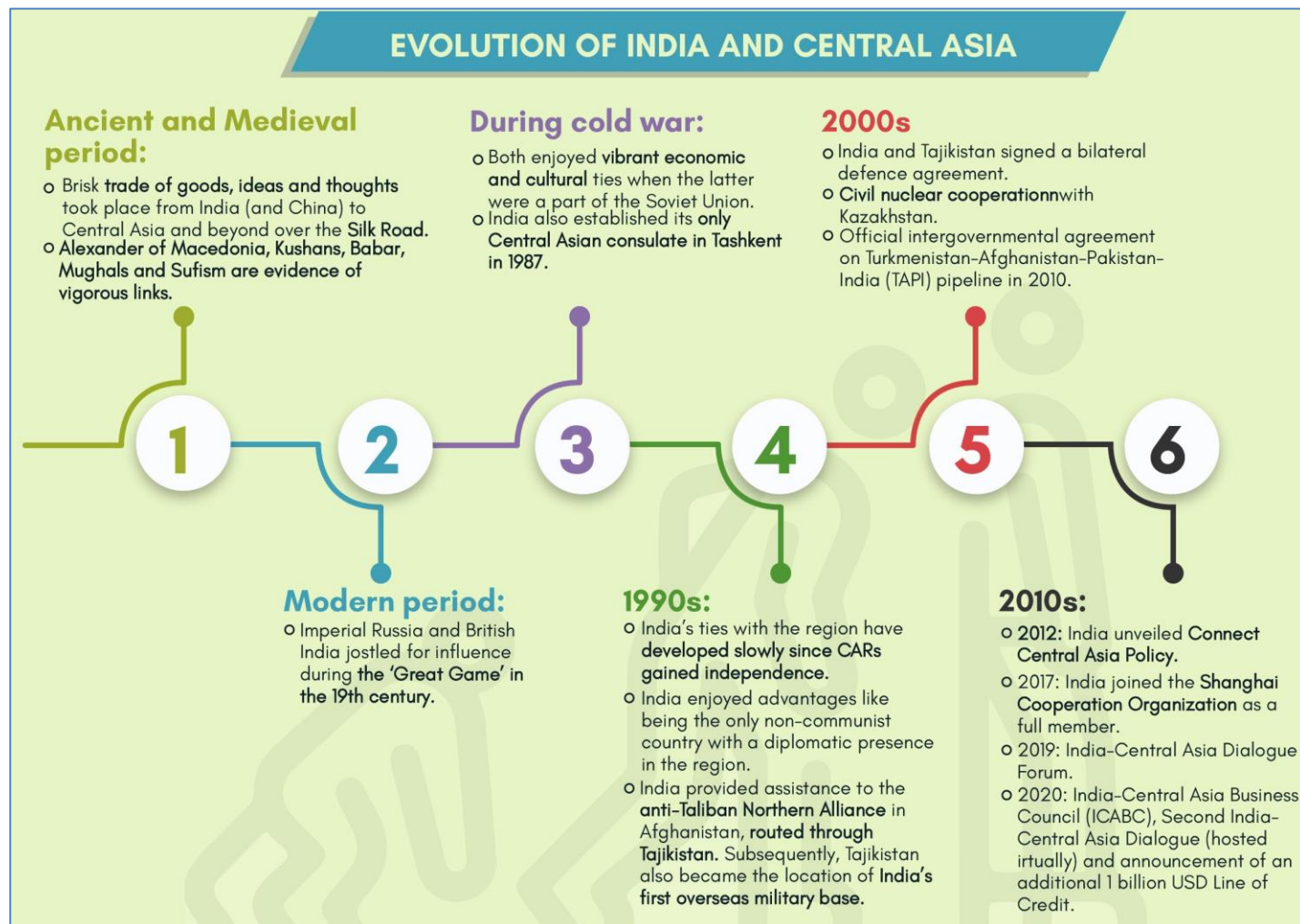
### India-Central Asia relations: From Past to Present

- 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).





- India deals with Central Asia at **multiple levels**. Firstly, at the **bilateral level**, secondly, at the **multilateral level** through platforms such as the SCO, the Conference on Interaction and Confidence-Building Measures in Asia (CICA) and the United Nations. Thirdly, **multi-layered engagement** between India and Central Asia such as the India-Central Asia Dialogue at the foreign minister's level.



#### 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: Peace and stability in the region** is crucial factor for India's security as challenges to Indian security have traditionally come overland from the northwest. Illegal **Drug trade** emanating from '**Golden Crescent**' of opium production (Iran-Pak-Afghan) is threat to regional security.
  - Religious extremism, fundamentalism and terrorism are other challenges**. Any advance by Islamic extremist groups in the region could invigorate **similar elements active in Kashmir**.
- 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, agriculture, information technology, and the pharmaceutical** industry.
  - **Large Indian companies can bid** for road and railway construction, electric power transmission and distribution, telecommunications, power generation, etc.
  - **Import of spices** from Central Asia could increase the volume of trade between Kyrgyzstan, Tajikistan and Uzbekistan, on the one hand, and India, on the other.

#### Challenges in development of India-Central Asian relationships

- **Poor connectivity:** The key constraint India faces is the **lack of direct access** to Central Asia. The adverse **geographic terrain and the thorny India-Pakistan border dynamic**, greatly impedes connectivity, thereby **curbing greater economic cooperation** between India and the region.
  - Further, planned connectivity projects are facing serious **financial, political, and security challenges**, frustrating oil, and gas diplomacy.
- **Unrealised trade potential:** India's trade with the region amounts to US\$ 2 billion, owing to **limited connectivity and low economic engagement** with the region. This amount is **less than 0.5 percent of India's total trade**, whereas the region's **trade with China** amounts to US\$ 100 billion.
  - Besides the physical barriers, factors such as **trade regulatory hindrances and political fragility** have often created obstacles in the free flow of trade within the region.
- **Energy geopolitics:** Various reports suggest Indo-Pacific region will become increasingly reliant on oil from the Middle East and Central Asia. 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:** In addition to traditional security threats, instability in Afghanistan and Pakistan, concerns regarding **confrontation between Iran and the United States**, diminishes reliability and safety required for **trade and commerce**, discouraging investments.
- **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**.
  - The fall in the oil and commodity prices, compounded by Western sanctions on Russia, has, however, **impacted the economies** of the Central Asian countries.

#### 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**.
  - India should also facilitate the **setting up of India-Central Asia Think Tank Forum** to discuss and debate economics, history, politics, and business at the Track-2 level.
  - In economic realm, it is in India's interest to expeditiously **finalise the much-awaited 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). MEA should **prepare a proper database** of former students/ trainees of these programs.

- 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.

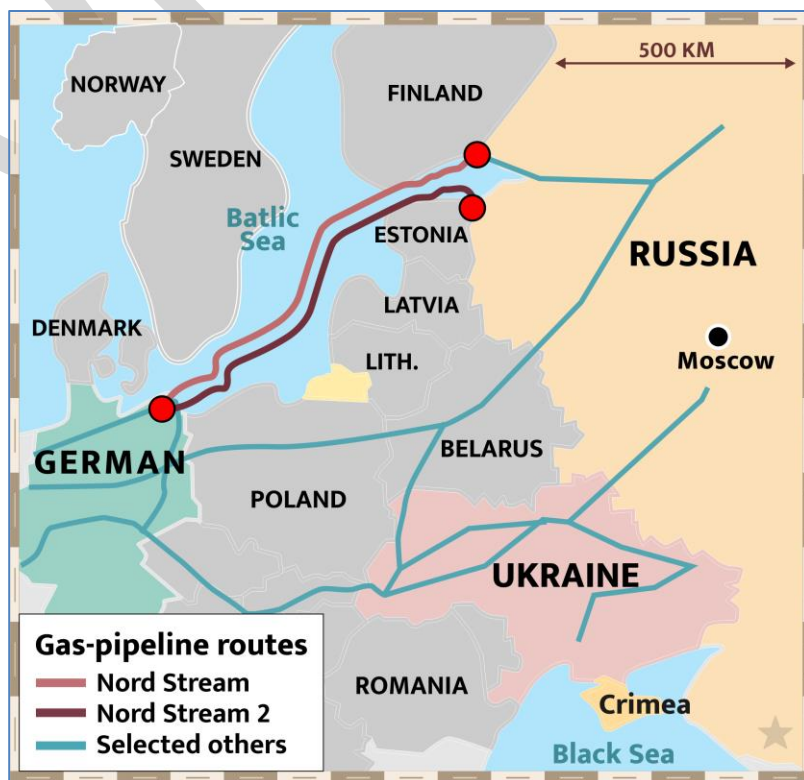
## 2.3. NEWS IN SHORTS

### 2.3.1. UNITED NATIONS HUMAN RIGHTS COUNCIL (UNHRC)



- India was **re-elected to the United Nations Human Rights Council (UNHRC)** for the 2022-24 term.
  - India's current term was set to end on December 31 2021.
- The UNHRC consists of **47 Member States elected directly and individually** by secret ballot by the **majority of the members of the General Assembly**.
  - The members of the Council shall serve for a **period of three years** and shall not be eligible for **immediate re-election after two consecutive terms**.

### 2.3.2. NORD STREAM 2 PIPELINE

- Recently, the Nord Stream 2 (NS2) which is **running across Russia to Germany** is now completed.
- NS2 is a **new export gas pipeline running from Russia to Europe across the Baltic Sea**.
  - NS2's construction began in 2018 and is being implemented by the Nord Stream 2 AG project company.
- The decision to build Nord Stream 2 was based on the successful experience in building and operating the Nord Stream gas pipeline.
  - The new pipeline, like the one in operation, will establish a direct link between Gazprom and the European consumers.
- **Significance of NS2 Pipeline**
  - **Economical and Environment-friendly:** The **1,224 km, \$11-billion underwater link** is the shortest, most economical and environment-friendly route to double Russia's gas export to Germany.
  - **Energy security to Europe:** It will also ensure a highly reliable supply of Russian gas to Europe.



- ✓ NS2 is particularly important as Europe sees a decline in domestic gas production and an increasing demand for imported gas.
- **Offers stability in region:** The pipeline offers stability to the strategically important energy trade because Russia's dependence on the European Union and vice-versa are increased.
- **Issues with NS2**
  - **Impact several eastern European countries:** Many countries in Eastern Europe, such as Poland, Slovakia, and Ukraine, oppose Nord Stream 2, partially because of expectations of a **loss of transit fees and partially because of fears that their economic and physical security would be jeopardised** were the project to be completed.
  - **US Sanctions in Allied Countries:** During the Cold War, Western companies that violated the Western sanctions on technology supplies to the Soviet Bloc were frequently sanctioned.

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## 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 करेंट 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
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## 3. ECONOMY

### 3.1. 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.

#### More on News

- Experts have suggested the need to review the role of IMF amid changing dynamics of developed and emerging economies including India.
- They also called for completing quota reforms and maintaining data integrity amid the World Bank discontinuing its Ease of Doing Business (EoDB) reports.
- It was alleged that the EoDB rankings were tweaked to inflate the ranks for China (in EoDB 2018) and Saudi Arabia, UAE and Azerbaijan (EoDB 2020).

#### About Bretton Woods Conference

- It was conceived in July 1944, when delegates from forty-four nations (met at Bretton Woods, New Hampshire) **agreed on a framework for international economic cooperation**, to be established after the Second World War.
- Aim was to agree on a system of economic order and international cooperation that **would help countries recover from the devastation of the war and foster long-term global growth**.
- This system advocated the adoption of an exchange standard that included both gold and foreign exchanges.
- At its conclusion, the **conference attendees produced the Articles of Agreement** for the International Bank for Reconstruction and Development (IBRD) and IMF.

#### 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

- 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**.

#### International Monetary Fund

- 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"> <li>Each member's quota <b>determines its voting power</b> as well as its <b>borrowing capacity</b>.</li> <li><b>Current formula</b> emphasises economic size and openness and <b>consists of four elements:</b> GDP (50%), openness (30%), economic variability (15%) and international reserves (5%).</li> <li>Quotas are <b>denominated in Special Drawing Rights (SDRs)</b>.</li> <li>Quota reviews are mandated to be undertaken at intervals not exceeding five years.</li> </ul>	<ul style="list-style-type: none"> <li>Despite Fourteenth General Review of Quotas (2010), <b>European nations still retain over 30% of overall shareholding</b>, despite collectively representing less than 20% of the global economy.</li> <li>The <b>voting and quota structure cannot be changed without an affirmative vote from US</b> since such a vote requires a super majority in the IMF, which gives US an effective veto.</li> </ul>	<ul style="list-style-type: none"> <li><b>Share of the European Union countries</b> will have to <b>reduce significantly</b>.</li> <li>Share of <b>BRICS countries</b> would have to <b>increase significantly</b>.                             <ul style="list-style-type: none"> <li>After 2010 review India's share increased to 2.75 % (from 2.44%), making it the 8th largest quota holding country in the IMF</li> </ul> </li> </ul>
Article IV consultations	<ul style="list-style-type: none"> <li>It is through these consultations that <b>IMF is expected to keep track of the behaviour of the economy of the member countries</b>.</li> <li>Under this, IMF holds <b>bilateral discussions with its members</b> usually every year and their staffs prepare a report.</li> <li>Reports are <b>utilised by credit rating agencies</b>, impacting the fund-raising capacity of countries like India.</li> </ul>	<ul style="list-style-type: none"> <li>IMF <b>could never pinpoint an incipient crisis</b>. It failed, for instance, to see the signs of the Asian currency crisis.</li> <li><b>Developing countries are subjected to far more rigorous Article IV consultation</b> process and scrutiny than the more developed countries, and the most curious example is, that in Spain and Greece.</li> </ul>	<ul style="list-style-type: none"> <li>IMF <b>should focus on lower income countries</b> and support other developing countries' market funds raising activities.</li> </ul>
Governance Reforms	<ul style="list-style-type: none"> <li><b>Board of Governors is the highest decision-making body</b> of the IMF.</li> <li>Board is advised by two ministerial committees, the International Monetary and Financial Committee (IMFC) and the Development Committee.</li> </ul>	<ul style="list-style-type: none"> <li>Governance structure continues to be <b>disproportionately dominated by advanced economies</b>.</li> <li><b>These countries choose the leadership</b> and senior management, and so their interests dominate, <b>despite the fact that the main borrowers are developing countries</b>.</li> <li><b>Many of the economic reforms IMF required</b> as conditions for its lending (fiscal austerity, trade liberalization etc.) <b>have often been counterproductive for target economies</b>.</li> </ul>	<ul style="list-style-type: none"> <li>Need to shift the focus from the needs of the USA and European countries to those of developing countries by reforming the voting structure.</li> </ul>
Reforms in World Bank			
Governance related	<ul style="list-style-type: none"> <li><b>Dominance of US and other members of the G7 in voting and administration</b> do not take into account significant changes in the profiles of major economic actors such as India and China.</li> <li>Critics see the World Bank together with the other global economic institutions as an <b>imperialism tool which protect the interests and ideas of the western rich countries</b> and expands their dominance in the rest of the world.</li> </ul>		

<b>Structural Adjustment Programs (SAP)</b>	<ul style="list-style-type: none"> <li>SAPs imposed by both IMF and the World Bank <b>severely affected the developing countries.</b></li> <li>SAPs <b>enforced privatization of industries, cuts in government spending and imposition of user fees, market-based pricing, higher interest rates and trade liberalization.</b> <ul style="list-style-type: none"> <li>This has <b>resulted in slow growth, higher poverty, lower incomes,</b> increased debt burdens, low human development indicators and deteriorating social services in many developing countries.</li> </ul> </li> </ul>
<b>Redefining purpose</b>	<ul style="list-style-type: none"> <li>World Bank has not been able to redefine its <b>purpose as a lending and developmental institution in light of the emergence of non-traditional lenders</b> such as China. <ul style="list-style-type: none"> <li>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.</li> </ul> </li> </ul>
<b>Transparency in functioning</b>	<ul style="list-style-type: none"> <li>Both the World Bank and IMF are obscure and <b>have little to open to the world in terms of documents and information.</b></li> <li>The <b>reliability of World Bank reports,</b> and its predictions on economic performances have been questioned.</li> </ul>

## 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.

## 3.2. WIDENING 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.**

- The **Gini index**, or **Gini coefficient**, is used as a popular tool to measure **income distribution inequalities** globally. The coefficient ranges from 0 (or 0%) to 1 (or 100%), with 0 representing perfect equality and 1 representing perfect inequality. Values over 1 are theoretically possible due to negative income or wealth.
- **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.

#### Related Reports:

##### The Changing Wealth of Nations 2021: World Bank

- Report tracks wealth of 146 countries between 1995 and 2018, by measuring **economic value of renewable natural capital, non-renewable natural capital, human capital, produced capital, and net foreign assets**.

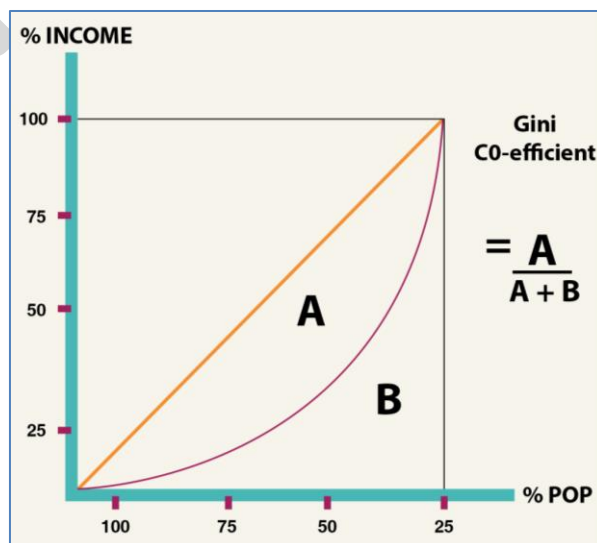
##### Key finding

- **Global wealth grew significantly between 1995 and 2018**, but the risks faced (from unsustainable exploitation, lack of collective action etc.) have also increased.
  - ✓ While **total wealth has increased** everywhere, albeit with a widening gap between nations, **per capita wealth has not**.

##### World Inequality Report 2022: The World Inequality Lab

##### Key Findings

- **Top 10% of the global population owns 76% of total household wealth** and captured 52% of total income in 2021.
- **Bottom 50% of the global population owns just 2% of wealth and 8% of income.**
- **Women make just a third of global labour incomes**, which has seen very limited change since 1990.
- **A very moderate wealth tax** for global billionaires **can generate 1.6% of global income.**





## 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.
  - E.g., policies that foster equality of opportunity like incentivizing human capital investments and productive effort can help in promotion of **greater intergenerational mobility**
- **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, as a Chinese proverb says:

“You give a poor man a fish and you feed him for a day. You teach him to fish and you give him an occupation that will feed him for a lifetime.”

### 3.3. 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-

**Current account** (country's short-term transactions or the difference between its savings and investments)

- **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.)

**Capital Account** (inflows and outflows of capital that directly affect a nation's foreign assets and liabilities)

- **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.**

#### 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.

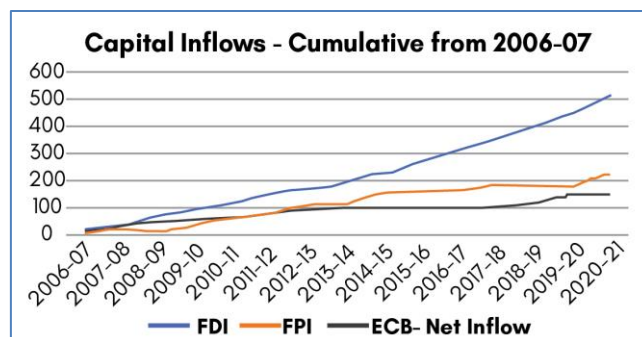
### Risks associated with free capital mobility

- **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. 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.**

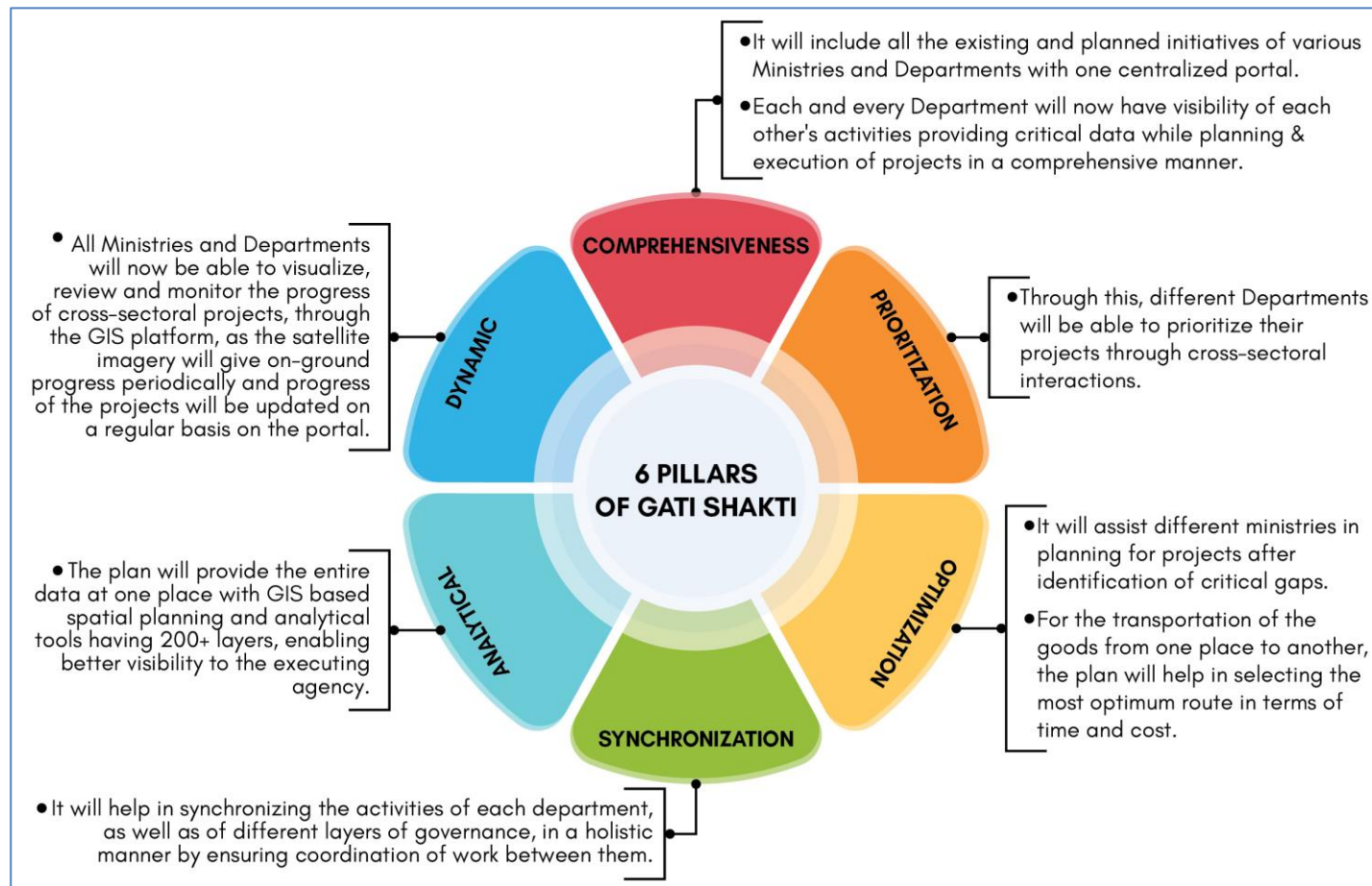
### About Gati Shakti

- It is essentially a **digital platform to bring 16 Ministries together** (including Railways and Roadways) for **integrated planning and coordinated implementation of infrastructure connectivity projects.**
- An integrated multimodal Network Planning Group (NPG) will be responsible for unified planning and integration of proposals
- This entire platform has been developed by the **Bhaskaracharya National Institute for Space Applications and Geoinformatics (BISAG).**

#### About Bhaskaracharya National Institute for Space Applications and Geoinformatics (BISAG)

- It is a Gandhinagar-based autonomous scientific society **under the Ministry of Electronics & Information Technology.**
- It undertakes projects in satellite communication, geo-informatics and geo-spatial technologies.

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

### Other potential Benefits

- **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.

### Conclusion

Coming close on the heels of the National Infrastructure Pipeline and the National Monetisation Plan, the Gati Shakti vision will underscore the primacy of place on development of world-class infra facilities crucial to improving business sentiment and speeding up the country's vision to emerge a \$5-trillion economy soon.

## 3.5. 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.

## 3.6. ROAD SAFETY

### Why in news?

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

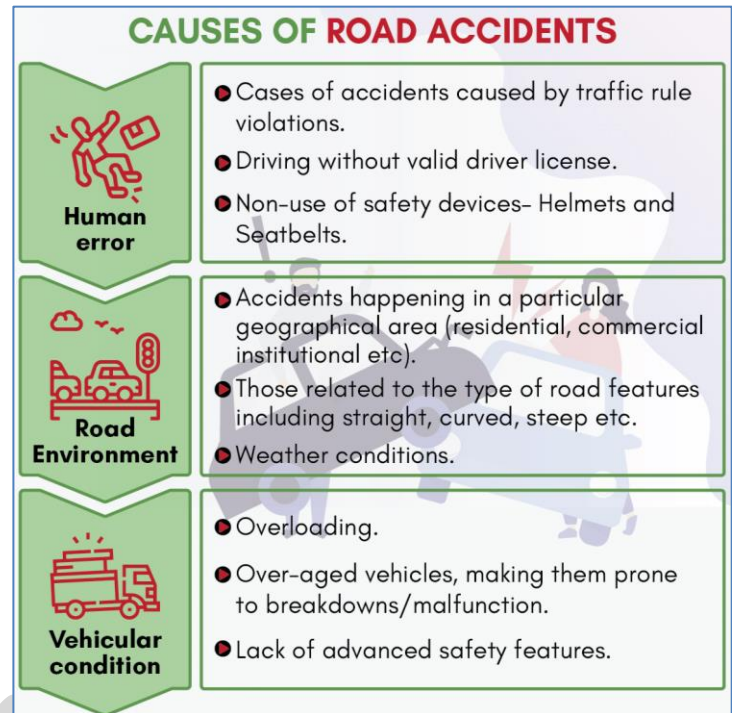
### About National Road Safety Board

- 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.

**The problem of Road Accidents: Globally and in India**

- **Global Statistics:** According to a World Bank report (2021), road accidents globally **injure more than 3000 persons every day.**
  - Road Traffic Injuries (RTIs) are the **8th leading cause of death globally.**
  - The risk of a **road crash in low-income countries is three times higher** than compared to that in high-income countries.
  - India **tops the world in road crash deaths** (WHO, 2018), with more than 400 fatalities per day.
- **Road accidents in India:** According to MoRTH, Road accidents in India kill almost **1.5 lakh people annually.** India has **1% of the world's vehicles** but accounts for **11% of all road accident deaths.**
  - In the last decade alone, road crashes have **killed 1.3 million** and injured over 5 million in India.
  - Road accidents in 2019 compared to the previous year i.e., 2018, **decreased by 3.86 percent.**
- **Type of road accident:** Of the total number of accidents in 2019, **Minor injuries accounted for the largest share** of about 35%, followed by **fatal accidents** of about 31% with Grievous injuries accounting for another 28%.
  - **Grievous injury accident** is one in which one or more victims **suffer serious injury** requiring hospitalization.
- **Economic cost:** 2019 World Bank report puts the road crash and serious injury cost **estimate at 7.5 per cent of India's GDP for 2016.** It is **more than twice the figure cited by the government** at 3 per cent of GDP.



**Measures taken by MoRTH to improve road safety and ameliorate the impact of road accidents**

I.	<b>VISION ZERO</b>	
	<ul style="list-style-type: none"> <li>● The Ministry has formulated a comprehensive <b>National Road Safety Strategy</b> to address the issue of road safety which provides the framework for <b>National collaboration</b> on road safety improvement and allow for a <b>move towards VISION ZERO.</b></li> <li>● This strategy covered <b>themes on Education, Publicity and awareness campaigns, Engineering (both of roads and vehicles), Enforcement and Emergency Care.</b></li> </ul>	
II.	<b>Research oriented</b>	
	<b>Integrated Road Accident Database (IRAD)</b>	<ul style="list-style-type: none"> <li>● IRAD is a <b>robust system</b> to enable the States and Centre to:           <ul style="list-style-type: none"> <li>○ <b>Comprehend the information</b> related to road accidents,</li> <li>○ <b>Analyses the root cause</b> of road accidents and</li> <li>○ To develop and implement '<b>data-led</b>' road safety interventions</li> </ul> </li> </ul>



	<b>Research in Road Safety</b>	<ul style="list-style-type: none"> <li>Encourages <b>increased activity in programmes of road safety research</b> by identifying <b>priority areas</b>, funding etc.</li> <li>Establishing <b>centres of excellence</b> in research and academic institutions.</li> </ul>
<b>III.</b>	<b>Behavioural change</b>	
	<b>Improved road use behaviour</b>	<ul style="list-style-type: none"> <li>Guidelines for the "Scheme for setting up of <b>Driving Training Centres (DTC)</b></li> <li>Establishment of <b>Institute of Driving Training and Research (IDTR)</b> and <b>Regional Driving Training Centre (RDTC)</b></li> </ul>
	<b>Publicity and awareness campaigns</b>	<ul style="list-style-type: none"> <li><b>Spreading Awareness</b> through TV, Films, Radio Spots and Print media;</li> <li>Road Safety <b>Awareness Workshops</b> Conducted in States;</li> <li>Involvement of <b>NGOs and other Stakeholders</b>.</li> </ul>
<b>IV.</b>	<b>Changing Transit Systems</b>	
	<b>Engineering (both of roads and vehicles) measures</b>	<ul style="list-style-type: none"> <li><b>For road:</b> <ul style="list-style-type: none"> <li>Identification and rectification of accident <b>black spots</b> and Road Safety <b>Audits</b>;</li> <li>Traffic Calming Measures and Installation of <b>crash barriers</b>;</li> </ul> </li> <li><b>For Vehicles:</b> <ul style="list-style-type: none"> <li><b>Mandated 'Automatic Headlamp On' (AHO)</b> in two wheelers;</li> <li><b>Crash tests</b> for all the light motor vehicles have been notified by the Ministry for implementation;</li> <li>Notified <b>bus body code and truck body code</b>;</li> <li><b>Speed Alert System</b> in Cars;</li> <li><b>Compulsory Anti-lock Braking System (ABS) System</b> in new vehicles from 2018.</li> </ul> </li> </ul>
	<b>Promoting Intelligent Transport System (ITS)</b>	<ul style="list-style-type: none"> <li>E-Challan and M-Parivahan (to access various transport related services);</li> <li><b>Transport Mission Mode Project</b> (VAHAN for vehicle registration and SARATHI for driver license);</li> <li><b>Electronic Monitoring</b> and Enforcement of Road Safety.</li> </ul>
<b>V.</b>	<b>Enforcement measures</b>	
	<b>Motor Vehicle Amendment Act (MVAA), 2019</b>	<ul style="list-style-type: none"> <li>It has provisions related to vehicle scrapping policy, vehicle <b>recall</b> system, national register for vehicle registration, driving license and <b>electronics surveillance &amp; monitoring</b>, etc.</li> </ul>
		<p>The infographic titled "The Motor Vehicles (Amendment) Act, 2019" features a central blue circle with a hand icon labeled "Empowering States". Five surrounding circles are connected to it: a purple circle at the top labeled "Strengthening Enforcement and improve Road Safety", a green circle on the left labeled "Speedy assistance to Accident Victims", an orange circle on the right labeled "Simplification and Citizen facilitation", a pink circle at the bottom labeled "Automation and Computerisation", and a red circle at the bottom left labeled "Strengthening Public Transport".</p>
	<b>Emergency (Post-crash response and Trauma care)</b>	<ul style="list-style-type: none"> <li>Effective Trauma Care and <b>Good Samaritan</b> Guidelines;</li> <li>Motor Vehicle Accident <b>Fund</b> and <b>Cashless Treatment</b> during Golden Hour;</li> <li><b>Compensation payable</b> to road accident victims.</li> </ul>

### Way Forward

As a signatory to the **Stockholm declaration**, India has committed to **bringing down fatalities** from road accidents by **50 percent by 2030**. To achieve this goal and **make every road safer for everyone at all times**, all areas will have to be explored from technological, institutional to psychological perspective.

For instance, in Germany, a **computerised point system** for traffic violations is in place. This is accompanied by warnings in the form of **demerit points to tend the behaviour**. Once there are **eight demerit points, the licence is revoked**, thus kicking in the institutional mechanism. An integrated system like this, nudges the users away from traffic violence at every stage.

### 3.7. 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.

#### About MGNREGA

- It is **demand driven wage employment programme** under the Ministry of Rural Development (MoRD).
- It provides **at least 100 days of guaranteed wage employment** in a financial year to every rural household whose adult members volunteer to do unskilled manual work.

#### Core objectives of the MGNREGS are:

- **creation of productive assets** of prescribed quality and durability;
- **Strengthening the livelihood resource base** of the poor;
- **Proactively ensuring social inclusion**
- **Strengthening Panchayati Raj Institutions.**

- It is **bottom-up, people-centred, self-selecting and rights-based** programme.

- Plans and decisions regarding the nature and choice of works to be undertaken, the order in which each worksite selection etc., are all to be **made in open assemblies of the Gram Sabha (GS) and ratified by the Gram Panchayats.**

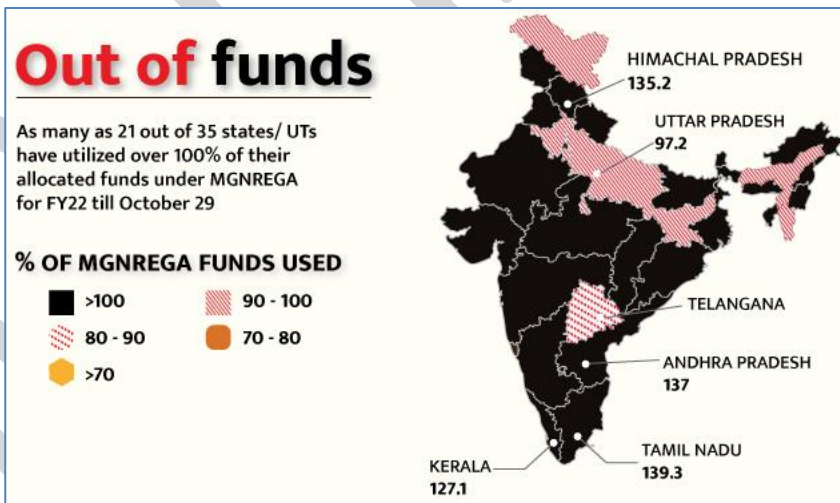
- Assets created under the programme include works related to **natural resource management such as water conservation, land development and irrigation.**

- Besides these, **dams, irrigation channels, check dams, ponds, wells and anganwadis** are also built under the scheme.

#### Important legislative provisions of MGNREGA

- **Work should be provided within 15 days** of demanding work failing which the workers are entitled to an unemployment allowance.
- **Workers should be paid within 15 days of completion of work**, failing which they are entitled to compensation for the delays.

- **Social audit creates accountability of performance**, especially towards immediate stakeholders.



#### 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 work flow 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

## 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.

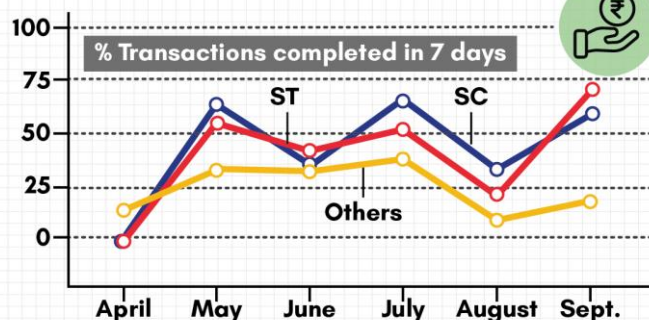
## What are the challenges faced by MGNREGA recently?

- **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.**
  - 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

**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



## 3.8. GLOBAL MULTIDIMENSIONAL POVERTY INDEX (MPI) 2021

### 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).

### What is Global Multidimensional Poverty Index (MPI)?

- It is an **international measure of acute multidimensional poverty** covering over 100 developing countries.
  - Multidimensional poverty measures allow us to see **how many households are experiencing deprivations** at the same time.
- It complements traditional monetary poverty measures by **capturing the acute deprivations in health, education, and living standards** that a person faces simultaneously.
- It assesses **poverty at the individual level**.
  - If a person is deprived in a **third or more** of ten (weighted) indicators, the global

MPI identifies them as **'MPI poor'**.




- The extent – or intensity – of their poverty is also measured through **the percentage of deprivations they are experiencing**.
- It permits **comparisons both across countries and world regions**, and within countries by ethnic group, urban/rural area, subnational region, and age group, as well as other key household and community characteristics.
- It shows both **who is poor** – in terms of their age group, subnational region, and whether they live in an urban or rural area – and **how they are poor** – in terms of which overlapping deprivations they face.
- The global MPI was developed by OPHI with the UNDP for inclusion in **UNDP's flagship Human Development Report in 2010**. It has been published annually by OPHI and in the HDRs ever since.
- The MPI value** summarizes information on multiple deprivations into a single number. This value varies from 0 to 1.
  - It shows **the proportion of deprivations that a country's poor people experience** out of the total possible deprivations that would be experienced if every person in the society were poor and deprived in every indicator.
  - It is calculated by **multiplying the poverty headcount by the intensity of poverty**.
  - India's MPI value is 0.123.**

### Oxford Poverty and Human Development Initiative (OPHI)

- It is an **economic research centre within the Oxford Department of International Development** at the University of Oxford.
- It **aims to build and advance a more systematic methodological and economic framework** for reducing multidimensional poverty, grounded in people's experiences and values.
- OPHI's work is **grounded in Amartya Sen's capability approach** and it works to implement this approach by creating real tools that inform policies to reduce poverty.

### UNDP

- It is the leading United Nations organization **fighting to end the injustice of poverty, inequality, and climate change**.
- As the UN's development agency, **UNDP plays a critical role in helping countries achieve the SDGs**.
- Its work is concentrated on 3 main focus areas:
  - Sustainable development**
  - Democratic governance and peacebuilding**
  - Climate and disaster resilience**
- Headquarters: New York.**

Dimensions of Poverty	Indicator	Deprived if living in the household where	Weight
 <b>Health</b>	<b>Nutrition</b>	Any Adult under 70 years of age or any child for whom there is nutritional information is undernourished.	1/6
	<b>Child Mortality</b>	Any Adult under the age of 18 years has died in the family in the five-year period preceding the survey.	1/6
 <b>Education</b>	<b>Years of Schooling</b>	No household member aged 'school entrance age + Six <sup>4</sup> years or older has completed at least six years of schooling.	1/6
	<b>School Attendance</b>	Any school-aged child is not attending school up to the age at which he/she would complete class eight.	1/6
 <b>Standard of living</b>	<b>Cooking Fuel</b>	The household cooks with dung, wood, charcoal or coal.	1/18
	<b>Sanitation</b>	The household's sanitation facility is not improved (according to SDG guidelines) or it is improved but shared with other households.	1/18
	<b>Drinking Water</b>	The household does not have access to improved drinking water (according to SDG Guidelines) or improved drinking water is at least a 30-minute walk from home, round trip.	1/18
	<b>Electricity</b>	The household has no electricity.	1/18
	<b>Housing</b>	At least one of the three housing materials for roof, walls and floor are inadequate : the floor is of natural material and/or the roof and/or walls are of natural or rudimentary material.	1/18
	<b>Assets</b>	The household does not own more than one of these assets: radio, television, telephone, computer, animal cart, bicycle, motorbike or refrigerator, and does not own a car or truck.	1/18

- The MPI constitutes a **set of poverty measures**. These measures are explained as follows.
  - **Headcount or incidence of multidimensional poverty**: the proportion of people who are multidimensionally poor according to the MPI (those who are deprived in at least one third of the weighted indicators).
  - **Intensity of multidimensional poverty**: the weighted average number of deprivations poor people experience at the same time.

### 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
<b>Gender findings</b>	<ul style="list-style-type: none"> <li>• <b>2/3<sup>rd</sup> of multidimensionally poor</b> people – 836 million – live in households in which <b>no girl or woman has completed at least 6 years of schooling</b>.</li> <li>• <b>1/6<sup>th</sup> of all multidimensionally poor</b> people (215 million) live in households in which <b>at least 1 boy or man has completed at least 6 years of schooling, but no girl or woman has</b>.</li> <li>• 1 in 6 multidimensionally poor people live in <b>female-headed households</b>.</li> <li>• The incidence of multidimensional poverty is <b>positively associated with the rate of intimate partner violence</b> against women and girls.</li> </ul>	<ul style="list-style-type: none"> <li>• In India, close to 12% of the population -- <b>162 million people -- live in female-headed households</b>.</li> </ul>
<b>Ethnicity, race and caste findings</b>	<ul style="list-style-type: none"> <li>• Nearly <b>128 million people</b> belong to ethnic groups in which <b>70% or more of the population of those groups is multidimensionally poor</b>.</li> <li>• <b>Indigenous peoples</b> are among the poorest in <b>all Latin American</b> countries covered.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>5 out of 6 multidimensionally poor</b> people in India are from <b>lower tribes or castes</b>.</li> <li>• <b>ST group accounts for 9.4%</b> of the population and is the poorest, with 65 million of the 129 million people living in multidimensional poverty.</li> <li>• Following the ST group is the <b>SC group with 33.3%</b> -- 94 million of 283 million people -- living in multidimensional poverty.</li> <li>• <b>27.2% of the Other Backward Class group</b> -- 160 million of 588 million people -- lives in multidimensional poverty</li> </ul>

#### COVID-19 findings

- 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.

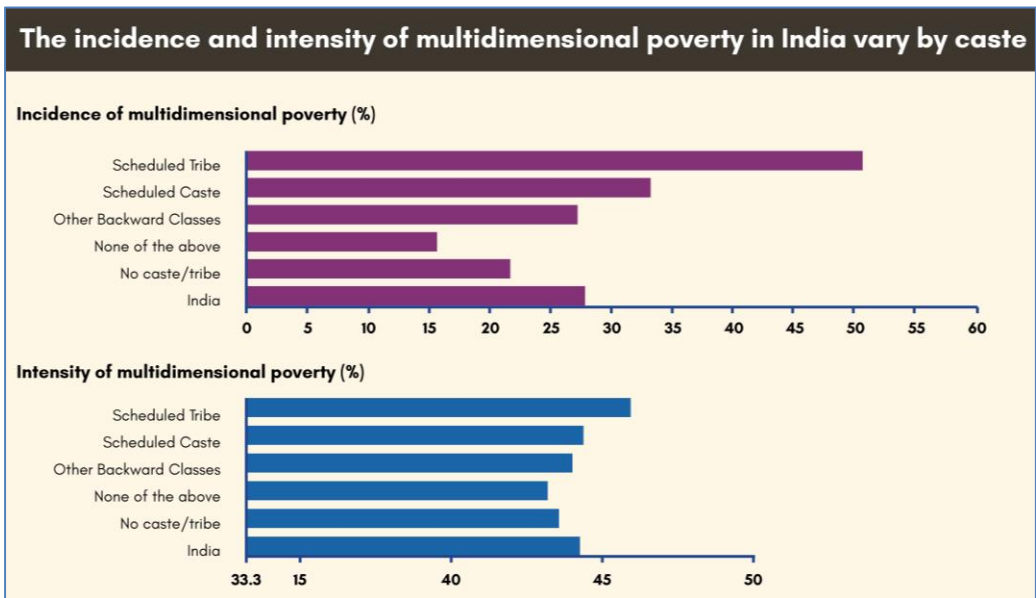
#### Multidimensional poverty around the world

- Across 109 countries 1.3 billion people— **21.7%**—live in acute multidimensional poverty.
- **About half (644 million) are children** under age 18.
- Nearly **85% live in Sub-Saharan Africa** (556 million) or **South Asia** (532 million).
- Top five countries with the **largest number of people living in multidimensional poverty are in India** (2015/16) at 381 millions, followed by Nigeria at 93 million, Pakistan, Ethiopia, Democratic Republic of the Congo.
- Roughly, **84% (1.1 billion) live in rural areas**, and 16% (about 209 million) live in urban areas.

#### 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.



**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**.

**Steps taken in India to eradicate poverty**

- **Integrated Rural Development Programme** as a major self-employment scheme.
- **National Social Assistance Programme** with 3 components National Old Age Pension Scheme (NOAPS), National Family Benefit Scheme (NFBS) and National Maternity Benefit Scheme (NMBS).
- **Mahatma Gandhi National Rural Employment Guarantee.**

**3.9. NEWS IN SHORT**

**3.9.1. RESERVE BANK OF INDIA (RBI) MONETARY POLICY REVIEW**

- The six-member monetary policy committee (MPC), headed by RBI Governor **kept the policy rate unchanged** (by maintaining the **repo rate at 4%** and the reverse repo rate at 3.35%).
- **Key decisions:**

Decisions	Description
<b>Suspension of buying secondary market bonds under the GSAP</b>	<ul style="list-style-type: none"> <li>• It aims to <b>withdraw excess liquidity from the system.</b></li> <li>• Government securities acquisition programme (<b>G-SAP</b>) is a <b>dedicated liquidity window</b> through which RBI buys <b>sovereign papers</b> to infuse cash into the banking system.</li> </ul>
<b>Moving liquidity from fixed-</b>	<ul style="list-style-type: none"> <li>• Proposed to conduct <b>14-day variable rate reverse repo (VRRR) auctions every fortnight</b>, from the current ₹4 trillion to ₹6</li> </ul>

<b>rate reverse repo to the auctions</b>	<p>trillion in stages by December.</p> <ul style="list-style-type: none"> <li>• Introduced <b>28-day VRRR auctions</b> and will continue to fine-tune liquidity operations, such as <b>seven-day VRRRs or operation twist and open market operations (OMO)</b>, depending on the need.</li> </ul>
<b>Increased Immediate Payment Service (IMPS) limit from ₹2 lakh to ₹5 lakh</b>	<ul style="list-style-type: none"> <li>• This will <b>promote digital transactions.</b> <ul style="list-style-type: none"> <li>○ IMPS provides <b>24x7 instant domestic funds transfer facility</b> and is accessible through various channels like internet banking, mobile banking apps, bank branches, ATMs, SMS and IVRS.</li> </ul> </li> <li>• It is <b>managed by the National Payments Corporation of India (NPCI).</b></li> </ul>
<b>Internal Ombudsman Scheme for NBFCs</b>	<ul style="list-style-type: none"> <li>• RBI to introduce <b>Internal Ombudsman Scheme for Non-Banking Financial Company (NBFC)</b> to simplify grievance redressal mechanism.</li> <li>• The internal ombudsman at NBFCs will</li> </ul>

examine customer complaints related to **deficiency in service** that have been partly or wholly rejected by the NBFCs.

### 3.9.2. SURVEY TO MAP INFORMAL SECTOR

- **Labour Bureau** has released two surveys namely **All India Quarterly Establishment based Employment Survey (AQEES)** and **All India Survey of Migrant Workers**.
- It is part of evidence-based policymaking to **map employment generation in the unorganized sector** and establishments deploying less than 10 workers.
- **About AQEES**
  - All-India Quarterly Establishment based Employment Survey (AQEES) is launched with the objective of **collecting the employment data on quarterly basis from all the establishments**.
  - It is **designed to be an Establishment based Employment Survey** which would provide estimates for the **demand side conditions of the labour market**.
  - The AQEES has two parts one is Quarterly Employment Survey (QES) and another is Area Frame Establishment Survey (AFES).
    - ✓ The **Quarterly Employment Survey (QES)** under AQEES would provide the employment estimates for the establishments **employing 10 or more workers**.
    - ✓ **Area Frame Establishment Survey (AFES)** would provide the employment estimates for the establishments **recruiting 9 or less workers**.

### 3.9.3. SAMBHAV

- It is a **National Level Awareness Programme** that is being organised by **Ministry of Micro, Small & Medium Enterprise (MSME)**.
- It will be a **one-month long initiative in which students from different colleges/ITIs will be encouraged** by 130 field offices of Ministry of MSME to take up entrepreneurship.
  - During the campaign **college students will be made aware of the various schemes** being implemented by Ministry of MSME.

### 3.9.4. DIGISAKSHAM

- **Ministry for Labour and Employment** has launched **DigiSaksham**- a digital skills programme to **enhance the employability of youth by imparting digital skills** that are required in an increasingly technology driven era.
  - This is a joint initiative with Microsoft India.

- **Free of cost training in digital skills** including basic skills as well as **advance computing** will be provided to more than three lakh youths in the first year.
  - Jobseekers can access the training through **National Career Service (NCS) Portal**.
  - It **gives priority to job-seekers of semi-urban areas** belonging to disadvantaged communities.

### 3.9.5. SKILL IMPACT BOND (SIB)

- The National Skill Development Corporation (NSDC) launched the **first-of-its-kind and the largest 'Impact Bond' for skilling** in India in partnership with global partners.
- The SIB is also **the first impact bond involving public, private partners and a public private partnership organisation, NSDC**.
  - The alliance has brought together a **US\$ 14.4 million fund to benefit 50,000 young people in India over four years**.

### 3.9.6. KRISHI UDAN 2.0

- Scheme, by Ministry of Civil Aviation, proposes to **facilitating and incentivizing movement of Agri-produce by air transportation**.
  - It will be implemented at 53 airports across the country **mainly focusing on Northeast and tribal regions**.
- **Key highlights of the scheme**
  - **Strengthening cargo related infrastructure** at airports and off airports.
  - **Resources-Pooling** through establishing Convergence mechanism.
  - **Development of E-KUSHAL** (Krishi Udaan for Sustainable Holistic Agri-Logistics) for information dissemination to all the stakeholders.
    - ✓ Furthermore, **integration of E-KUSHAL with National Agriculture Market (e-NAM)** is proposed.

### 3.9.7. NATIONWIDE RIVER RANCHING PROGRAMME LAUNCHED

- **"River ranching programme"** has been introduced as special activity under **Pradhan Mantri MatsyaSampada Yojana (PMMSY)** scheme for augmenting and enhancing the **fish production and productivity** through expansion, intensification, diversification and productive utilization of land and water.
  - The program will help in achieving **sustainable fisheries**, reducing habitat degradation, conserving **biodiversity**, maximizing **social-economic benefits** and assessing **ecosystem services**.

- **National Fisheries Development Board (NFDB)** has been designated as the Nodal Agency.
- As a Phase –I programme NFDB during 2020-21 has targeted **three major river systems namely Ganges and its tributaries, Brahmaputra & Barak river tributaries and Mahanadi & other rivers.**
  - Accordingly, six major Inland state focusing on length of river belt namely **Uttar Pradesh, Tripura, Chhattisgarh, Odisha, Uttarakhand and Bihar** were selected.
- PMMSY is a flagship scheme for **focused and sustainable development of fisheries sector** in the country with an estimated investment of Rs. 20,050 crores for its implementation during a **period of 5 years from FY 2020-21 to FY 2024-25 in all States/Union Territories**, as a part of AatmaNirbhar Bharat Package.

### 3.9.8. TRENCH FARMING

- Recently, ASSOCHAM suggested adoption of ‘trench farming’ to grow herbs, vegetables in Ladakh.
- Trench is a **simple structure for growing vegetables during extreme winters.** Trench cultivation **harnesses soil and solar heat** to create suitable climatic conditions for growth of leafy vegetables like spinach, fenugreek, coriander, lai etc.
  - A **suitable size of 30’ x 10’ x 3’ with transparent UV stabilized 200 micron polythene sheets** are used as the technology is **low-cost and portable.**
    - ✓ The farmers can **relocate the trench tunnel** to whatever location they want.
- Since farming season is very small in Ladakh, the farmers should be informed about alternatives to greenhouses, such as **low tunnel technology or trench farming**, to help them cultivate herbs and vegetables.
- **Significance**
  - **The commercial cultivation of Indian and exotic vegetables and flowers** can be taken up in large greenhouses to **meet local demand in such hostile areas.**
  - The produce could be **supplied to the rest of the country at a premium** since India imports some of these vegetables from other countries.

### 3.9.9. NOBEL PRIZE IN ECONOMICS

The **Sveriges Riksbank Prize in Economic Sciences 2021** was given to three economists for two ground-breaking works using ‘natural experiments’.

#### More on news

- The Royal Swedish Academy of Sciences has awarded one half to **David Card** and the other half jointly to **Joshua D. Angrist and Guido W. Imbens.**

#### About the prize winning research

- Issues such as **relation between immigration and employment levels**, school education and future earnings of students etc. have remained relevant across time and geographies.
- David Card used **“natural experiments” (situations arising in real life that resemble randomised experiments)** to analyse the labour market effects of minimum wages, immigration and education.
  - The results showed that **increasing the minimum wage does not necessarily lead to fewer jobs.**
  - The incomes of people who were born in a **country can benefit from new immigration**, while people who immigrated at an earlier time risk being negatively affected.
  - **Resources in schools are far more important for students’ future labour market success** than previously thought.
- The **methodology to interpret data** and draw conclusions from natural experiments was given by **Joshua Angrist and Guido Imbens.**

#### About Sveriges Riksbank Prize

- It was established in **1968** by the **Central Bank of Sweden - Sveriges Riksbank**, in memory of **Alfred Nobel**, founder of the Nobel Prize
- The Prize is based on a **donation received by the Nobel Foundation** in 1968 from Sveriges Riksbank on the occasion of the Bank’s 300th anniversary.

### 3.9.10. NSE-SHINE BULLION BLOCKCHAIN PLATFORM

- It is a **blockchain platform for gold bullion** launched by the National Stock Exchange (NSE) with Chainflux in support with India Gold Policy Centre (IGPC) and the Indian Bullion and Jewellers’ Association (IBJA).
- First for India, the NSE-Shine platform will provide a **data framework for bullion bar integrity** for settlement of **Gold derivatives contracts.**
  - It will also help in ensuring **data security, data integrity, and data traceability** for each bullion bar ID at any point of time.

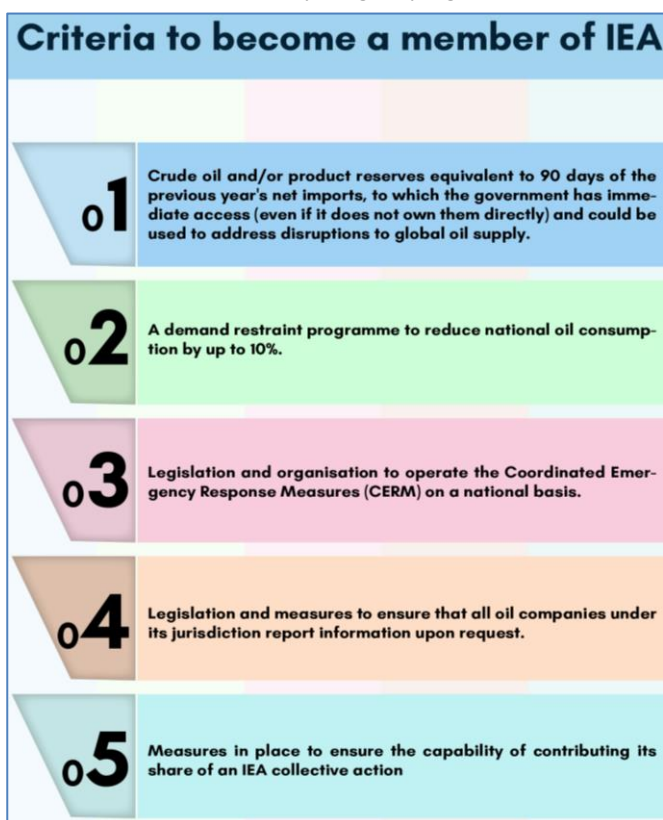
### 3.9.11. INDIA INVITED TO BECOME FULL-TIME INTERNATIONAL ENERGY AGENCY (IEA) MEMBER

- This invitation is natural corollary to the ‘**India-IEA strategic partnership**’ which was inked in January 2021 to **strengthen mutual cooperation in global energy security, stability and sustainability.**
  - In order to become a member of IEA, a **country needs to be a member of the Organisation for**



**Economic Co-operation and Development (OECD)** and also fulfil 5 further criteria (refer infographic).

- Paris-based **IEA** was created as a response to the oil crisis of 1973-74.
  - It is at the heart of **global dialogue on energy, providing analysis, recommendations**, to help countries provide secure and sustainable energy for all.
  - It publishes **World Energy Outlook, Oil Market Reports**, etc.
  - In 2017, **India joined as an associate member**.
- **Benefits of full membership**
  - It will allow maximizing **strategic depth of India's crude oil reserves**, technical assistance especially in the **clean energy sector**, provide a geopolitical platform to take lead in climate and energy issues, etc.
  - India's entry will boost the global energy security apparatus and add heft to its dealings with Organization of the Petroleum Exporting Countries (OPEC)-plus grouping.



### 3.9.12. DEAL REACHED ON GLOBAL MINIMUM CORPORATE TAX RATE: ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD)

- A global deal to ensure big companies pay a minimum tax rate of 15% and make it harder for them to avoid

taxation has been agreed by 136 countries including India

- Four countries - **Kenya, Nigeria, Pakistan, and Sri Lanka** - had not yet joined the agreement.
- The OECD/G20 **Inclusive Framework on Base Erosion and Profit Shifting (BEPS)** provides a **two-pillar solution** to address the tax challenges arising from the digitalisation of the economy.
  - **Pillar One:** Applied to about 100 biggest and most profitable MNEs (global turnover above **20 billion euros** and profitability above **10%**), it reallocates part of their profits to places where they sell products or provide services.
  - **Pillar Two:** Applied to larger MNEs, i.e. companies with over EUR 750 million of annual revenue, it subjects them to the global minimum corporate tax of 15% from 2023.
- **Significance**
  - **End a decades-long "race to the bottom"** in which countries have competed to attract corporate giants with ultra-low tax rates and exemptions.
  - **Additional tax revenue to fight pandemic**
  - **Check on tax havens**
  - **Boost to global economy** by levelling the playing field for businesses.
- BEPS refers to **tax planning strategies used by multinational enterprises (MNEs) that exploit gaps and mismatches in tax rules** to artificially shift profits to low or no-tax locations where there is little or no economic activity, resulting in little or no overall corporate tax being paid.

### 3.9.13. SEYCHELLES' TAX INSPECTORS WITHOUT BORDERS (TIWB) PROGRAMME LAUNCHED IN PARTNERSHIP WITH INDIA

- It aims to aid Seychelles in **strengthening its tax administration by transferring technical know-how and skills** to its tax auditors through sharing of best audit practices.
  - Focus of the programme will be on **Transfer Pricing cases of tourism and financial services sectors**.
  - So far India has committed to support **TIWB programmes in Eswatini, Sierra Leone, Uganda and Bhutan**.
- **TIWB is a joint initiative** of United Nations Development Programme (UNDP) and Organisation for Economic Cooperation and Development (OECD) **to enable sharing of tax audit knowledge and skills with tax administrations in developing countries**.

- TIWB programmes can include **pre-audit risk assessment, investigatory techniques**, audit cases involving transfer pricing issues, anti-avoidance rules, or **sector-specific issues** (e.g. natural resources, e-commerce, etc).
- TIWB **does not cover assistance relating to customs matters** nor is concerned with providing policy support, advice on legislative changes.
- TIWB programmes are **flexible and tailored to a country's specific needs**.
- **Benefits of TIWB programme**
  - **More certainty and consistency for business**, as well as a more transparent investment climate.
  - **Fostering of international dialogue on tax matters** between tax administrations in developed and developing countries.

### 3.9.14. 100% FDI IN TELECOM SECTOR VIA AUTOMATIC ROUTE

- Recently, government **raised foreign direct investment (FDI) limit** in telecom sector through the **automatic route to 100% from 49% earlier**.
  - Move is aimed at **promoting ease of doing business** in India.
- However, **all foreign investments from countries with which India shares land borders** or where the beneficial owner of an investment into India is situated, **can invest only under government route**.



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# 4. SECURITY

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

### Why in News?

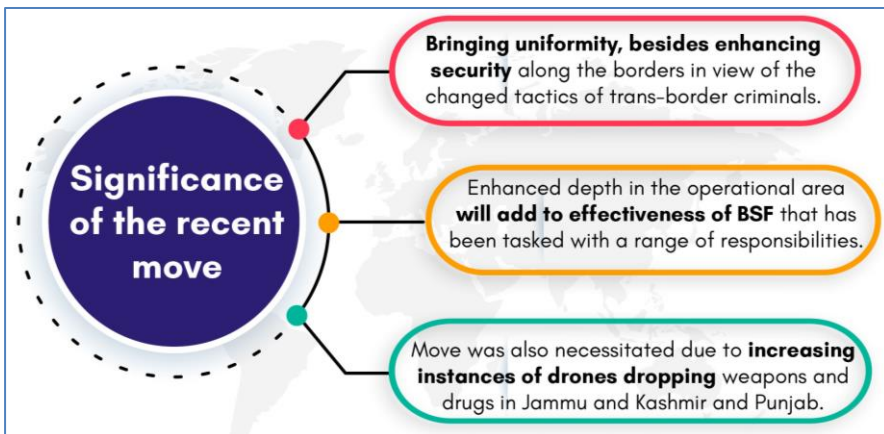
Recently, Ministry of Home Affairs (MHA)'s notification set the **jurisdiction of the Border Security Force (BSF) at a uniform limit of 50 Km** in almost all the states that share borders with **Pakistan, Bangladesh and Myanmar**.

### 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.

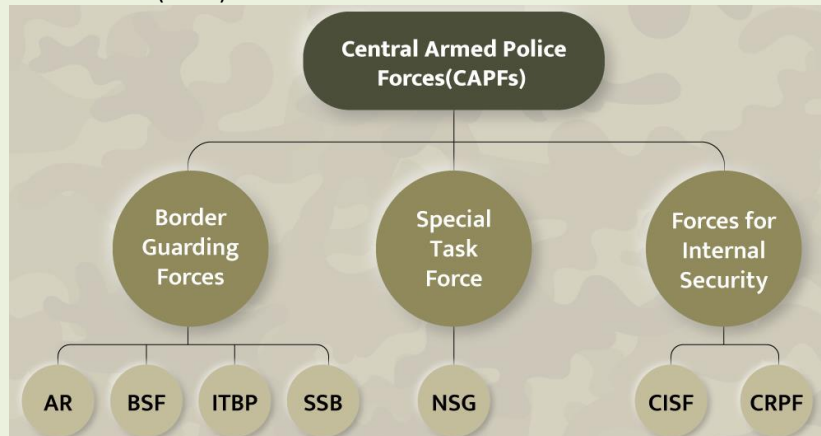
### Delegation of policing power to Central Armed Police Forces (CAPFs)

- Initial delegation of police powers to BSF was done in 1969 under the provisions of BSF Act 1968. Some modifications were notified in 1973 and 2014.
- Sashastra Seema Bal (SSB)**, which guards the Indo-Nepal border, **has also been given powers of the police** and other investigating agencies under the Criminal Procedure Code (CrPC).
  - SSB was given permission to exercise these powers within 15 km of the Indo-Nepal and Indo-Bhutan border regions, in which it operates.



### About Central Armed Police Forces (CAPFs)

India has seven Central-level Armed Police Forces under the Ministry of Home Affairs (MHA) that constitute the CAPFs.

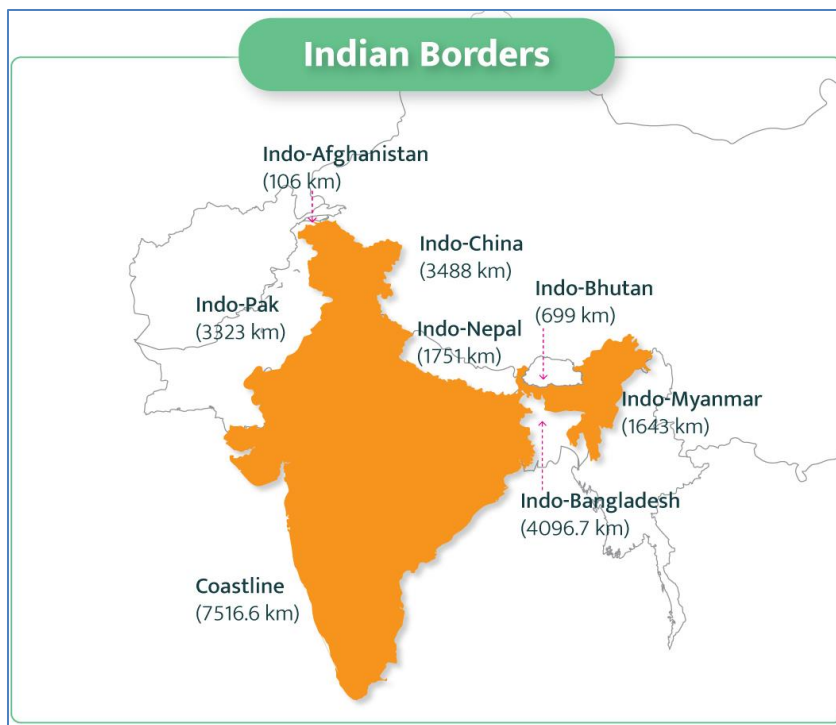


The AR are deployed in the North Eastern region to tackle insurgency and guard the India-Myanmar border; the BSF is deployed on the India-Bangladesh and India-Pakistan borders; the ITBP is deployed on the India-China border; and the SSB is deployed on the India-Nepal and India-Bhutan borders.

- Out of these seven CAPFs, four CAPFs namely Assam Rifles (AR), Border Security Force (BSF), Indo-Tibetan Border Police (ITBP) and Sashastra Seema Bal (SSB) are the Border Guarding Forces (BGFs).
- Central Industrial Security Force (CISF):** To provide security and consultancy to the Public Sector and Private Sector under takings and also to provide security to the VIPs.
- Central Reserve Police Force (CRPF)** came into existence as the Crown Representative's Police in 1939 at Neemuch (MP) to assist the princely States in maintenance of law & order.
  - The mission of the CRPF is to be enable the government to maintain rule of law, public order and internal security effectively.
- National Security Guard (NSG)** was conceptualized and created after studying and analyzing Special Force like SAS in the United Kingdom, GIGN in France.
  - NSG Commandos are trained in high risk tasks like counter hijacking and counter-terrorist operations.

## 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).
  - Challenges are faced because of the lack of advanced equipments and arms, inadequate training of personnel and the inability of the State Governments to modernize their police forces.
- **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:** It is against federal structure as states argue that 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.

## 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.

- **Lack of coordination with state police** may lead to ugly situations because the concurrent jurisdiction of two forces, controlled by two different governments may lead to turf wars, especially if the ruling parties in the state and centre are different.
- **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

A country of India's size and importance with **multiple porous and sensitive international borders** in a region as volatile as South Asia needs to be cautious about its border security.

But at the same time, as states in India's federal polity are entrusted with the primary responsibility of managing the law and order within its jurisdiction, all decisions regarding the security architecture that impacts states' domain of authority must be discussed adequately with the concerned state governments.

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.

## 4.2. HYPERSONIC PLATFORMS

### Why in news?

In August, China reportedly tested a **nuclear-capable hypersonic glide vehicle** that circled the globe before speeding towards its target.

### More about news

- Chinese appear to have combined a **Fractional Orbital Bombardment System**, or FOBS, with a hypersonic weapon. FOBS sends missiles through a **partial orbit** around the earth to strike targets **from an unexpected direction**.
- According to the reports, weapon could, in theory, fly **over the South Pole**. That would pose a big challenge for the US military because its **missile defence systems are focused on the northern polar route**.
- This test was not in isolation. China is building up his strategic forces across the board, **quadrupling the size** of the arsenal and building new **siload** intercontinental ballistic missiles (**ICBMs**), new mobile ICBMs, new nuclear bombers, new nuclear-armed submarines, new missile defences, and new hypersonic missiles.

### About Hypersonic Platforms

- Hypersonic speeds are those that **exceed five times the speed of sound**, that is, anything that can move at speeds of Mach 5 or above, which means at **least at 1.6 km per second**.
  - **Subsonic:** Mach < 1.0
  - **Transonic:** Mach = 1.0
  - **Supersonic:** Mach > 1.0
- Hypersonic platforms can be divided into two **main categories**:
  - **Hypersonic Cruise Missiles (HCM):** This is typically propelled to high speeds initially using a small rocket, and then, powered to the target by a **supersonic combustion ram jet ('scramjet')** for hypersonic flight. This is what India, under its **'Hypersonic Technology Demonstrator Vehicle' /Mach-7 BrahMos-II program** has tested.
  - **Hypersonic Glide Vehicles (HGV):** The HGV is a **'boost-glide'** weapon. It is **first 'boosted'** into near-space atop a conventional rocket, and then **released at an appropriate altitude and speed**. The release height depends on the **intended trajectory** to the target. Thereafter, the HGV starts to **fall back to Earth**, gaining **more speed and gliding** along the upper atmosphere, before diving onto the target.
- While **the US, Russia and China** possess the **most advanced** hypersonic weapons programmes, a **number of other countries, including Australia, India, France, Germany and Japan**, are also developing hypersonic weapons technology.

## How HCM are different from intercontinental ballistic missiles (ICBMs)?

Intercontinental Ballistic Missiles (ICBMs)	Hypersonic Cruise Missiles (HCMs)
<ul style="list-style-type: none"> <li>• Traditional ballistic missiles and ICBMs arc along a <b>predictable ballistic path</b>, like a bullet, and <b>lack the element of surprise</b>.</li> <li>• Assessment by the Nuclear Threat Initiative premises that the President of the US has just <b>2-4 minutes to render a decision on intercepting incoming ballistic missiles</b> fired by China/Russia and <b>launch its own missiles</b> against the latter.</li> </ul>	<ul style="list-style-type: none"> <li>• Hypersonic missile <b>packs the manoeuvrability</b> of much slower subsonic cruise missiles and the hypersonic speed <b>greater than or equal to ICBMs</b>, making it <b>harder to track and defend against</b>.</li> <li>• The <b>detection-interception time</b> in case of HCMs and HGVs would be <b>far less</b>. Besides, <b>HGVs do not rise above 100-110 kms</b> altitude and HCMs fly even lower, at about 20-30 kms altitude. <ul style="list-style-type: none"> <li>○ Their flatter trajectories vis-à-vis ICBMs, along with the Earth's curvature, <b>further complicates the dynamics of detecting-intercepting</b>.</li> </ul> </li> </ul>

## Strategic implications due to growth of Hypersonic Technology

- **Upsets the current military balance of power:** Recent report by US-based public-policy research institute says that Russia and China have likely **fielded operational hypersonic glide vehicles** that are potentially armed with **nuclear warheads**. In contrast, most hypersonic weapons of the US are **not designed for use with a nuclear warhead**.
- **Inadvertent Escalation:** Faced with hypersonic weapons threat and **reduced warning-response timings**, nuclear-armed states are likely to place their nuclear weapons on a **hair-trigger readiness/ 'launch on warning' status**, and/or **delegate control to lower levels**. Both steps hold attendant risks of inadvertent, swift escalation.
  - Additionally, **principles for when to use hypersonic weapons have not been set** and the **ramifications of using them** have not been thought through, raising tough questions.
- **Strategic instability:** Hypersonic weapons, with **quick-launch, high-speed**, massive terminal effects capability, will **encourage adventurism, make escalation control very difficult**, and generate not only strategic instability but also **instability in crisis management** at many levels.
  - **Unpredictable flight paths** may turn to the attacker's disadvantage because uncertainty about their intended targets **can lead countries that aren't being targeted to respond by mistake**.
- **Nuclear arms race:** Demonstration of Chinese missile prowess has been considered **"very close" to a Sputnik moment**. Sputnik was the eponymous **satellite launched in 1957 by the Soviet Union** that suggested the Russians were ahead in the **space race** and could one day rain nuclear bombs down on the U.S. from the sky.
  - The test is bound to impose **new, multi-faceted, financially debilitating costs** that would be in addition to conventional and nuclear weapons.
  - According to the latest data by Stockholm International Peace Research Institute (Sipri), in 2021 **China had a total of 350 nuclear warheads**.
- **Implications for India:** China's hypersonic-missile test proves that the threat from Beijing is **not limited to the border areas** or the Indo-Pacific. Rather China is a serious civilian and military threat to India **in all areas, including the economy, space, technology, and geopolitics**.

### India's progress towards developing hypersonic technology

- **BrahMos II:** India has collaborated **with Russia** on the development of BrahMos II, a Mach 7 hypersonic cruise missile. It is scheduled to achieve initial **operational capability between 2025 and 2028**.
- **Mission Shakti:** To **protect its space assets**, India has already proved its capabilities through the test of indigenously developed **anti-satellite (ASAT) missile technology**.
- **HSTDV:** India is also developing an **indigenous, dual-capable hypersonic cruise missile** as part of its **Hypersonic Technology Demonstrator Vehicle programme (HSTDV)** and successfully tested a Mach 6 scramjet in June 2019 and September 2020.
- **HWT test facility:** An advanced **Hypersonic Wind Tunnel (HWT) test facility** of the DRDO was inaugurated last year in Hyderabad. It is a **pressure vacuum-driven, enclosed free jet facility** that simulates Mach 5 to 12.

## How India should respond to this development?

- **Seize emerging interest in arms control:** India should seize an emerging interest in arms control to **reframe the issue from non-proliferation to non-use** of nuclear weapons. **Global no-first use (NFU)** appear to be a reasonable and forward-looking proposal as it bequeaths restraint, or at least **performs a regulative function**.
  - India can **propose a dialogue on hypersonic weapons** at the Conference on Disarmament and other multilateral fora without forsaking its quest for hypersonic weapons.

- **India should be prepared for arms race:** Arms races are a reflection of **underlying political dynamic** and as power competition among major powers accelerates, arms races are **likely to be the norm** and not the exception. Thus, India should be **prepared for such eventualities**.
- **Space Situational Awareness (SSA):** India should **aim to acquire a competitive advantage** in the tracking of space objects, both from the ground as well as from space. An independent SSA is crucial for **space defence** and has the **potential to become strategic technology** that other countries will require.
- **Investment in technology:** With India's **AI-enabled Air launched Ballistic missile (ALBM), Rudram-3**, still in the works, the country is not prepared to counter China. Hence, India must move fast and invest heavily in **militarised AI technologies** to protect its interests at a time when its hostile neighbour is **growing stronger** at an unprecedented pace. India should focus on public investment in the **physics, materials and engineering** of anti-satellite and hypersonic systems.

### Conclusion

Though this test by China is so far done to build capabilities **not against India** but considering relations with China in recent past and unresolved border dispute, India must **develop and test hypersonic capability**, bolstering its **strategic deterrent** against China.

## 4.3. CRITICAL INFRASTRUCTURE

### Why in News?

Recently, Government has released guidelines for the **Cyber Security in Power Sector**.

### More about news

- **Central Electricity Authority** under the provision of **Section 3(10) on Cyber Security in the 'Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019'** has framed **Guideline on Cyber Security in Power Sector** to be adhered by all Power Sector utilities to **create cyber secure eco system**.
  - This is the first time that a comprehensive guideline has been formulated on cyber security in power sector.
- The **guideline lays down actions required to ramp up security measures across various utilities to raise preparedness in power sector**.
- These Guideline are **mandatory requirements to be met by all stakeholders and lay emphasis on:**
  - **Establishing cyber hygiene,**
  - **Training of all IT as well OT Personnel on Cyber Security,**
  - **Designating of Cyber Security Training Institutes**
  - **Cyber Testing labs** in the Country
- The Guideline **mandates ICT based procurement from identified 'Trusted Sources' and identified 'Trusted Products'** or else the product has to be **tested for Malware/Hardware Trojan** before deployment for use in power supply system network when system for trusted product and service is in place.
- With the new norms, government **aims to place mechanisms for security threat early warning, strengthen the protection and resilience of critical information infrastructure, and reduce cyber supply chain risks**.
  - It will **promote research and development in cyber security and open market for setting up Cyber Testing Infra in Public as well as Private Sector** in the country.

### About Critical Infrastructure

- Critical infrastructure (CI) refers to those **essential physical and information technology facilities**, networks, services and assets, which, if disrupted or destroyed, would have a serious impact on the health, safety, security, economic or social well-being or the effective functioning of government.
  - **Chemicals, Dams, emergency services, Power & Energy, Banking & financial services**, government facilities, healthcare, information technology, transportation, nuclear reactors etc. are considered parts of CI of a country.

### Importance of Critical infrastructure security

- Resilient and secure infrastructure is **vital for economic prosperity** because it not only underpins the effective operating of businesses and services, but also underpins long term confidence and planning in a region, and thus ongoing investment levels.

- The **loss, damage, unavailability, though for a short duration, can have significant consequences and cascading effects** far beyond the targeted sector and physical location of the incident.
  - Upon computer resource, other physical systems or processes are dependent, and this computer resource, if compromised or incapacitated, would cause widespread damage, which might have severe consequences.
- Disruptions to CI could **impact global supply chain**.

### Challenges in protecting critical infrastructure

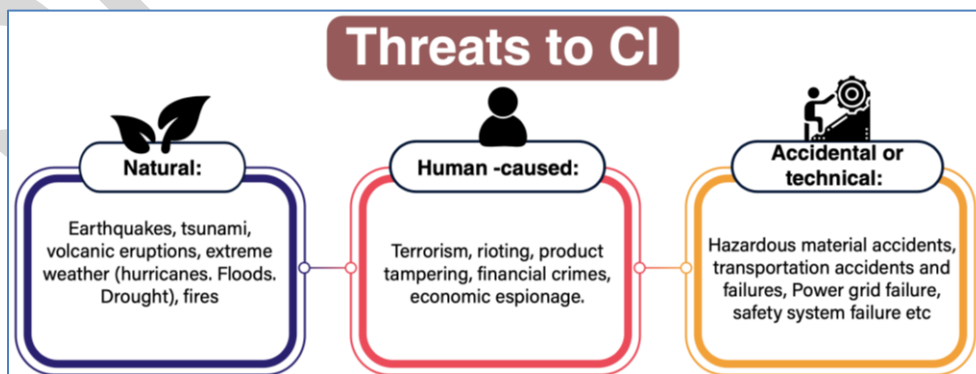
- **Internal Resources:** Many organizations including those that help to maintain Critical Infrastructure do not have enough **trained security professionals** to meet their security needs.
- **Reluctance in Sharing Information:** The **inhibition in the private and public sector to share information** about the vulnerability of their systems.
  - By revealing their vulnerabilities and their proprietary information, **businesses fear exposing themselves and losing a competitive edge over rivals**. As the businesses are becoming heavily dependent on IT infrastructure, there is a constant risk to the continued availability, reliability and recoverability of resources.
- **Clear lack of co-ordination among agencies.** The interaction among Indian agencies is far too less, some of the agencies report to the Ministry of Home Affairs, while others report to the Prime Minister's Office, Defence ministry, MeitY etc.
- **Capability Asymmetry:** India lacks indigenization in hardware as well as software cybersecurity tools. This makes India's cyberspace vulnerable to cyberattacks motivated by state and non-state actors. There is proposal to minimise the dependence on foreign IT products and to **produce indigenous security solutions**.



### Initiatives for critical Infrastructure protection (CIP) in India

- In 2014, India established the **National Critical Information Infrastructure Protection Centre (NCIIPC)** to regulate and protect the nation's Critical Information Infrastructures (CIIs).

- CIIs, as defined by the Information Technology Act of 2000, are vital computer resources that, if incapacitated or destroyed, will leave a debilitating impact on national security, economy, public health or safety across both public and private sectors.



- **Indian Computer Emergency Response Team (CERT-In):** National nodal agency for responding to computer security incidents.
- **National Cyber Security Coordinator (NCSC)** under National Security Council Secretariat coordinates with different agencies at the national level for cyber security matters.
- **Cyber Swachhta Kendra** (Botnet Cleaning and Malware Analysis Centre) has been launched for detection of malicious programs and provide free tools to remove the same.
- **Training & Mock Drills:** The government organisation have also started organising and conducting cybersecurity mock drills to assess the cybersecurity posture of organisations.



- **Personal Data Protection Bill** which aims to protect Indian users from global breaches. The bill implies the storage and processing of any critical information related to individuals only in India.

#### Way forward

- There is a **dire need to evolve a comprehensive security policy to address the physical, legal, cyber and human dimensions of security.**
- **A better understanding of vulnerabilities is required,** including interdependencies between infrastructures.
- CIP requires comprehensive co- operation. a functioning **partnership between the state and the corporate sector is essential.**
- **Build and grow the cyber workforce** to ensure sufficient skills and talent is available.
- An **integrated and sustainable supply chain security objective** must be included in business plans, contracts and operations.

## 4.4. NEWS IN SHORTS

### 4.4.1. SEVEN NEW DEFENCE COMPANIES CARVED OUT OF ORDNANCE FACTORY BOARD (OFB)

- Department of Defence Production has formed **7 DPSUs (Defence Public Sector Units)** with a vision to **improve autonomy, accountability and efficiency** in ordnance supplies of India.
- Also these DPSUs **would help in import substitution and to improve self-reliance in the defence preparedness** of the country.
  - **India was the world's 3<sup>rd</sup> largest military spender in 2020,** after US and China.
- **Steps taken to strengthen defence manufacturing**
  - **Defence Acquisition Procedure (DAP) 2020** increased the indigenous content requirement in all categories of defence procurement.
  - **209 defence items** are included in '**positive Indigenisation list**' (items banned for import).
  - Enhanced FDI in Defence Sector up to 74% through Automatic route.
  - **Corporatization of Ordnance Factory Board (OFB)** to bring improvements in efficiency, making products cost-competitive, and enhancing their quality.
  - **Innovations for Defence Excellence (iDEX)** to foster innovation and technology development.
  - **SRIJAN portal** to provide development support to MSMEs/Startups/Industry.
  - **Defence Industrial Corridors** in UP and Tamil Nadu.

### 4.4.2. ABHYAS

- **ABHYAS- High-speed Expendable Aerial Target (HEAT)** was successfully flight-tested by DRDO from Integrated Test Range (ITR), Chandipur off the coast of Bay of Bengal in Odisha.
- Designed and developed by DRDO's **Aeronautical Development Establishment (ADE), Bengaluru for autonomous flying.**
  - It is a drone that will be used as a target for various missile systems.
- Performance of target aircraft was **monitored through telemetry** and various tracking sensors including **Radars and Electro Optical Tracking System (EOTS).**
- **Powered by a small gas turbine engine** and has MEMS (Micro-electromechanical) based Inertial Navigation System (INS).

### 4.4.3. EXERCISES IN NEWS

- **JIMEX:** The 5th edition of the **bilateral maritime exercise JIMEX,** between **Japan and India,** was conducted in the Arabian Sea recently.
- **Exercise AJEYA Warrior:** It is **India - UK Joint Company Level Military Training exercise.**
- **MITRA SHAKTI:** It is a joint military exercise between the **Indian Army and the Sri Lankan Army.**
- **EX YUDH ABHYAS:** It is an **India – US** joint training exercise.
- **Cambrian Patrol Exercise:** Organised by UK Army, is sometimes referred as the **Olympics of Military Patrolling.**
  - Recently, an Indian Army team was awarded gold medal in this exercise.
- **Konkan Shakti:** It is an **India-UK joint military exercise.**

# 5. ENVIRONMENT

## 5.1. 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.

### 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.
  - 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.

### 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.



- **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

- **Adoption of the 30 by 30 Targets:** Related issues--
  - 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.
- **Digital sequence information (DSI):** Presently commercial benefits of DSI are 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 the world has been shocked by the scientific conclusion that more than a million species are 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.

### 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.

- **Global targets must be measurable, underpinned by science, and have explicit outcomes**, so that their implementation and impacts can be monitored and assessed.
  - 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.

## 5.2. INDIA AND CLIMATE AGENDA

### Why in News?

Prime Minister of India recently laid out India's climate change action plan (**panchamrita**) at the ongoing 26th United Nations Framework Convention on Climate Change's Conference of Parties (COP26) in Glasgow.

### Prevalent challenges related to India's Climate action

- **Coal dependency:** Coal continues to be a driving force behind electrification in India and plays an important role in the energy security of the country. Thus, it will be difficult to replace it, especially since integrating renewable energy into the grid can be costly.
- Further, multiple coal-fired power plants already in the works are still being built and approvals are being given for new domestic mines to be opened up.
- **Balancing growth and environment:** For a country like India, committing to net zero transition could potentially have implications on growth, on the economy and on energy availability for industrialisation and urbanisation.
- **Lack of ambition:**
  - Scientists have advised countries to go net zero latest by 2050 and move on to negative emissions to mitigate the worst effects of the climate crisis.
  - Also, India's commitments focus on increasing total capacity rather than total consumption of renewable installed capacity
  - **Absence of commitments relating to reduction in emissions from other energy-intensive sectors** like transport sector and industries like cement, iron and steel, non-metallic minerals and chemicals.

### India's Intended Nationally Determined Contribution (INDC) under the Paris climate agreement and achievements



33-35% reductions in emissions intensity by 2030 from 2005 levels



40% of all electricity to be generated from non-fossil fuels by 2030



Create additional carbon sink of 2.5-3 billion ton of CO<sub>2</sub> equivalent by 2030 through forest and tree cover

India's on track to exceed the 2030 targets for two of the quantitative targets- reduction in emissions intensity and increase in generation of electricity from non-fossil fuels.

- Achieved a reduction in the emission intensity to GDP by 25 per cent by 2016 below 2005 levels. (Centre for Science and Environment)
- Non-fossil fuel sources, including large hydro and nuclear, comprised ~40% of installed capacity in Sept. 2021. (National Power Portal).
- Total forest and tree cover increased to 24.56 per cent of the geographical area of the country in 2019 (India State of Forest Report).

- **Rising emissions from agricultural sector:** India's significant food and fertilizer subsidies contribute to climate change leading to high GHG emissions, especially in paddy cultivation.
- **Need of investment:** India expects developed countries to provide climate finance of \$1 trillion.
- **Issues in implementation of the climate missions:** like institutional, systemic and process barriers, including financial constraints, inter-ministerial coordination, lack of technical expertise and project clearance delays.
- **Existing laws are inadequate to deal with climate change:** and do not contain provisions to specifically to reduce future climate impacts and tackle environmental/climate violations.
- **Fragmentation of climate action:** India lacks a comprehensive climate action plan to monitor and deal with climate adaptation and mitigation and other environmental and socio-economic issues in an integrated manner.

**PANCHAMRITA: INDIA'S CLIMATE COMMITMENTS AT COP26 SUMMIT IN GLASGOW**

- Achieve the target of Net Zero by the year 2070
- Increase non-fossil energy capacity to 500 GW by 2030
- Meet 50 percent of its energy requirements from renewable energy by 2030
- Reduce the total projected carbon emissions by one billion tonnes from now till 2030
- Reduce the carbon intensity of its economy by less than 45 percent by 2030

### Way Forward

- **Phasing out coal** by retiring the inefficient coal plants and not building new ones.
- **Enacting a climate law:** It could consider two aspects:
  - **Creating an institution that monitors action plans for climate change:** A 'Commission on Climate Change' with quasi-judicial powers could be set up, with the power and the authority to issue directions, and oversee implementation of plans and programmes on climate.
  - **Establishing a system of liability and accountability at short-, medium- and long-term levels** by having a legally enforceable National Climate Change Plan that goes beyond just policy guidelines.
- **Developing a strategy for net zero goals (see infographic):**
- **Ensuring adequate support from developed to developing countries** in the form of finance, technology and in capacity building.
- **Net negative emissions from developed nations:** In order to vacate the carbon space in 2050 for developing countries to grow, the developed countries can aim for negative emissions.

**MISSION 2070: A GREEN NEW DEAL FOR NET ZERO INDIA**

 <p><b>Low-carbon Energy</b> Accelerated adoption of renewable/ green energy/ H2 across India</p>	 <p><b>Green Mobility</b> Adoption of electric, hydrogen, LPG/LNG, and other alternative green technology-based mobility platforms</p>	 <p><b>Decarbonization of Energy-Intensive Industries</b> Modernizing and decarbonizing energy-intensive industries through the adoption of green technologies and standards</p>	 <p><b>Green Buildings, Infrastructure and Cities</b> Promoting green cities, energy efficient buildings, and green construction technologies in future infrastructure projects</p>	 <p><b>Sustainable Agriculture</b> Transitioning to sustainable methods of farming</p>
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**ENABLERS**

- 1 Green Technology Innovation**  
R&D and investments in technologies that can accelerate the carbon transition
- 2 Green Finance**  
Financing the green revolution
- 3 Carbon Sequestration-CCUS and Carbon Sinks**  
Catalysing carbon capture as well as carbon offsets (natural sinks and DACCS)
- 4 Climate Adaption**  
India cooling plan, knowledge and capability building, indoor work transitions

### Schemes/policies to combat Climate Change

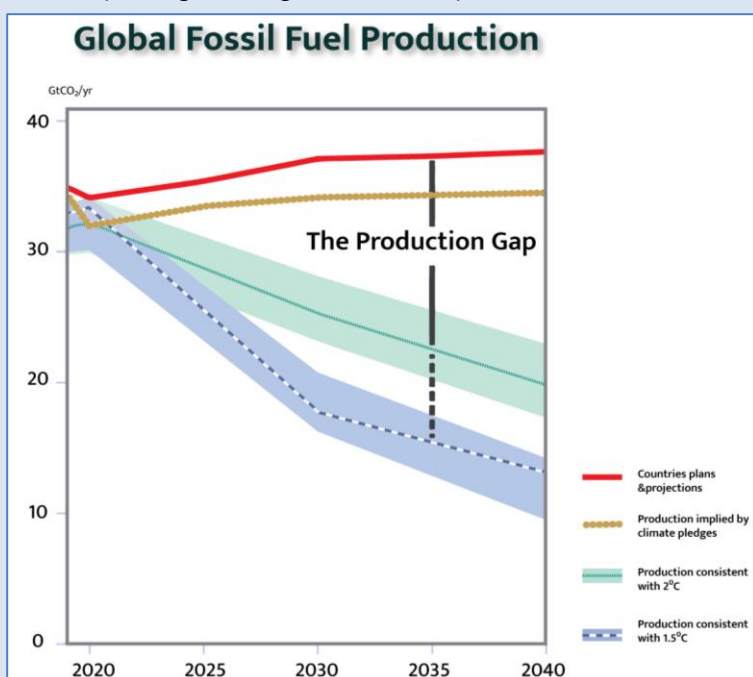
- **National Action Plan on Climate Change (NAPCC).**
- **Climate Change Action Program (CCAP).**
- **National Electric Mobility Mission Plan (NEMMP), 2020** which includes Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) scheme.
- **Adoption of the BS-VI norms** to reduce vehicular emissions.

- **Environmental Impact Assessment (EIA)** under the Environment Protection Act, 1986.
- **Energy Conservation Building Code.**
- **Schemes to promote renewable energy:** Solar cities, Ultra mega solar parks, National Biofuel Policy, National Offshore Wind Energy Policy, Renewable Purchase Obligation etc.
- **Other schemes: Ujjwala, UJALA, AMRUT, Swachh Bharat Mission, Green Rating for Integrated Habitat Assessment (GRIHA)** etc.
- **Financial tools: National Adaptation Fund on Climate Change, Priority Sector Lending (PSL)** for renewable energy sector.
- **Satellite technology** to observe and tackle Climate Change- HySIS Megha-Tropiques SARAL mission, Oceansat3-Argos mission etc.
- **At International stage: International Solar Alliances (ISA) and Coalition for Disaster Resilient Infrastructure (CDRI).**
- **Other measures: Polluter Pay Principle, Perform Achieve and Trade (PAT) scheme, Carbon tax, Energy Saving Certificates (ESCs).**

#### Related News

##### Production gap report 2021 released by United Nations Environment Programme (UNEP)

- Report measures the **gap between governments' planned production of fossil fuels and the global production levels** consistent with meeting the Paris Agreement temperature limits (limiting warming to 1.5°C or 2°C).
- **Key Findings**
  - **As countries set net-zero emission targets, and increase their climate ambitions under the Paris Agreement, they have not explicitly recognized or planned for the rapid reduction in fossil fuel production** that these targets will require.
  - **World's governments plan to produce around 110% more fossil fuels in 2030** than would be consistent with limiting warming to 1.5°C, and 45% more than consistent with 2°C.
  - **G20 countries have directed over USD 300 billion in new funds** towards fossil fuel activities since the beginning of the COVID-19 pandemic — more than they have towards clean energy.
- **Key recommendations**
  - **Acknowledge in their energy and climate plans need to reduce global fossil fuel production** in line with Paris Agreement's limits.
  - **Place restrictions on fossil fuel exploration and extraction and phase out government support for fossil fuel production.**
  - **Leverage international cooperation** to ensure a more effective and equitable global wind-down of production.



## 5.3. RIGHT TO BURN FOSSIL FUELS

### Why in news?

The Like-Minded Developing Countries — a group of developing countries which have a similar stand in the United Nations climate negotiations — has demanded that Developed countries must ensure net-zero emissions by 2030 to provide carbon space to the developing countries to burn fossil fuels like coal for their growth.

### Why does India need a 'right to burn' fossil fuels?

- **Low share in global emissions:** India has neither historically emitted nor currently emits carbon anywhere close to what the global North has, or does, in per capita terms. Thus, it has no reason to commit to declining dependence on coal, at least in the near future.
  - India's emissions are at relatively low 1.96 tons CO<sub>2</sub> per capita (17.6 tons CO<sub>2</sub> per capita for USA).
- **Fulfilment of India's developmental imperatives** like eradication of poverty, provision of basic needs for all citizens and access to energy for all, in the context of sustainable development need space for emissions.

- **Technological and financial advancement:** Developed countries have technological and financial capacity to fulfil early targets and leave the remaining atmospheric space for the developmental rights of the developing world.

#### What are the issues in giving such a 'right'?

- **Urgent need to mitigate for climate impacts:** India faces harmful impacts related to sea level rise, heat stress, drought, water stress and flooding, biodiversity and natural disasters.
- **Coal is no longer reliable and cost effective:** India is among the largest importers of coal in the world, and volatility in global prices threatens its energy security.
  - Recent data show that the levelized cost of electricity from renewable energy sources like solar (photovoltaic), hydro and onshore wind has been declining sharply over the last decade and is already less than fossil fuel-based electricity generation.
- **High future emissions:** India's contribution to future emissions is considerably greater, as its population is projected to continue to grow and surpass China's around 2025.
- **Injustice is not at the level of the nation-states alone:** Developing countries need to address the injustice between the rich and the poor within nations and between humans and non-human species. Poor in India will unduly bear the effect of climate change because of its tropical climate and high population density along the coastal lines.
- **Green transition can increase inclusion and growth:** Investment in sectors such as renewable energy, electric mobility etc. has the potential to address the issues of employment, technology, energy poverty and self-reliance.
  - For instance, solar rooftops can provide decentralised access to clean energy to the poor and the marginalised, including in remote regions of India.

#### Way Forward

- **Focus of the discussion on climate finance for developing countries should be on providing adequate resources** — both financial and technology transfer to facilitate the developing countries to transition to a low carbon growth pathway.
- **South-South collaborations** can help developing countries like India to advance technologically and financially towards a greener economy.

## 5.4. 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.

#### 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.

- **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.

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"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• To define 'forests' in an objective manner.</li> </ul>
Land Acquired before 1980	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Exempt such lands acquired before 25.10.1980 from the purview of the Act.</li> </ul>
Differences in land records of forests	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue records to be statutorily required to reflect the occupier and the nature of land including forest.</li> <li>• Lands identified as plantation, afforestation etc. after 12.12.1996 to remain outside the purview of the Act to encourage forestry activities.</li> </ul>
Construction alongside road and railways	<ul style="list-style-type: none"> <li>• Alongside roads and railway lines, strip plantations have been developed and notified as forests which creates approval issues for construction of amenities and facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Exemption up to 0.05 ha for each such accesses may be allowed to alleviate the hardship of the residents/business owners.</li> </ul>
Conservation of Pristine Land	<ul style="list-style-type: none"> <li>• There are no prohibitory (only regulatory) provisions in the Act for non-forestry use of pristine forest.</li> </ul>	<ul style="list-style-type: none"> <li>• Introducing an enabling provision in the Act to keep certain pristine forests showcasing rich ecological values intact for a specific period.</li> </ul>
Development of infrastructure along the international border areas	<ul style="list-style-type: none"> <li>• Obtaining approval from central government for projects of national importance is difficult leading to delay in these projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Such projects to be exempted from obtaining prior approval of Central Government</li> <li>• To allow the states to permit non-forest use of such lands.</li> </ul>
Misuse of provisions by mining companies	<ul style="list-style-type: none"> <li>• Forest land can be diverted under two provisions-               <ul style="list-style-type: none"> <li>○ 2(ii) For use of forest land for non-forestry purpose by paying only NPV.</li> <li>○ 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.</li> </ul> </li> <li>• However, mining leaseholder misuse provision 2(ii) and get away with paying the NPV money only.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>



<b>New drilling technologies</b>	<ul style="list-style-type: none"> <li>New environmentally friendly technologies which enables exploration or extraction of oil &amp; natural gas deep beneath without impacting the forest soil or aquifer are coming up.</li> </ul>	<ul style="list-style-type: none"> <li>Such environmentally friendly technologies to be kept outside the purview of Act.</li> </ul>
<b>Private land covered under definition of forests</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Allow owners of such lands for construction of structures and residential unit up to an area of 250 sq mtr as one time relaxation.</li> </ul>
<b>Activities related to conservation of forests and wildlife</b>	<ul style="list-style-type: none"> <li>Currently activities like establishment of zoos, safaris, Forest Training infrastructures etc. are not excluded from definition non-forestry purposes.</li> </ul>	<ul style="list-style-type: none"> <li>Such activities to be excluded from "non-forestry activity" as activities which are ancillary to conservation of forests and wildlife.</li> </ul>
<b>Imposition of compensatory levies</b>	<ul style="list-style-type: none"> <li>Currently, the compensatory levies are imposed at the time of assignment as well as renewal of lease of land.</li> </ul>	<ul style="list-style-type: none"> <li>Double imposition of any levy should be removed.</li> </ul>
<b>Penal Provisions</b>	<ul style="list-style-type: none"> <li>Present penal provisions are not sufficient to deter violation of the act.</li> </ul>	<ul style="list-style-type: none"> <li>Offences to be made cognizable, non-bailable and punishable with imprisonment of upto one year.</li> <li>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.</li> </ul>

### Concerns regarding 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.
  - **Example:** Arboreal mammals move through the tree canopy are severely impacted.
  - Also, adopting new methods of Extended Reach Drilling may seriously impact the balance of the biosphere
- **Pressure from Ecotourism:** Use of forest land for non-permanent structures for eco-tourism would disturb forest areas.
- **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.

## 5.5. 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

Specification	Description
Competitive extraction of ground water	<ul style="list-style-type: none"> <li>• India is the <b>largest extractor of groundwater</b> in the world. Nearly 600 million Indians face high to extreme water stress, which is set to worsen with the <b>average annual per capita water availability estimated to fall by 37% over half a century to 2050</b>, potentially making India water scarce.</li> <li>• The vital <b>ecosystem services provided by groundwater have also been endangered</b>. The most striking manifestation of this is the drying up of rivers such as Gomti, Chambal, Ken, which depend on groundwater flows during the post-monsoon period.</li> </ul>
Urbanisation	<ul style="list-style-type: none"> <li>• Rapid urbanisation is leading to <b>more informal sourcing of water</b>, mainly through tankers using groundwater, increasing demands for long-distance import of water. This not only increases the <b>cost of supply but also wastage of water due to leakage</b>.</li> <li>• Indian cities also had a <b>large number of water bodies</b>. They acted as sponges for excess water and their natural drainages provided a safe exit for flood-waters. But over time <b>they have been encroached upon</b> destroying the vital role they have played in natural flood management. These are one of the <b>prime reasons for frequent floods and flash floods in Indian cities</b>.</li> </ul>
WASH	<ul style="list-style-type: none"> <li>• <b>Only 47% of urban households have individual water connections</b>.</li> <li>• Urban areas produce 62,000 million litres of sewage every day. According to the Central Pollution Control Board (CPCB), <b>the installed capacity to treat this sewage is only 37% and just 30% is actually treated</b>. Some of these plants do not function, either because of high recurring costs, or because they do not have enough sewage to treat.</li> </ul>
Reforming water governance	<ul style="list-style-type: none"> <li>• <b>Doing away with "command-and-control" approach</b>: In this type of approach the 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. Such <b>'one-shoe-fits all' policies may not reflect the preferences of the farmers and other stakeholders</b></li> <li>• <b>Doing away with "hydro-schizophrenia"</b>: 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.</li> </ul>

### Key recommendations of the draft NWP

- **Shift towards demand management**
  - **Crop diversification**: Irrigation consumes 80-90 per cent of India's water, most of which is used by rice, wheat and sugarcane. Hence, there is a need to **diversifying public procurement operations** to include nutri-cereals, pulses and oilseeds. The largest outlets for these procured crops could be the 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.
  - **Reduce-Recycle-Reuse**: It has been proposed for 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**: Trillions of litres stored in big dams, which are still not reaching farmers. 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”**: These include incentivizing rejuvenation of catchment areas through compensation for eco-system services. 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.
- **Sustainable and equitable management of groundwater**: Participatory groundwater management is the key. 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**: Steps to restore river flows include: 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**: It proposes that every water ministry, at the Centre and states, include a water quality department. **It suggests a task force on emerging water contaminants** to better understand and tackle the threats they are likely to pose. The policy advocates adoption of **state-of-the-art, low-cost, low-energy, eco-sensitive technologies for sewage treatment**.
  - Widespread use of reverse osmosis (RO) has led to huge water wastage and adverse impact on water quality. The policy wants **RO units to be discouraged** if the total dissolved solids count in water is less than 500mg/L.
- **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. Government water departments include professionals predominantly from civil engineering, hydrology and hydrogeology.
  - governments should build enduring partnerships with primary stakeholders of water, who must become an integral part of the NWC and its counterparts in the states. The indigenous knowledge of our people, with a long history of water management, is an invaluable intellectual resource that must be fully leveraged.
- **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.

## 5.6. 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.

#### Dublin Statement on Water and Sustainable Development, 1992

- In 1992 the **International Conference on Water and the Environment** was held in Dublin, Ireland.
- The output from this conference was a **declaration regarding water** that was presented to the United Nations Conference on Environment and Development (UNCED) that was held in Rio de Janeiro in June 1992 also known as the **“Earth Summit”**.
- The inclusion of the Dublin Principles in the conference debate helped to **highlight the importance of water as a resource for environmental protection and human development**.
- The Dublin Principles remain the standard for consideration of the issues surrounding water resource use and protection.

- **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.
- Whereas California's water market is adequately represented by the stakeholders involved – from investors, farmers, banks and other beneficiaries, **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.

## 5.7. STUBBLE BURNING

### Why in News?







The Air Quality of the NCR region once again became severe due to increased instances of stubble burning and other factors responsible for its air pollution in the month of October/November.

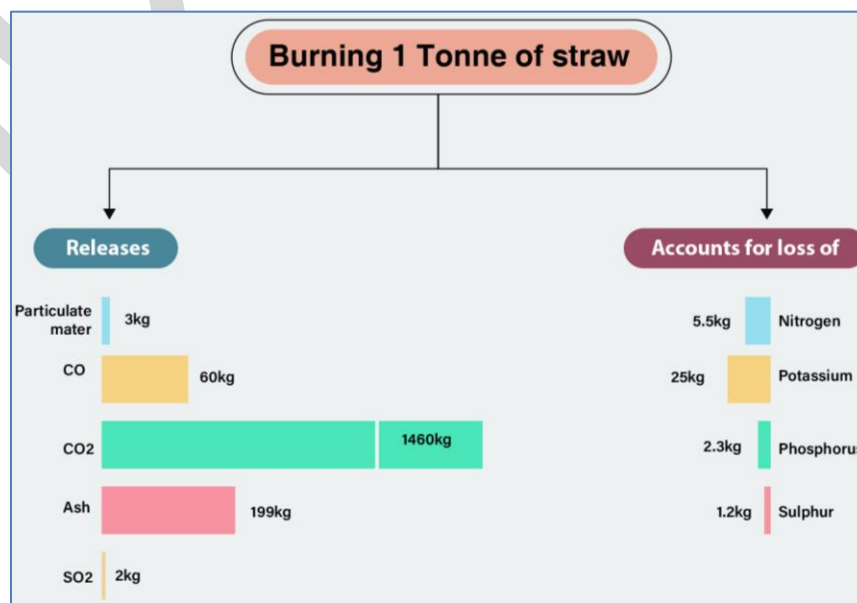
### More on News

- One of the main reasons behind air pollution, the contribution of stubble burning to Delhi Pollution reached **36% (PM2.5) for 2021**, in comparison to **42% in 2020** and **44% in 2019**.
- Overall, the **instances of stubble burning reduced significantly (close to 50%)** this year (between 01 September and 02 November), as suggested by data from **Commission for Air Quality Management or CAQM**.
- Overall, the **Air Quality Index (AQI)** of Delhi varied from **very poor to severe** as compared to the **moderate/poor** air quality of cities like **Mumbai, Ahmedabad, Chennai, Kolkata** (on **SAFAR-AQI, System of Air Quality and Weather Forecasting and Research.**)

### About Stubble Burning

- **How was it introduced?**
  - Started mainly after **mechanized harvesting**, the practice of **Stubble Burning**, i.e., **burning of the paddy crop residue as part of post-harvest exercise to clear fields**, has become an annual affair in **Northern India**.
- **Why paddy crop is the primary contributor to stubble burning?**
  - Though practiced for other crops as well like sugarcane and wheat, it is a major concern for rice due to its high proportion of agro-waste (around 70%). E.g., out of an estimated **586 million tonnes (mt)** of stubble generated in India every year, **34%** is contributed by **Rice** and **22%** by **Wheat**.

AQI	Associated Health Impacts
<b>Good (0-50)</b> 	Minimal Impact.
<b>Satisfactory (51-100)</b> 	May cause minor breathing discomfort to sensitive people.
<b>Moderate (101-200)</b> 	May cause breathing discomfort to the people with lung disease such as asthma and discomfort to people with heart disease, children and older adults.
<b>Poor (201-300)</b> 	May cause breathing discomfort to people on prolonged exposure and discomfort to people with heart disease with short exposure.
<b>Very Poor (301-400)</b> 	May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.
<b>Severe (401-500)</b> 	May cause respiratory effects even on healthy people and serious health impacts on people with lung/heart diseases. The health impacts may be experienced even during light physical activity.



- **What are the major stubble producing areas?**

- Rice cultivation in northern India, i.e., states of **Punjab, Haryana, parts of Rajasthan and Uttar Pradesh**, are the hotspots for stubble generation and thus burning.
- E.g., In 2020, the total quantity of straw generated by Haryana, Punjab and U.P. was **28.4 mt**. For 2021, it is expected to be around **26.21 mt** due to reduced area of cultivation.

<b>IMPACTS OF STUBBLE BURNING</b>		
<b>ON ENVIRONMENT</b>	<b>ON AGRICULTURE</b>	<b>ON HEALTH</b>
Rise Air Pollution Smoke & Soot particles	Reduced organic Content of Soil	Irritation in Eyes, Nose Throat and Skin
High amount of heat generation	Nutrients and mineral loss in soil	Risk of severe Neurological Diseases
Soil erosion and Hardening	Killing of Beneficial Micro-organisms	Cardiovascular & Respiratory diseases like Asthma, Bronchitis, Reduced Lung capacity etc.

**Initiatives to reduce Stubble Burning**

<b>Area</b>	<b>Initiatives</b>
<b>Administrative</b>	<ul style="list-style-type: none"> <li>• <b>National Policy for Management of Crop Residues (2014)</b> for crop residues management, to be adopted by states.</li> <li>• <b>Set up of biomass power projects and mandating the use of biomass</b> with 50% paddy straw as a supplement fuel by coal plants in NCR.</li> <li>• <b>Set up of the CAQM</b> for better coordination and solution to pollution problem in <b>Delhi-NCR and adjoining areas</b>.</li> <li>• <b>Crop diversification and promotion of short duration High Yielding varieties</b> of rice to reduce the use of <b>PUSA-44</b> variety of paddy (one of the prime crops behind concern over paddy straw burning).</li> <li>• <b>Capacity building and Awareness initiatives</b> on ill effects of Stubble Burning.</li> </ul>
<b>Legal</b>	<ul style="list-style-type: none"> <li>• In 2015, the <b>National Green Tribunal (NGT) banned crop residue burning</b> in the states of Rajasthan, Uttar Pradesh, Haryana, and Punjab.</li> <li>• <b>Burning crop residue is made a crime</b> under <b>Section 188</b> of the <b>IPC</b> (disobedience to order duly promulgated by a public servant) and under the <b>Air and Pollution Control Act of 1981</b>.</li> <li>• <b>Imposition of Penalties/fines</b> on stubble burning by state governments.</li> </ul>
<b>Technological Interventions</b>	<ul style="list-style-type: none"> <li>• <b>Use of machines</b> like Happy Seeder, Rotavators, Balers, Paddy Straw Chopper, Reaper Binder etc. to plant new crops or clear the stubble.</li> <li>• <b>Use of Bio-Decomposer technology</b> developed by IARI to dissolve the collected straw and turn it into manure.</li> <li>• <b>Promotion of alternative uses of stubble</b> 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.</li> </ul>
<b>Financial Incentives</b>	<ul style="list-style-type: none"> <li>• <b>Government Subsidy</b> on use of machinery for in-situ management of crop residue.</li> <li>• <b>Bonus/Incentive</b> to farmers who switch to other crops instead of rice by state governments. E.g. Rs 7,000 per acre by Haryana Government under <b>Kheti Khaali, Fir Bhi Khushali</b>.</li> </ul>

**What have been the issues in implementation of these initiatives?**

- **The Punjab Preservation of Subsoil Water Act, 2009:** Though introduced to prevent groundwater crisis in summer, the law shifted sowing and transplanting of paddy in Punjab from April and May to May and June respectively. It shifted the timing of stubble burning in Punjab as well to the time of onset of winter in Northern India creating an undesirable intersection.
- **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.
- **Political Challenges:** Due to political blame-game, the government often lacks strength to impose fines despite Supreme Court orders to end Stubble Burning.
- **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.
- **Poor MSP support for other crops:** Adoption of alternative crops by farmers requires procurement support which is largely limited to few crops like rice and wheat.

#### What can be done to overcome these constraints and resolve the issue?

With increased focus on global warming and environmental pollution due to our increased awareness on ills of such activities on health and environment, India needs to end stubble burning through-

- **Set up of Rice Bioparks** (suggested by M.S. Swaminathan as part of **do-ecology approach**) to help farmers to convert rice stubble into income and employment.
- **Improve overall infrastructure** in terms of availability of machines and custom hiring centres (CHCs) network for machinery by using farm cooperatives.
- **Set up 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, and
- **Handhold the small and marginal farmers** to provide **basic amenities** which are necessary to **raise awareness** on ills of stubble burning and the alternative uses of stubble.

## 5.8. 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.

### More on News

- 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.

### Solid Waste and its Management in India

- **Meaning:** 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. (**Solid Waste Management Rules, 2016**).



- **Concern on Solid Waste:** An **inevitable by-product** of human activities, most of it is recyclable naturally. 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**.
- **Generation in India:** Presently, India generates an estimated **62 million tonnes (mt) of annual waste**, including nearly **5.6 mt of plastic waste, 7.90 mt of hazardous waste, 1.5 mt of e-waste and 0.17 mt of biomedical waste**.
- **Management in India:** 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**. E.g.
  - The five major metropolitan cities alone, i.e., Delhi, Mumbai, Chennai, Hyderabad and Kolkata generate over 10 million tonnes of waste; leading to formation of garbage mountains like Deonar in Mumbai and Ghazipur in Delhi.

#### 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.
- **Recycle materials:** Recycling materials at the segregation stage itself could present a significant economic opportunity. For instance, some estimates suggest that a **circular economy path adopted by India could bring in annual benefits of 40 lakh crores** or approximately US\$ 624 billion in 2050.
- **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 (also due to charges of it).

#### 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:** Ensuring credit availability, streamlined regulatory framework and the complete network of connected economic activities would be a necessity for the growth of the sector.
- **Creating Infrastructure:** From solid waste management plants to construction and demolition waste collection sites, infrastructure would be needed to ensure that the waste processing activity takes root.
  - Prevalence of infrastructure will provide **forward and backward linkages** to the private sector and the sources of waste respectively.
- **Building awareness among citizens:** Citizens as primary operators of their waste and the consumers of the processed material need to have an awareness about importance of waste processing. This will help them make environmentally conscious choices.

## 5.9. WORLD HERITAGE FORESTS: CARBON SINKS UNDER PRESSURE

### Why in News?

Recently, UNESCO, World Resources Institute (WRI) and International Union for Conservation of Nature (IUCN) released this report.

### More in News

- Report provides the **first global scientific assessment of greenhouse gas emissions and sequestration by forests** in UNESCO World Heritage sites (WHS).
  - UNESCO World Heritage forests (WHF), which cover 69 million hectares, **hold 13 billion tonnes of carbon (Gt C) in vegetation and soils**.
  - Most of the World Heritage Forest carbon is stored in tropical sites.
- Report estimates that forests across WHS **removed approximately 190 million tonnes of CO<sub>2</sub> per year between 2001 and 2020** from the atmosphere.

### Key Findings of the report

- Over the past 20 years, WHS lost 3.5 million hectares of forest and forests in 10 World Heritage sites emitted more carbon than they absorbed.
- **Two most widespread threats** (reported in about 60% sites) to UNESCO WHF are
  - **Climate change with associated severe weather** (e.g., fires, storms, floods, droughts, temperature extremes, and habitat shifting/alteration).
  - **Land-use pressures associated with various human activities** such as illegal logging, wood harvesting, and agricultural encroachment due to livestock farming/grazing and crops.
- India's **Sundarbans National Park is among five sites that have the highest blue carbon stocks** globally.

- Blue carbon is the organic carbon (**mainly obtained from decaying plant leaves, wood, roots and animals**) stored in coastal and marine ecosystems.
- Blue carbon ecosystems include seagrass meadows, tidal marshes and mangroves.

### Recommendations to protect UNESCO WHS and maintain their climate benefits

- **Rapid response to climate-related events** and maintaining and strengthening ecological connectivity through improved landscape management.
  - Some WHS have **already taken steps to better manage climate-related risks by**
    - ✓ **Adopting climate change adaptation plans** (Mount Kenya National Park/Natural Forest in Kenya)
    - ✓ **Supporting disaster risk reduction initiatives** through coastal protection and flood regulation (e.g., Sundarbans in Bangladesh and Sundarbans National Park in India).
- **Support mechanisms that maximize intactness and connectivity of forests.**
  - The **fragmentation of the forest landscape** around sites can generate **increased carbon emissions and disrupt ecological connectivity** and the stability of carbon stocks.
  - Integrated landscape management and the **creation of ecological corridors and buffer zones** have been promoted as initiatives to address these challenges.
- **Integrating continued protection of WHS** into climate, biodiversity, and sustainable development strategies.
  - This should be in line with the Paris climate agreement, the Post-2020 Global Biodiversity Framework and the Sustainable Development Goals.

#### About World Heritage sites

- World Heritage Sites are **cultural and/or natural sites of ‘Outstanding Universal Value’**, which are important across countries and generations.
  - **UNESCO seeks to encourage** the identification, protection, and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
  - This is embodied in **Convention concerning the Protection of the World Cultural and Natural Heritage**, adopted by UNESCO in 1972.
- They are **distributed across more than 110 countries** and cover approximately 350 million hectares (Mha). Collectively, they **include almost 1% of the Earth’s land surface and 0.6% of the world’s oceans.**
- In addition to their Outstanding Universal Value and globally important **contribution to biodiversity conservation**, these sites also contribute to the **well-being of local communities** and wider human society.
- World Heritage sites **also provide crucial ecosystem services**, as two-thirds of sites are critical sources of fresh water, and about half help prevent hazards such as floods or landslides.

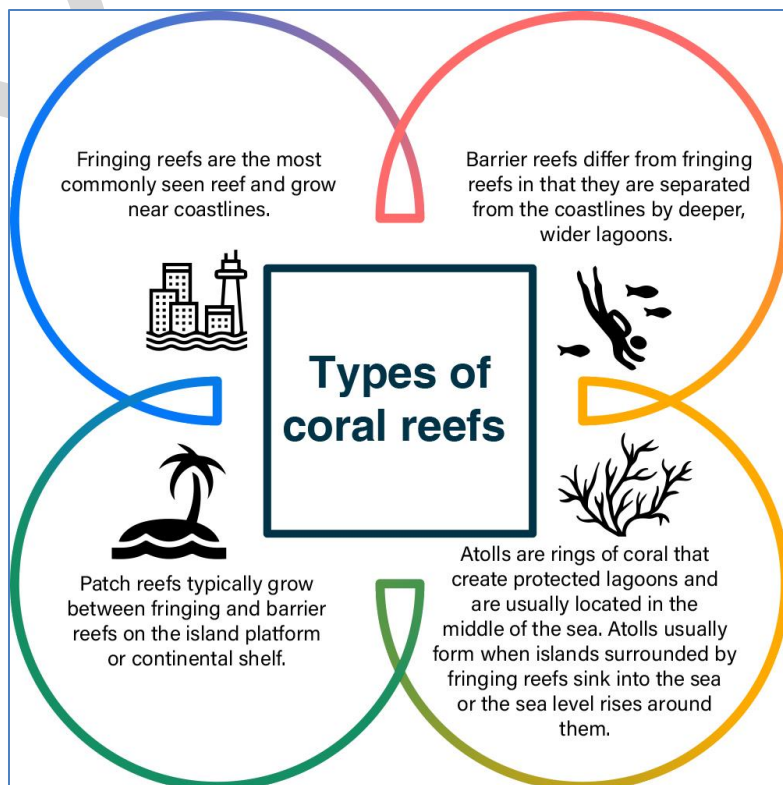
## 5.10. CORAL REEF

### Why in news?

Recently, the report ‘Sixth status of the Corals of the World’ by Global Coral Reef Monitoring Network (GCRMN) stated that 14% of Coral reefs are lost since 2010.

### More about news

- The **Global Coral Reef Monitoring Network (GCRMN)** is an operational network of the International Coral Reef Initiative that **aims to provide the best available scientific information on the status and trends of coral reef ecosystems for their conservation and management.**
  - The GCRMN is a **global network of scientists, managers and organisations** that monitor the condition of coral reefs throughout the world.



- The flagship product of the GCRMN is the '**Status of Coral Reefs of the World report**', that describes the status and trends of coral reefs worldwide.
- The **global dataset spanned more than 40 years from 1978 to 2019** and consisted of observations from 73 reef-bearing countries around the world.

### Key findings

- Corals reefs across the world are under relentless stress from warming caused by climate change and other local pressures such as overfishing, unsustainable coastal development and declining water quality.
- There has been a **steady decrease in hard coral cover** in the last four decades since 1978 when the world lost 9% of its corals.
- Large-scale coral bleaching events caused by elevated sea surface temperatures (SST) are the greatest disturbance to the world's coral reefs.
  - The 1998 event alone killed 8% of the world's coral.
- Since 2010, the **amount of algae on the world's coral reefs has increased** by about 20 per cent.
  - Algal bloom on coral ridges are a sign of stress on the structures.

### About Coral Reefs

- Coral reefs are **large underwater structures composed of the skeletons of colonial marine invertebrates called coral**.
  - The coral species that build reefs are known as **Hard Corals because they extract calcium carbonate from seawater** to create a hard, durable exoskeleton that protects their soft, sac-like bodies.
  - The other species of corals that are not involved in reef building are known as **Soft Corals**.
- **Each individual coral is referred to as a polyp**. Coral polyps live on the calcium carbonate exoskeletons of their ancestors, adding their own exoskeleton to the existing coral structure.
- The Corals have a  **symbiotic, or mutually beneficial, relationship with the zooxanthellae**.
  - The zooxanthellae provide the coral with their lively colors. Most coral polyp bodies are clear and colorless without zooxanthellae.
- About 25% of all known marine species rely on coral reefs for **food, shelter and breeding**.
  - These are sometimes referred to as '**the rainforests of the sea**' for their biodiversity.

#### Where are Coral Reefs found?

- These are **found in more than 100 countries around the world**.
- Most reefs are located between the **Tropics of Cancer and Capricorn, in the Pacific Ocean, the Indian Ocean, the Caribbean Sea, the Red Sea, and the Persian Gulf**.
  - Corals are also found farther from the equator in places where warm currents flow out of the tropics, such as in **Florida and southern Japan**.
- **In India, Coral reefs are present in the areas of:**
  - Gulf of Kutch
  - Gulf of Mannar
  - Andaman & Nicobar
  - Lakshadweep Islands and Malvan

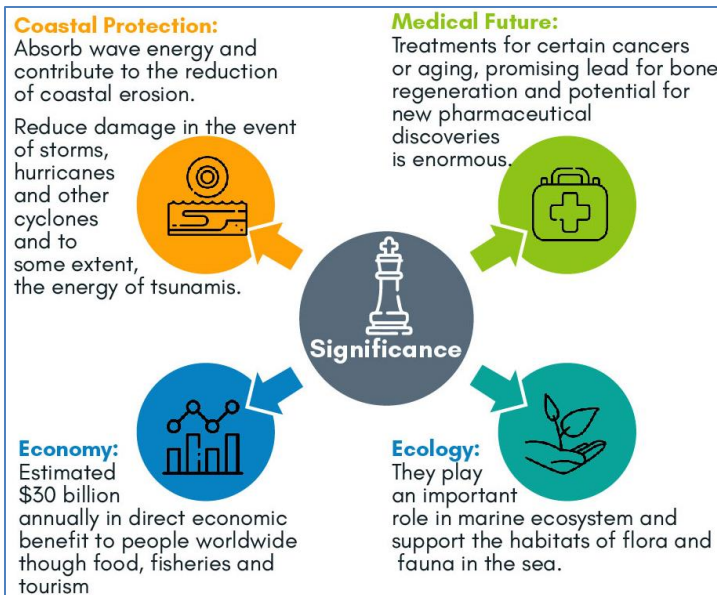
### Threats

- **Ocean Acidification:** The increasing acidification of the ocean caused when oceans absorb immense amounts of carbon dioxide released into the atmosphere inhibits coral's ability to produce the calcium carbonate exoskeletons they rely on for shelter.
  - With **increased CO<sub>2</sub> in the water, coral may form weaker skeletons, making them more vulnerable to disease and destruction by storms**.
- **Coral Bleaching:** When corals are stressed due to warmer ocean waters, the corals eject the symbiotic algae that live inside them when stressed. **When corals lose their algae, they lose their built-in food source**.
- **Water pollution: Agricultural pesticides and fertilizers, oil and gasoline, sewage discharge and sediment from eroded landscapes** make it difficult for coral to thrive, and therefore damage the complex relationships that exist among the plants, coral and other animals that.
- **Sea level rise:** As the **planet gets warmer, glaciers melt, causing sea level to rise**. Thus, corals are predicted to end up deeper underwater, receive less sunlight and grow more slowly.
- **Stronger Storms:** Stronger, more frequent storms, hurricanes, cyclones can break coral branches and overturn coral colonies.

- **Unsustainable fishing:** Practices such as cyanide fishing (spraying cyanide in the water stuns the fish to make them easier to catch), ‘blast fishing’ with explosives and overfishing with trawlers can destroy a thousand-year-old coral reef in a matter of minutes.
- **Habitat Destruction:** Many activities such as **Coral mining, construction, Coral collecting, destructive fishing methods, unsustainable tourism, Mangrove destruction** affect the habitat and impact coral reefs adversely.

### Conclusion

Maintaining the integrity and resilience of coral reef ecosystems is essential for the wellbeing of tropical coastal communities worldwide and a critical part of the solution for **achieving the Sustainable Development Goals under the 2030 Agenda for Sustainable Development.**



## 5.11. INTERNATIONAL SOLAR ALLIANCE

### Why in News?

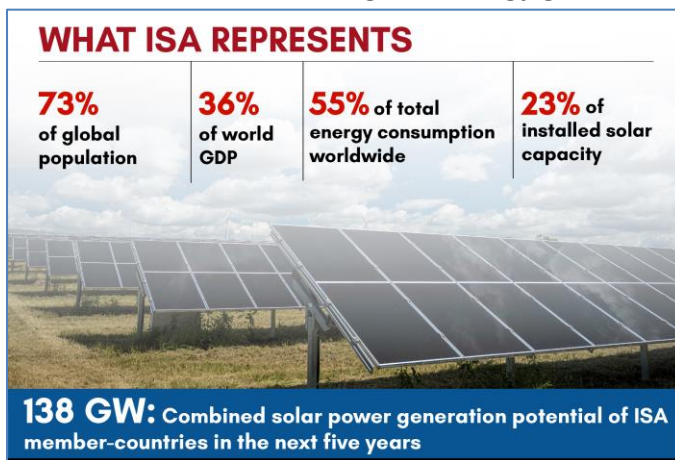
India introduced a draft resolution in the UN General Assembly for granting Observer Status for the International solar Alliance (ISA).

### 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.
- ISA is the **first international organization headquartered in India.**

### Significance of ISA

- **Supporting the implementation of United Nations Framework Conventions on Climate Change and the global climate agenda:** Solar energy 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, some parts of North Africa as well as in Eurasia along with the United States.
- **Break their monopoly over oil and gas:** Since most of the member states of the ISA are poorer countries, they can join together and bargain with the oil- rich countries to break their monopoly over oil and gas.
  - For instance, India, which is emerging as the hub of solar energy, being one of ISA's founders, can reduce its energy dependence on the West Asian countries.
- **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 geopolitical conflicts:** Most energy-dependent countries used to import the bulk of conventional energy like oil, gas and coal energies from faraway places and by paying heavy prices. This created most of the geopolitical conflicts in the 20th century.
- **Help to reduce radicalization:** It has also been observed that growing radicalisation in different parts of the world can be attributed to energy geopolitics.
  - 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

- **Green Grids Initiative - One Sun, One World, One Grid (OSOWOG):** It is **launched by India** at the **global climate conference COP26 with an aim to harness solar energy wherever the Sun is shining, ensuring that generated electricity flows to areas that need it most.**
  - It aims to build a framework for a **global cooperation initiative targeted at effective utilisation of renewable sources across the globe** and accelerate the mobilisation of technical and financial resources needed to advance action on green grids.
    - ✓ It is aimed at addressing the **issue of high cost of energy storage.**
- **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.

## 5.12. URBAN FIRE RISK

### Why in News?

Recently, a 60-floor residential building caught fire in Mumbai with initial responses pointing out absence of six-monthly fire audit and failure of fire-fighting system to respond automatically.

## Urban Fires in India

- **Urban Fire:** Since Industrial Revolution, **Urban Fire**, i.e., the fire which primarily occurs in cities or towns, is a major risk to people's life, property, and public security.
- **Extent:** As per **National Crime Record Bureau (NCRB) 2020** data, **9,329 incidents** of fire accidents happened in India with the death of **9,110 people**.
- **Impact:** With **57.6% of the total deaths** being reported in **residential buildings**, urban fires have a devastating impact on-
  - **People's health** due to asphyxiation, release of the toxic gases and explosions/bursts caused by it.
  - **Communities** due to the breaking up of economic activities and environmental destruction.

## Causes for Urban Fires

Primarily, caused by the interaction between the fire accidents and urban vulnerability, impacts of these incidents get compounded by poor mitigation measures.

<b>Urban Vulnerabilities</b>	<ul style="list-style-type: none"> <li>• <b>Rapid and Unplanned Urbanization</b> due to higher urban population growth and poor urban planning leads to rise in informal settlements (e.g. Slums) and industries/commercial areas within residential areas.</li> <li>• Congested roads/wiring due to high urban density and electricity demand, i.e. tightly packed dwelling units with congested overhead wires.</li> </ul>
<b>High Fire Accident Frequency</b>	<ul style="list-style-type: none"> <li>• <b>High incidents of cooking cylinders and Electric short-circuits</b> in urban commercial and residential areas due to faulty equipment or wiring.</li> <li>• <b>High incidents of Human Errors</b> due to negligence like smoking; leaving appliances ON; and misuse or incorrect use of equipment etc.</li> <li>• <b>Natural and Climatic Reasons</b>, i.e., weather phenomenon like lightning, earthquakes, heat waves or low humidity, also plays role in urban fires. E.g. Fire in slums during hot dry summers is common in India.</li> </ul>
<b>Poor Prevention/Mitigation measures</b>	<ul style="list-style-type: none"> <li>• <b>Lack of Compliance to fire Safety Standards</b> by commercial and residential buildings such as operational fire system or equipment, presence and identification of escape routes, etc</li> </ul>

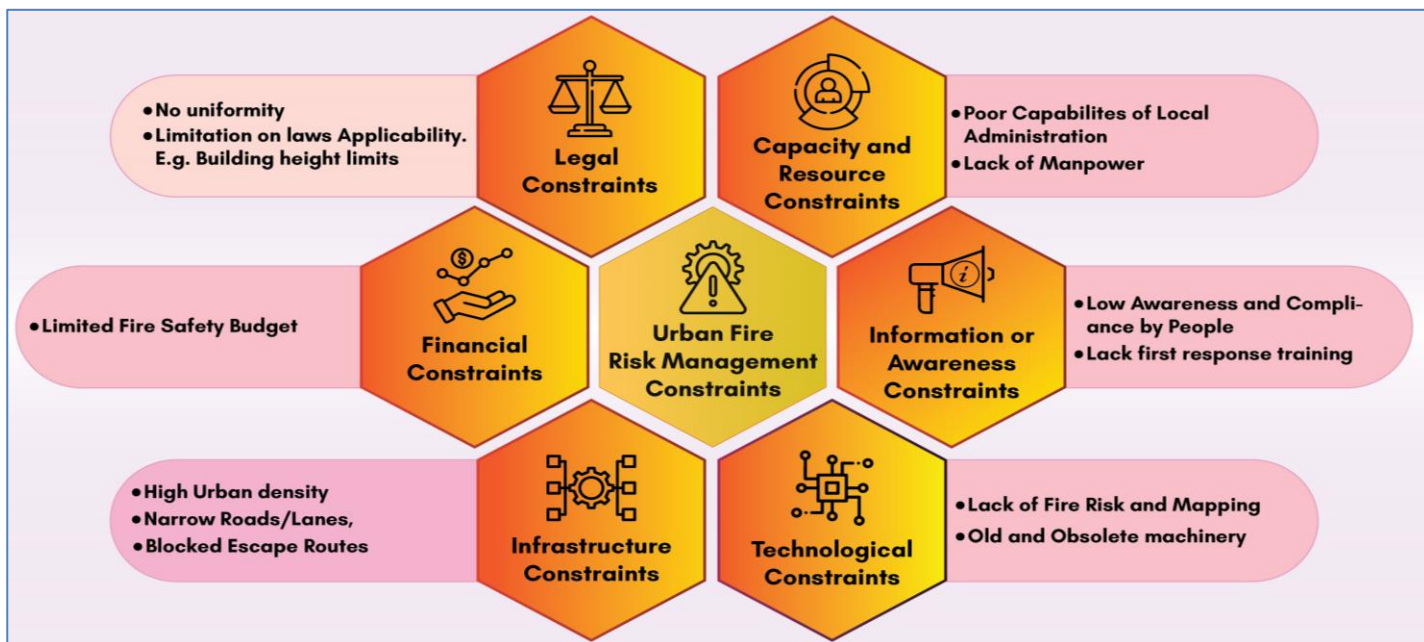
## What is the current institutional framework for Fire prevention?

- **Constitutional Provisions:** Under **Twelfth Schedule (Article 243W)**, the **Fire Services** come under the power, authority, and responsibility of Urban Local Bodies.
  - So, either **municipalities or the State Government/UTs** look after the fire services in India through **local building bye laws**.
- **Model Building Bye laws:** First released by the Ministry of Urban Development in **2003**, it provides for **Chief Fire Officer** to scrutinize and approve/reject building plans on Fire Safety.
- **National Building Code of India:** First published by the **Bureau of Indian Standards**, it is a comprehensive building code with detailed guidelines for construction, maintenance, and fire safety of the structures.
  - In **2016**, the **3<sup>rd</sup> edition** of **NBC** was published with **over 150 standards on fire safety**.
  - This includes the **Part-IV (Fire and Life Safety)** with detailed provisions on fire prevention, life safety and fire protection to be incorporated by states in their building bye laws and implement.
- **Provide for the Maintenance of a Fire and Emergency Service for the State:** It is the model bill circulated by the **Disaster Management Division** under the **Ministry of Home Affairs (MHA)** for proper operational and regulation measures including enforcement and liabilities along with set up of "Fire Prevention and Life Safety Fund".

### NBC norms under Part-IV (Fire and Life Safety)

Containing detailed provisions on fire prevention, life safety and fire protection, it provides for:

- The requirements for fire prevention, life safety in relation to fire and **fire protection of buildings**.
- It also specifies **occupancy-wise classification, constructional aspects, egress requirements and protection features** that are necessary to minimize danger to life and property from fire.
- This includes the **General Exit requirements** like announcement and Voice guided/aided system in high rise buildings; **Standards for construction** (stairs, ramps etc.), active and passive fire protection systems installation, Restrictions on buildings in each fire zone, classifies height-width parameters etc.



### What can be done to overcome these constraints?

The increasing urbanization level and frequency of fire instances, especially at hospitals, in India makes it vital to have a holistic approach to tackle Urban Fire Risk through different components of fire safety such as:

Component of Fire Safety	Measures
<b>Legal and Administrative</b>	<ul style="list-style-type: none"> <li><b>Risk Identification:</b> Carry out Baseline assessments to understand how fire safety interventions operate within the local building regulatory environment to start for a holistic approach.</li> <li><b>Updating laws and regulations:</b> To strengthen the guidelines and policy framework with proper enforcement of building bye laws, planning and zoning requirements in every state and UT.</li> </ul>
<b>Development and Maintenance</b>	<ul style="list-style-type: none"> <li><b>Removing Constraints:</b> Fill up vacant posts with upgradation of Fire Safety equipments and infrastructure for overall capacity building of fire fighting system. <ul style="list-style-type: none"> <li>E.g., the <b>Standing Fire Advisory Council (SFAC, under MHA)</b> report highlighted high deficiencies in Indian Fire Fighting system such as 97.54% in fire stations, 80.04% in fire vehicles and 96.28% in fire personnel.</li> </ul> </li> <li><b>Technological Upgradation:</b> Promote use of facilities like <b>automatic smoke alarm</b>, sprinklers, gas leakage alarm etc. with built-in fire suppression system or technologies to aerially track the fire incidents.</li> <li><b>Risk Reduction:</b> Either through retrofitting or new construction, the old and congested urban spaces with high risk should be made safe and accessible. It will help in improving response time as well.</li> </ul>
<b>Local Implementation</b>	<ul style="list-style-type: none"> <li><b>Create a Culture of Fire Safety:</b> Promoting Community Engagement and early education on Fire Safety can help in building community resilience and overcome the issues of people apathy or errors.</li> <li><b>Building of Sustainable Cities:</b> Most importantly, develop each city as sustainable city for domestic capabilities, helping to overcome domestic and global challenges such as unplanned urbanization (e.g., from slums) and natural risks (e.g., from global warming), etc.</li> </ul>

## 5.13. NEWS IN SHORTS

### 5.13.1. FINANCE FOR BIODIVERSITY INITIATIVE

- Recently, the report by Finance for Biodiversity (F4B) reported that public banks worldwide are responsible for \$800 billion in damages to nature annually, due to their investments in nature-based services.
- Among the G20 countries, China and India have the highest dependency risk (countries dependence on nature), whereas India has the highest nature at risk.
  - For instance, NABARD in India has solely agriculture on their balance sheets solely on agriculture.
- About Finance for Biodiversity Initiative**
  - It was started in October 2019 by the MAVA Foundation based in Switzerland and receives support from the **Children's Investment Fund Foundation (CIFF)** and the **Gordon and Betty Moore Foundation**.

- ✓ MAVA foundation has a mission to conserve biodiversity for the benefit of people and nature.
- Its goal is to increase the materiality of biodiversity in financial decision-making and so better align global finance with nature conservation and restoration.
- Their work is organized across five workstreams: Market efficiency and innovation, Enhanced liability, Citizen engagement, public finance, Nature markets.

### 5.13.2. CLIMATE JUSTICE

- Recently, India stated that it will **strongly highlight the need for climate justice at COP26 in Glasgow**.
- With **uneven effect of climate change** on different people and places, the Climate Justice represents a term and movement to
  - **Acknowledge differing** social, economic, public health effect of climate change.
  - **Recognize its adverse impacts** on underprivileged populations exacerbating inequitable social conditions, and
  - Keeping **climate change at the center** of climate action discussion

### 5.13.3. EMISSIONS GAP REPORT 2021 RELEASED BY UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

- The report is an **annual series** that provides an overview of the **difference between where greenhouse emissions are predicted to be in 2030 and where they should be** to avert the worst impacts of climate change.
- **Key highlights**
  - **New or updated NDCs and announced pledges** for 2030 have **only limited impact** on global emissions and the emissions gap in 2030, reducing projected 2030 emissions **by only 7.5 per cent**.
  - If continued throughout this century, they would result in **warming of 2.7°C**, **slightly less** than the 3°C UNEP forecast in its last report.
    - ✓ **A 30% cut is needed** to limit warming to 2°C and a **55% cut is needed** to limit to 1.5°C.
  - The **current net-zero targets** could limit global warming to around **2.2°C by century's end**.
  - The **reduction of methane emissions** from the fossil fuel, waste and agriculture sectors **could help close the emissions gap and reduce warming** in the short term.
  - The COVID-19 pandemic led to an **unprecedented 5.4 per cent drop in global fossil carbon dioxide (CO2) emissions** in 2020.
    - ✓ A strong rebound in emissions is expected in 2021.

### PRINCIPLES FOR A GREEN RECOVERY



#### Upholding commitments

- Need to uphold 2030 SDGs and the Paris Agreement
- Fiscal spending as an indicator of progress against NDCs



#### Building resilience

- Mitigating climate risk by emphasizing nature-based solutions
- Investment in effective disaster management



#### Centring participation

- Protecting the most vulnerable and synthesizing the diverse priorities of different socio-economic groups, genders, ethnicities and age groups



#### Supporting the private sector

- Small and medium-sized enterprises and informal enterprises are vulnerable, account for most of global employment and can rapidly take up green innovations



#### Creating alliances

- Building trade and innovation networks can support recovery
- Shared governance approaches can create fiscal space for recovery in developing countries



#### Accelerating the transition

- Stimulating markets where the transition is well under way (eg. renewable energy)
- Limiting fossil fuel subsidies and making dirty energy bailouts conditional on green transformations



#### Prioritizing transparency

- Transparent and inclusive policy consultation is essential
- Spending should not undermine environmental protections or generate unsustainable deficits



#### 5.13.4. WORLD METEOROLOGICAL ORGANIZATION (WMO) RELEASED GREENHOUSE GAS BULLETIN

- **Key Highlights**
  - Concentration of carbon dioxide (CO<sub>2</sub>), the most important greenhouse gas, reached **413.2 parts per million in 2020** and is **149% of the pre-industrial level**.
  - **Methane (CH<sub>4</sub>) is 262% and nitrous oxide (N<sub>2</sub>O) is 123%** of the levels in 1750.
  - From 1990 to 2020, **radiative forcing** – the warming effect on our climate - by long-lived greenhouse **gases increased by 47%**, with CO<sub>2</sub> accounting for about **80% of this increase**.
  - The numbers are based on monitoring by WMO's **Global Atmosphere Watch network**.

#### 5.13.5. CLIMATE RESILIENCE INFORMATION SYSTEM AND PLANNING (CRISP-M) TOOL

- Union **Minister of Rural Development & Panchayati Raj** jointly launched CRISP-M tool.
  - It helps in **integration of climate information in Geographic Information System (GIS) based watershed planning** under Mahatma Gandhi National Rural Employment Guarantee Act (NREGA).
- This tool will be **used in seven states** where in the Government of UK and India is jointly working towards climate resilience.
  - The states are Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Odisha and Rajasthan.

#### 5.13.6. INFRASTRUCTURE FOR RESILIENT ISLAND STATES (IRIS)

- **India, along with Australia, UK and Small Island Developing States (SIDS)** will be launching a new grouping of IRIS on the sidelines of the upcoming Conference of Parties (COP26).
  - It is aimed at creating a coalition for **putting in place infrastructure that can withstand natural disasters and lessen economic losses** in island nations.
- **SIDS**, comprising countries in the Caribbean, Pacific, Atlantic, Indian Ocean, Mediterranean and South China Sea regions, **are among the most vulnerable to geophysical and hydro-meteorological hazards**.
  - SIDS accounts for two-thirds of the countries that **suffer the highest relative losses due to disasters**.

#### 5.13.7. NOTIFICATION OF MASS EMISSION STANDARDS FOR E12 AND E15 FUELS BY MINISTRY OF ROAD TRANSPORT AND HIGHWAYS

- The **mass emission standards for E 12 (12% Ethanol with Gasoline) and E15 (15% Ethanol with gasoline) fuels** are notified under the **Central Motor Vehicles (Twenty Fifth Amendment) Rules, 2021**.
  - This will enable the Automotive Industry to manufacture **E 12 and E 15 compliant motor vehicles**.
  - The **compatibility of vehicle** to the level of ethanol blend shall be **displayed on vehicle** by putting a clearly visible sticker.
  - This is in line with **India's Ethanol Blending Program** which sets a target of 20% Ethanol blending with gasoline by 2023-24.
- **Different types of vehicles as per fuel**
  - **Mono-fuel vehicle**
    - ✓ Vehicle which operates on **natural gas only**.
    - ✓ Also known as **Dedicated Natural Gas Vehicle**.
  - **Bi-fuel vehicle**
    - ✓ **Bi-Fuel vehicle** is a vehicle that has **two independent fuel systems** (one of them for natural gas) and can run on both fuels simultaneously.
  - **Flex fuel vehicles (FFVs)**
    - ✓ FFV is any motor vehicle (or motor vehicle engine) engineered and designed to be operated on **any mixture of two or more different fuels**.
    - ✓ FFVs are capable of running on any blend of gasoline and **ethanol up to 83%**.

#### 5.13.8. MINISTER OF ENVIRONMENT ISSUED DRAFT NOTIFICATION FOR REGULATION OF THE EXTENDED PRODUCER RESPONSIBILITY (EPR)

- Draft notification is issued in **exercise of the powers conferred by Environment (Protection) Act, 1986**, for bringing out regulations for EPR under Plastic Waste Management Rules, 2016.
  - EPR means the **responsibility of a producer for environmentally sound management of the product** until the end of its life.
- **Key highlights**
  - **Quantity of waste that will have to be managed** by producers, importers and brand owners (PIBO) who generate plastic packaging waste **is specified**.
  - EPR shall be applicable to **both pre-consumer and post-consumer plastic packaging waste**.

- EPR will cover **following categories of plastic packaging**:
  - ✓ **Category I**: Rigid plastic packaging
  - ✓ **Category II**: Flexible plastic packaging of single layer or multilayer, plastic sheets and covers made from it, carry bags etc.
  - ✓ **Category III**: Multilayered plastic packaging
- **Registration** of PIBOs and Plastic Waste processors through **centralized EPR portal developed by Central Pollution Control Board (CPCB)**.
- **Provision for PIBO to trade in EPR certificates**.
  - ✓ They can use the **surplus EPR certificates for offsetting previous year shortfall**; carry forward for use in succeeding year and sell it to other producers and brands.

### 5.13.9. UNEP PUBLISHES SCIENTIFIC ASSESSMENT OF PLASTIC POLLUTION

- The publication titled, 'From Pollution to Solution: A global assessment of marine litter and plastic pollution,' **provides a scientific basis for the need to urgently act to control plastic emissions into the environment**.
- **Key findings**
  - The amount of marine litter and plastic pollution has been growing rapidly. **Emissions of plastic waste into aquatic ecosystems are projected to nearly triple by 2040 without meaningful action**.
  - Marine litter and plastic pollution present serious **threats to the livelihoods of coastal communities as well as to shipping and port operations**.
  - The **main sources of marine litter and plastic pollution are land-based**.
  - **Plastic recycling rates are less than 10%** and plastics-related greenhouse gas emissions are significant, but some solutions are emerging.
- **Recommendations**
  - Incentivize greater disclosure,
  - Support data sharing and transparency.
  - Provide financing.
  - Establish a transparent and effective regulatory environment, and
  - Support research and development to address the challenge of marine litter and plastic pollution.

### 5.13.10. ZERO WASTE CITIES CHALLENGE

- The "WasteAid" has chosen **two winners** (entrepreneurs from Shree Guru Plastic and Inside Out) **from Guwahati** for their work on promoting **circular economy and reducing the usage of plastics**.

- **Guwahati was among the three cities chosen by WasteAid**, a United Kingdom-based non-profit, to launch a Zero Waste Cities Challenge.
  - Other two are **Johannesburg and Ho Chi Minh City**
- The aim was to **find entrepreneurs with innovative business ideas that can help reduce or recycle waste and create green employment opportunities**.

### 5.13.11. GREEN GRIDS INITIATIVE-ONE SUN ONE WORLD ONE GRID (GGI-OSOWOG) NORTHWEST EUROPE COOPERATIVE EVENT

- It was a **multi-layered dialogue** between the OSOWOG initiative by India in partnership with COP26 Presidency, International Solar Alliance (ISA), World Bank, UK government and Wilton Park.
- OSOWOG is **India's initiative to build a global ecosystem of interconnected renewable energy resources** that connects 140 countries through a common grid.
  - The blueprint for the OSOWOG has been developed under the **World Bank's technical assistance programme** that is implemented to accelerate the deployment of grid connected rooftop solar installations.
  - Vision behind the OSOWOG mantra is "**the Sun never sets**" and is a constant at some geographical location, globally, at any given point of time.
  - Implementation is **divided into three main phases**
    - ✓ Phase 1 ensures interconnectivity in the **Asian continent**.
    - ✓ Phase 2 connects the functional first phase to the pool of **renewable resources in Africa**.
    - ✓ Phase 3 aims to achieve a **global interconnection**.
- **Significance of OSOWOG**
  - **Assist all its participating bodies to attract effective investments in renewable energy sources** by utilising technology, finance and skill.
  - **Global collaboration will bring in increased investment** into research and development centres.

### 5.13.12. NITI AAYOG LAUNCHES GEOSPATIAL ENERGY MAP OF INDIA

- NITI Aayog in collaboration with **Indian Space Research Organisation (ISRO)** has developed a comprehensive **Geographic Information System (GIS) Energy Map of India** with the support of Energy Ministries of Government of India.

- GIS is a computer system for **capturing, storing, checking, and displaying data** related to positions on Earth's surface.
- GIS technology is a crucial part of **spatial data infrastructure**.
- This GIS map provides a **holistic picture of all energy resources** of the country.
  - This is in line with the **Draft National Geospatial Policy, 2021**.
  - It enables **visualisation of energy installations** such as conventional power plants, oil and gas wells, petroleum refineries, coal fields and coal blocks, district-wise data on renewable energy power plants and renewable energy resource potential, etc. through **27 thematic layers**.
- **Significance of the map**
  - **Identify and locate all primary and secondary sources of energy** and their transportation/transmission networks.
  - **Integrates energy data scattered across multiple organizations** and presents it in a consolidated, visually appealing graphical manner.
  - **Leverages latest advancements in web-GIS technology**.
  - **Aid in disaster management** using available energy assets.

#### 5.13.13. 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.
  - 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**.
- **Key regulations**
  - **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**.
  - Set up in 2002, BEE is a **statutory body** (HQ: Delhi) established under the EC Act, 2001.

#### 5.13.14. MINISTRY OF POWER LAUNCHED GREEN DAY AHEAD MARKET (GDAM) PORTAL

- GDAM portal will operate in **integration with the conventional day-ahead market** in the power sector, enabling **electricity generation and distribution companies** to buy or sell Renewable Energy (RE) through open access.
  - DAM is an **electricity trading market for delivery on the following day**.
- Power Exchanges will allow participants to submit bids together for both conventional and renewable energy through separate bidding windows.
- **Significance of GDAM**
  - It will lead to a **gradual shift from Power Purchase Agreement (PPA) based contract to market-based models**.
  - **Providing competitive price signals** to reduce the cost of power.
  - Promoting transparency, flexibility and **efficiency in green energy trade**.
  - Create Pan India Green market by unlocking the untapped potential of RE and instant payment to RE generators.
- **Other initiatives taken for promotion of Renewable energy**
  - **Power Exchange India (PXIL)** and **Indian Energy Exchange (IEX)** launched **Real-Time Electricity Market (RTM) platform**.
    - ✓ RTM enable buyers and sellers pan-India to meet their energy requirement closer to real time of operation.
    - ✓ Central Electricity Regulatory Commission (CERC) regulates both IEX and PXIL.
  - IEX started cross-border electricity trade to **build an integrated South Asian regional power market**.

#### 5.13.15. MINISTRY OF POWER (MOP) NOTIFIES RULES FOR THE SUSTAINABILITY OF THE ELECTRICITY SECTOR AND PROMOTION OF CLEAN ENERGY

- New rules are notified (under Electricity Act, 2003) to **sustain economic viability of the sector, ease**

- financial stress of various stakeholders and ensure timely recovery of costs involved in electricity generation.
- **Renewable energy (RE) sector has been facing following issues**
  - Various states have sought to cut procurement from renewables or **renegotiate power purchase agreements (PPAs) citing lower tariffs** for solar power.
  - **Inordinate payment delays** by states such as Telangana.
  - **Delays in land acquisition and clearances**, regulatory uncertainty, inadequate grid connectivity etc.
- **Key highlights of the rules**
  - **Compensation shall be payable by the procurer** in the event of a curtailment of supply from a must-run power plant.
  - Must run status means that the concerned power plant has to supply electricity to the grid under all conditions.
  - **RE generator is also allowed to sell power in the power exchange** and recover the cost suitably.
- These rules will help in achieving the **targets of RE generation**, will ensure that the **consumers get green and clean power**, will help in **creating investment friendly environment** etc.

### 5.13.16. TERRESTRIAL WATERS

- 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**.
  - 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.**
- **Key findings**
  - **TWS dropped at a rate of 1 cm per year in 20 years (2002-2021).**
  - The biggest losses have **occurred in Antarctica and Greenland**. Many highly populated, lower latitude locations have also experienced TWS losses.

- **Human- and naturally induced stressors are increasingly adding pressure on water resources.**
  - ✓ Socio-economic factors, such as population growth and urbanization on one hand, and environmental phenomena, such as decreasing freshwater availability and extreme weather events, on the other, are displaying their effects across sectors and regions.
- **In India, the TWS has been lost at a rate of at least 3 cm per year.** In some regions, the loss has been over 4 cm per year too.
  - ✓ **India has recorded the highest loss in terrestrial water storage** if the loss of water storage in Antarctica and Greenland is excluded.
  - ✓ India is the **'topmost hotspot of TWS losses**.
  - ✓ **The northern part of India has experienced the maximum loss** within the country.
- **In India, the average annual per capita water availability has been consistently decreasing.** It is projected to further decrease to 1,367 cubic metres in 2031, according to the **Union Ministry of Housing and Urban Affairs**.
  - ✓ **The five of the 21 river basins in India are 'absolute water scarce'** (per capita water availability below 500 cubic metres).
  - ✓ **Five are 'water scarce'** (per capita water availability below 1,000 cubic metres) and **three are 'water stressed'** (per capita water availability below 1,700 cubic metres).
  - ✓ **By 2050, six will become absolute water scarce, six will become water scarce and four will become water stressed**, according to the State of India's Environment in figures, 2020.
- **Recommendations to improve** the implementation and effectiveness of **climate services for water worldwide**
  - **Invest in Integrated Resources Water Management** as a solution to better manage water stress, especially in Small Island Developing States (SIDS) and Least Developed Countries (LDCs).
  - **Invest in end-to-end drought and flood early warning systems** in at-risk LDCs, including for drought warning in Africa and flood warning in Asia.
  - **Fill the capacity gap in collecting data for basic hydrological variables** which underpin climate services and early warning systems.



### 5.13.17. BANNI BUFFALO

- Recently, India's First Banni Buffalo in vitro fertilization (IVF) Calf was born in Gujarat.
- Banni buffaloes are distributed in the Kachchh region of Gujarat.

- Banni, which was evolved by the Maldhari community in this region, has good adaptability to harsh climatic conditions, drought resistance and survival on scanty fodder and shrubs.

### 5.13.18. ALLIUM NEGIANUM

- A plant discovered in Uttarakhand in 2019 has been confirmed as a new species of Allium, the genus that includes many staple foods such as onion and garlic.
  - Although new to science, the species has long been known under domestic cultivation to local communities.
  - With a narrow distribution, this newly described species is restricted to the region of western Himalayas and hasn't yet been reported from anywhere else in the world.



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## 6. SOCIAL ISSUES

### 6.1. DRUG ABUSE

#### Why in news?

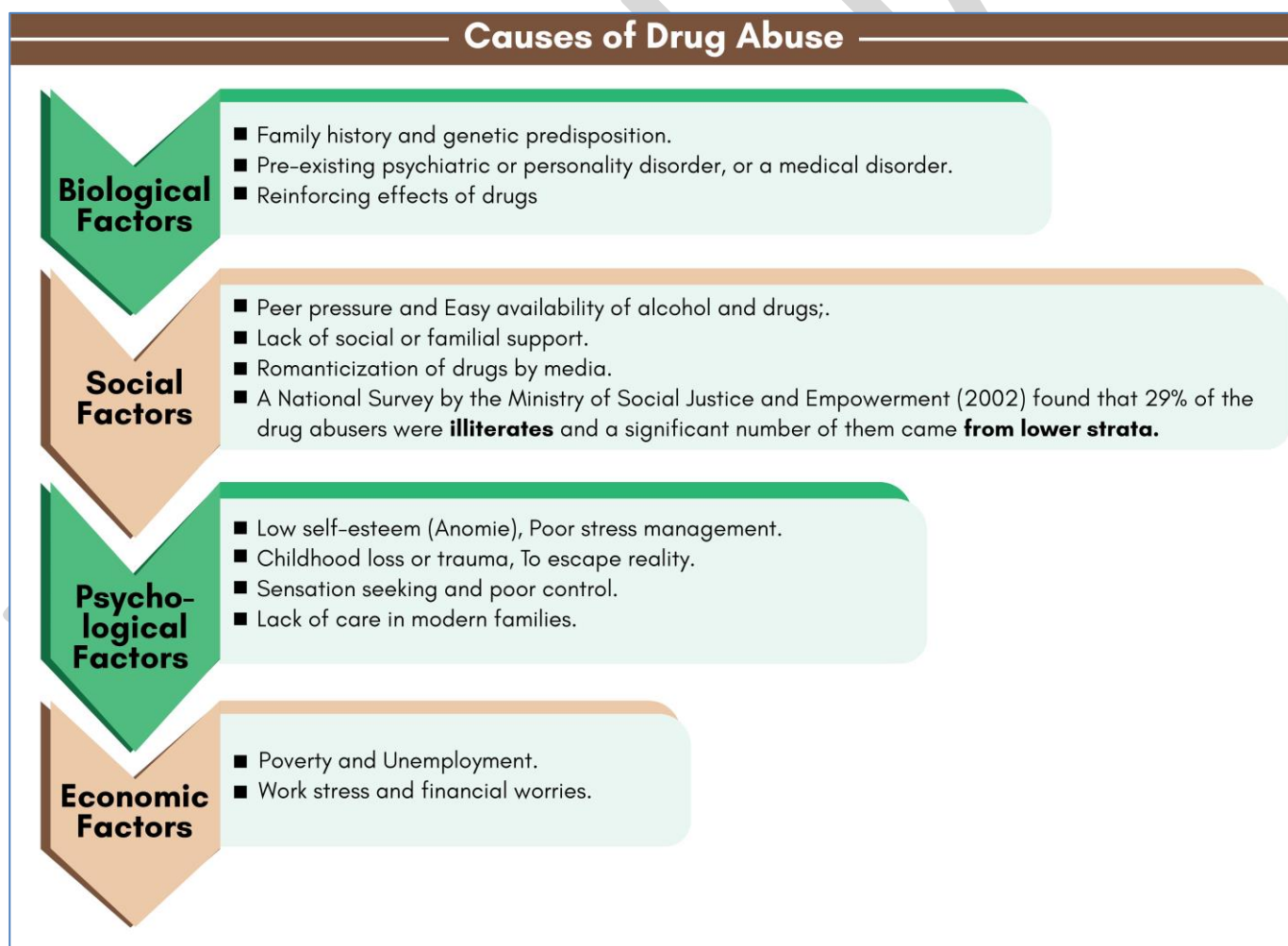
Calling for a humane approach towards **drug users and addicts**, the Union Ministry of Social Justice and Empowerment has recommended changes to the Narcotic Drugs and Psychotropic Substances (NDPS) Act to **exempt them from a prison term**.

#### 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

- **What is Drug abuse?: 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:**



- **Extent of Drug abuse in India:** From traditional **plant-based drugs** such as cannabis, cocaine, and heroin to **synthetic drugs** such as tramadol, consumption of narcotic substances in India has increased manifold in recent years. In terms of users, India's illicit drug markets are **mostly dominated by cannabis and opioids**.

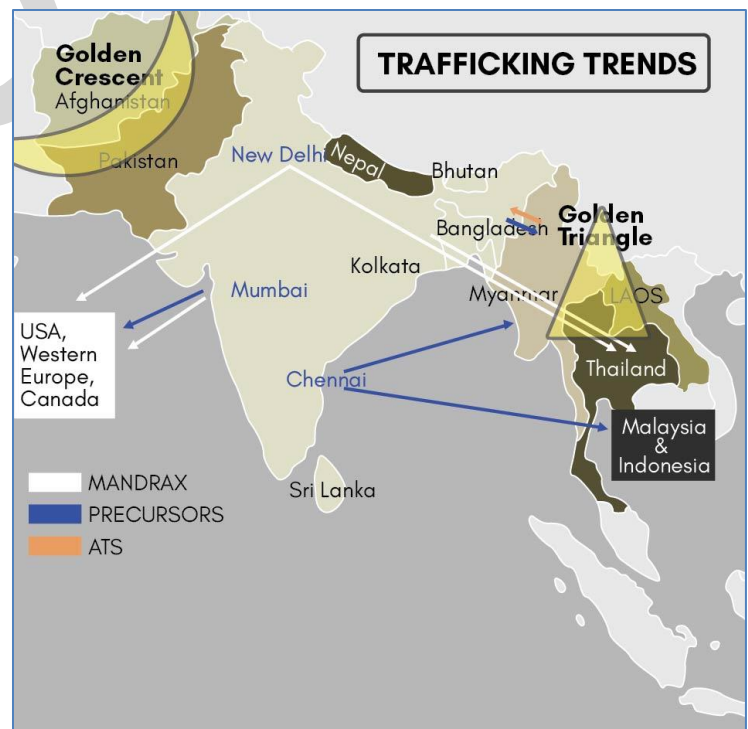
- According to the Social Justice and Empowerment Ministry and All India Institute of Medical Sciences' report on magnitude of substance abuse in 2019, there were **3.1 crore cannabis users** and **2.3 crore opioid users**.
- **Consumption across states: Uttar Pradesh has the highest number** of cannabis users, followed by Punjab, Sikkim, Chhattisgarh, and Delhi, according to the AIIMS report.
  - ✓ Of the total opioid users, nearly 77 lakh or **over one-third** are in the harmful or drug-dependent category due to **excess use**. Roughly one-third of such cases are from **Uttar Pradesh, Punjab, Haryana, Maharashtra and Delhi**.
  - ✓ 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:** Formulated and implemented by Ministry of Social Justice and Empowerment, 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 Mukta 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 per cent for drug use disorders**. Further, **merely five per cent** 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.
- **India's approach to drug consumption:** India sees **drug consumption as a criminal offence**, believing that criminalising drug use is the **strongest symbol of society's condemnation**.
- **Organized nature:** Since drug peddling is an **organised crime**, it is challenging for the police to catch the **persons involved from the point of source to the point of destination**.



- Also, drug abuse is being seen as a complex problem because it is **internally linked with other serious crimes** such as organized crimes, human trafficking, and money laundering.
- **Advancement in technology:** Increased **digital penetration** and **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.
- **Increased vulnerabilities due to pandemic:** The COVID-19 pandemic 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?

- **Scientific evidence-based treatment at the required scale:** Considering the **wide treatment gap** (mismatch between demand and availability of treatment services), India needs **massive investments** in enhancing the avenues for treatment. **Optimum allocation of resources** for treatment of substance use disorders is imperative.
- **Evidence-based substance use prevention programmes:** Prevention programmes must aim at **not just preventing substance use** but ensuring that young people **grow and stay healthy** into adulthood, enabling them to **realize their potential and become productive members** of their community and society.
- **Changed outlook towards drug abuse:** Awareness programmes can play an important role in establishing substance use disorders as **bio-psycho-social health conditions (and not just moral failings)**. Enhancing the awareness in the society can be an 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 nongovernment organizations and nonprofit organizations 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.

#### 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**.

## 6.2. 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



- While time spent online is still not as high as in other countries, it found that **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**, during specified times, 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.
- **Consequences**
  - Gaming disorders cause **physical, social and emotional damages, impairing sleep, appetites, careers and social lives**.
  - A Delhi-based NGO named the Distress Management Collective documented other ways in which online gaming could lead to **financial distress**. "For a poor family, even the money needed to recharge a mobile phone to feed a gaming addiction can bankrupt a family.
  - People who remain physically inactive for extended periods due to gaming may also have a **higher risk of obesity, sleep problems, and other health issues**.

#### 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.

### Way ahead

- **Legal:** Psychiatrists recommend that as a bare minimum, statutory warnings and mandatory breaks should be enforced to prevent binge gaming. Among those who are just beginning excessive use, enforcing breaks after a stipulated time will improve control and prevent bingeing.
- **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 yet. However, it is likely that treatments for other addictive behaviors, such as gambling addiction, will also be relevant for gaming disorder. These may include:

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.

## 6.3. MEDICAL TERMINATION OF PREGNANCY

### Why in News?

Recently, the Union Government notified the **Medical Termination of Pregnancy (Amendment) Rules, 2021** under section 6 of the **Medical Termination of Pregnancy Act (MTP Act), 1971**.

### More on News

- The new rules will amend the **2003 rules** to define eligibility criteria for termination of pregnancy and other conditions based on the **amendments to MTP Act by parliament in March 2021**.
- The amendments allow for setting up a Medical Board with **increase in limit for termination of pregnancy up to 24 weeks** against previous upper limit of **20 weeks**.

### Salient Features of New Rules

- **Defines powers and functions of State level Medical Board** (set up through latest amendments to MTP Act, 1971 in 2021) such as:
  - **Examine the woman and her reports**, when approached for medical termination of pregnancy,
  - **Allow or deny termination of pregnancy beyond 24 weeks of gestation period**, ensuring **safety of procedure for women** and identify **substantial risk to life or lifelong physical and mental handicaps foetal malformation** within fixed timeframe,
  - **Co-opt other specialists in the Board and ask for any additional investigations** if required, to decide termination of pregnancy.
- **Identifies categories of women eligible for termination of pregnancy up to 24 weeks as-**
  - survivors of sexual assault or rape or incest; minors;
  - change of marital status during the ongoing pregnancy (widowhood and divorce);
  - women with physical disabilities (as per the 2016 Act criteria);
  - mentally ill women including mental retardation;
  - foetal malformation carrying substantial risk of life or of physical and mental abnormalities for serious handicap; and
  - women with pregnancy in humanitarian settings or disaster or emergency situations as may be declared by the Government.
- **Specifies Eligibility criteria of Registered Medical Practitioner** to conduct termination of pregnancy up to 9 weeks, 12 weeks, 12-20 weeks etc.

**For more information, please refer to Article 6.1: Medical Termination of Pregnancy (Amendment) Bill, 2020 of March 2021 edition of VisionIAS Monthly Current Affairs Magazine.**

### What is need for an abortion law?

- **Ensuring health and safety of women:** Without law, illegal abortions fill the vacuum, with increased risks of unsafe procedures, infections etc. So, through hygienic and legally safe abortion service to women **on therapeutic, eugenic, humanitarian, or social grounds**. Medical termination of pregnancy reduces illegal abortion, maternal mortality, and morbidity as well.
- **Strengthening reproductive rights:** Providing legal support ensures dignity, autonomy, confidentiality, and justice for women who need to terminate pregnancy.
- **Encouraging societal acceptance for choice:** Creation of a law can help spearhead the movement of reproductive rights for women akin to the evolution experienced in the case of Dowry Prohibition.
- **Enabling Medical Practitioners:** Prevalence of a law protects the medical practitioners and at the same time acts as a guide in navigating difficult social situations.

### What is the crux of the abortion issue: The Pro-Life vs Pro-Choice Debate

Pro-Choice Movement (Focus on Mother)	Pro-Life Movement (Focus on Child)
With strong basis in reproductive rights of women, the Pro-Choice movement is represented by people who are for medical abortion.	With strong basis in religion and rights of unborn child, the Pro-life movement is represented by people who are

<p>The <b>major socio-ethical</b> arguments used to support it are:</p> <ul style="list-style-type: none"> <li>• <b>Women</b> autonomy rights over body,</li> <li>• Birth defects (<b>genetic abnormalities</b>) which are lethal (cause death) or lead to lifelong suffering takes heavy toll on parents through moral distress and posttraumatic stress.</li> <li>• State can't overlook the age (minor) and mental health of women (mentally ill). Also, rape victims should have freedom of choice on pregnancy termination, to ensure dignity and justice.</li> <li>• <b>No child</b> should be brought unwanted.</li> </ul>	<p>against medical abortion. <b>The major socio-ethical arguments used to support it are:</b></p> <ul style="list-style-type: none"> <li>• <b>Fetus</b> rights of personhood,</li> <li>• Misuses of prenatal diagnosis for sex-determination as well as scarce availability of such technologies in our society. The birth defects may get treatment in future</li> <li>• <b>Against</b> humanity and state has an obligation to protect all life including fetus. E.g. Texas anti-abortion law (banning abortion if medical professionals can detect cardiac activity).</li> </ul>
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### Challenges in implementing the MTP Act in India

- **Shortage of qualified doctors:** In India, especially in rural areas, India lacks the qualified Medical Practitioners. E.g. As per **All-India Rural Health Statistics (2018-19)**, India has 1,351 gynecologists and obstetricians in community health clinics in rural areas across India, and the shortfall is 4,002, i.e., there is a 75% shortage of qualified doctors.
- **Shortage of Health Infrastructure:** Around **15.6 million abortions** happen in India every year. Also, as per **National Health and Family Survey, 2015-16**, only **53% of abortions** performed by registered medical doctor in India while balance are conducted by a nurse, auxiliary nurse midwife, family member of self.
- **Awareness on Laws:** Majority of people lack awareness on laws and its provisions. This makes enforcement and application extremely difficult.
- **Social Stigma:** In many cases, due to issues like loss of privacy, victims of rape etc., families may avoid using formal means of abortion.
- **Religious Opposition:** Several inscriptions and religious texts, in one form or the other, oppose the idea of abortion. This hinders development of social acceptance and hence leads to limited usage of the law.

### Way Forward

The regulation of medical termination should be centered around the woman and the child. Keeping this in mind, **following principles** can be adopted in regulation to ensure that **health, safety, and privacy of the women** and at the same time **growing gradual societal acceptance for the process:**

1. <b>Engage religious leaders</b> to enhance spiritual values.	2. <b>Ensure confidentiality</b> of process.
3. <b>Make people realize value</b> of human life to avoid any misuse.	4. <b>Improve awareness</b> on effective use of contraceptives to avoid its misuse.
5. <b>Family life education</b> to help couples for a planned parenthood.	6. <b>Overcome shortage of qualified doctors</b> and improve infrastructure in rural India.
7. <b>Improve law and order</b> situation to address moot issues like rape, incest etc., i.e., overcoming circumstances for the use of law.	

## 6.4. 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)

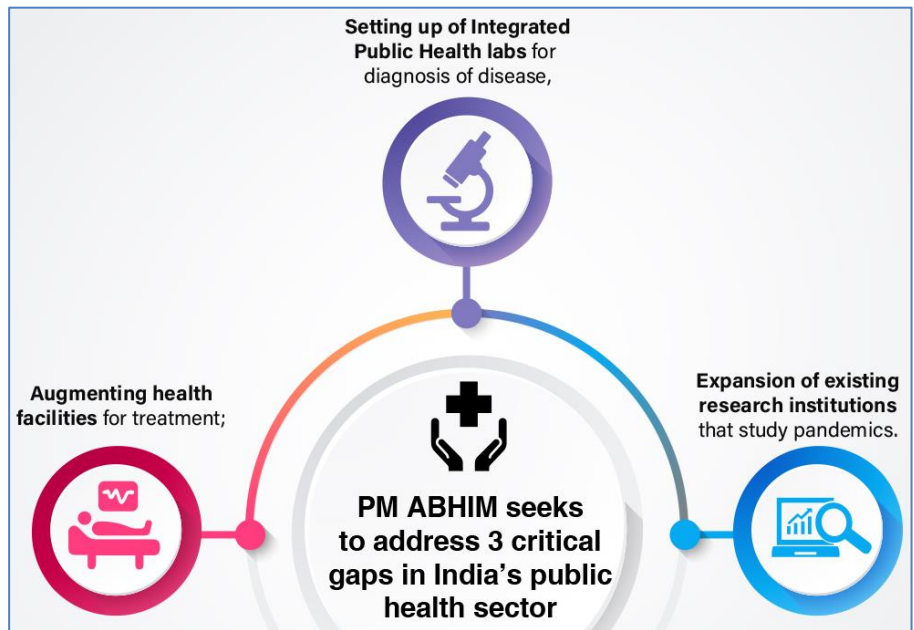
- It is the largest pan-India scheme for the **creation and improvement of long-term public healthcare infrastructure.**
- It is also known as **Pradhan Mantri Atmanirbhar Swasth Bharat Yojana (PMASBY).**
- It will be **implemented in each district of the country.**

### Benefits of the scheme

- **Bring about a paradigm shift in India's healthcare infrastructure** and make it more resilient.
- **Address gaps and strengthen the critical health care network** from village and block to the district and national level.
- Make India ready to **effectively manage any future pandemics and health emergencies.**

• **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)**.

- NHM launched in 2013 encompasses its two Sub-Missions, The **National Rural Health Mission (NRHM)** and The **National Urban Health Mission (NUHM)**.
- Its components include **Health System Strengthening, Reproductive-Maternal- Neonatal- Child and Adolescent Health (RMNCH+A), and Communicable and Non-Communicable Diseases.**

## PM AYUSHMAN BHARAT HEALTH INFRASTRUCTURE MISSION

<h3>Multi-dimensional and multi-modal interventions</h3> <ul style="list-style-type: none"> <li>✦ Focus on critical and primary care</li> <li>✦ Network of 29,000 health and wellness centers</li> <li>✦ Specialized critical care hospital Blocks in all districts with 37,000 beds with ICUs, Ventilators and oxygen support</li> <li>✦ Over 4,000 Block &amp; District level public health units &amp; labs</li> <li>✦ Full range of diagnostic services in all districts</li> <li>✦ IT-enabled disease surveillance system</li> </ul>	<h3>Institutional Approach to Holistic Healthcare</h3> <ul style="list-style-type: none"> <li>✦ National Institution for one Health</li> <li>✦ 4 New National Institutes for Virology</li> <li>✦ Regional Research Platform for WHO South East Asia Region</li> <li>✦ 15 Biosafety Level 3 Labs</li> <li>✦ 5 New Regional National Centre for disease control</li> <li>✦ Public Health units at 50 international entry Points preventing Public health emergencies and disease outbreaks</li> </ul>
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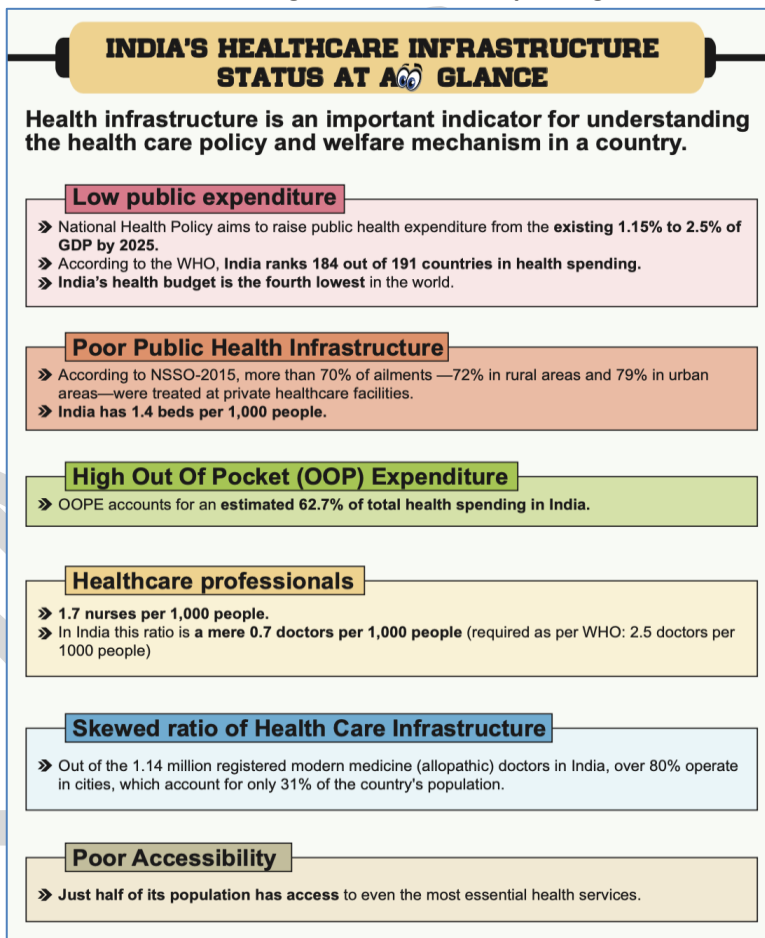
• **3 Components of the mission**

<b>First component of the mission</b>	<ul style="list-style-type: none"> <li>• To establish <b>comprehensive surveillance</b> of infectious diseases.</li> <li>• At the <b>district level</b>, <b>Integrated Public Health laboratories</b> in all 730 districts will be set up.</li> <li>• At the <b>state level</b>, five regional branches and 20 metropolitan units of the <b>National Centre for Disease Control</b>.</li> <li>• At the <b>national level</b>, an <b>Integrated Health Information Platform (IHIP)</b> will be established.</li> </ul>
<b>Second component of the mission</b>	<ul style="list-style-type: none"> <li>• The creation of <b>comprehensive diagnostics and treatment facilities</b>.</li> <li>• At the district level,                             <ul style="list-style-type: none"> <li>○ <b>New rural &amp; urban health and wellness centres</b> will be set up;</li> <li>○ <b>Critical care hospital blocks</b> will be established in districts with a population of more than 5 lakh.</li> </ul> </li> <li>• At the state level, <b>15 health emergency operation centres</b> will be set up.</li> <li>• At the national level,</li> </ul>

	<ul style="list-style-type: none"> <li>○ <b>two container-based mobile hospitals</b> will be set up;</li> <li>○ 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.</li> </ul>
<b>Third component of the mission</b>	<ul style="list-style-type: none"> <li>● <b>Comprehensive pandemic research.</b></li> <li>● <b>At the district level, strengthening of existing 80 viral diagnostics and research labs</b> will be undertaken.</li> <li>● <b>At the state level, 15 new bio-safety level III laboratories</b> will be operationalised.</li> <li>● <b>At the national level, 4 new regional national institutes</b> for virology will be operationalized and a regional research platform (digital) for WHO southeast Asia Region will also be set up.</li> </ul>

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.



## 6.5. 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).
- Digital innovation has improved access to sanitation such as SBM Toilets on Google Maps. Over 65,000 public toilets across 3,300+ cities have been made live.
- **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 (CWBPs) and City Water Action Plans (CWAPs)** 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.
- 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)**.

**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.

- **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.

## 6.6. NEWS IN SHORTS

### 6.6.1. STATE OF THE WORLD'S CHILDREN 2021 REPORT RELEASED BY UNICEF

- Report **examines child, adolescent and caregiver mental health**.
- **Key Findings related to India**
  - **14% of 15 to 24-year-olds in India feel depressed** or has little interest in doing things.
  - At least **50 million children in India were affected with mental health issues** before COVID; 80 – 90% have not sought support.
  - India has spent **only 0.05% of its health budget annually on mental health**.
  - **Only 41% of young people** (15 -24 years) were **willing to get support for mental health problems**.

### 6.6.2. GLOBAL FOOD SECURITY (GFS) INDEX 2021

- India is ranked at **71<sup>st</sup> position in the GFS Index 2021** of 113 countries with an overall score of 57.2 points.
- **Released by:** London-based Economist Impact and is sponsored by Corteva Agriscience.
- GFS Index measures the **underlying drivers of food security** in 113 countries, based on the factors of:
  - affordability,
  - availability,
  - quality and safety,
  - natural resources and resilience.
- It considers **58 unique food security indicators** including income and economic inequality – calling attention to systemic gaps and actions needed to accelerate progress toward United Nations Sustainable Development Goal of Zero Hunger by 2030.

#### • Key Highlights

- **India fared better than** Pakistan (75th position), Sri Lanka (77th Position), Nepal (79th position) and Bangladesh (84th position).
  - ✓ **However, India lags behind Pakistan and Sri Lanka** in terms food affordability.
- India's score improved only by 2.7 points to 57.2 in 2021 from 54.5 in 2012.
- Ireland tops the Index.
- **Note:** This index is **different from Global Hunger Index 2021 (released by Concern Worldwide and Welt Hunger Hilfe)** where India ranked at 101 position of 116 countries.

### 6.6.3. VAYO NAMAN PROGRAMME

- It was organised **by Ministry of Social Justice and Empowerment** on the occasion of International Day of Older Persons (1<sup>st</sup> October).
- On the occasion **following initiatives were launched:**
  - An **Elderly Help Line 14567**.
  - **SAGE (Seniorcare Aging Growth Engine)** portal to encourage entrepreneurs in the area of elderly care.
  - **SACRED (Senior Able Citizens for Re-Employment in Dignity)** portal to connect the senior citizens with job providers in the private sector.

### 6.6.4. PALLIATIVE CARE

- The World Health Organization (WHO) defines palliative care as an **approach that improves the quality of life of patients and their families** facing problems associated with life-threatening illness or serious health-related sufferings.
  - For WHO, "**palliative care is a human right and a moral imperative of all health systems.**"



- According to the WHO
  - Only one in 10 people who need palliative care are receiving it.
  - Global demand for care for people with life threatening illnesses, will continue to grow as populations age and the burden of noncommunicable diseases rises.
  - Impact of pandemic
    - ✓ The COVID-19 pandemic has highlighted the need for this type of care to relieve suffering at the end of life, such as the physical suffering caused by breathlessness, or mental pain.
    - ✓ The pandemic also reminded of the need for all health professionals to have some training in this area.
    - ✓ Optimal care requires a supportive policy environment, empowered communities,

palliative care research, access to essential palliative care medicines, strong education and training systems.

- Palliative care in India
  - According to Dr. M.R. Rajagopal, popularly known as the father of palliative care in the country, only 1%-2% people have access to palliative care or pain management in India.
  - India has a centrally sponsored 'National Program for Palliative Care'.
    - ✓ Its goal is ensuring availability and accessibility of rational, quality pain relief and palliative care to the needy, as an integral part of Health Care at all levels, in alignment with the community requirements.
  - Kerala implemented a palliative care policy in 2008.



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# 7. SCIENCE AND TECHNOLOGY

## 7.1. 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

- The industry association 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** for the Indian space industry to bring in **critical technology and investments** into the country to create more high-skill jobs.
- Space reforms via ISpA, will be based on **“four pillars”** of space technology:
  - The **freedom to innovate** in the private sector;
  - Making the government act as an **enabler**;
  - **Preparing the next generation** for the future of the space industry; and
  - Ensuring that the **space sector is used as a common resource** for the progress of humanity.

### Status of India’s Space industry

- **Driven by public sector:** India’s space programme is one of the **most well-developed** in the world and is **driven by a state-owned agency**- the **Indian Space Research Organisation (ISRO)**.
- **High economic potential:** The current global space economy is **estimated at US\$ 360 billion**, with India accounting for **~2%** (US\$ 7 billion). The Indian space sector is **projected to increase at a ~48% CAGR** over the next five years to reach US\$ 50 billion.
- **Limited participation in satellite and ground based services:** In the global space market, **rocket and satellite launch services**, an area in which ISRO specialises, amount to **only 5% share**. **Satellite-based services and ground-based systems** account for the **remaining 95%**.

At present, the government **drives a certain level of participation** by the Indian private sector, **primarily in the rocket and satellite launch services** segment. However, enhanced private sector participation will be necessary to **penetrate satellite-based services and ground-based system segments**.

### Need for private sector participation

- **Growing demand:** ISRO alone can’t cater to the **rising demand for space-based applications** and services within India. Almost every sector, starting **from agriculture to transport**, now wants satellite data and **space technology** to draw their future strategy.
  - It has been estimated that ISRO would have to **increase its present size by 10 times** to cater to the growing demand within India.
- **To enable ISRO to fulfil its strategic objectives:** Currently, a lot of ISRO’s resources are being **consumed by routine activities**, causing **delays in its strategic objectives**. If private companies take over these activities, ISRO will be able to focus **more on strategic programmes** like **R&D activities, exploration missions and human spaceflight programme**.
- **Increase India’s share in global space market:** Indian space sector has the potential to capture close to **9% of global market share by 2030**, which cannot be achieved without private sector’s participation.
- **To secure our space capabilities and make them more robust:** This can be done 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**. The more critical the function, the **more the diversity** required.

#### 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** on board a launch vehicle 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

- **To expand satellite-based services:** As of August 2021, India had **only 3 lakh satellite communications customers**, compared with **45 lakh in the US** and 21 lakh in the European Union. Private sector can facilitate development of a **cost-effective product or a service**, thus creating **large base of new consumers**.
- **To achieve our geopolitical objectives:** The availability and demonstration of **emerging technologies** have a great significance in **defining the modern-day geopolitics**. Hence, given the **current geopolitical situation** of the country and security threats, growth in the space sector can help the country **gain leverage over others**.
- **NewSpace in India:** NewsSpace 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**.
  - Companies that fit in the bracket of NewSpace include the likes of **SpaceX, OneWeb, and Planet Labs**, which are primarily funded by **private capital**.
- **Other factors** include 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.

### Challenges associated with Private Sector participation

- **Conflicts of interest:** As ISRO is both a **regulator and an operator**, this conflict of interest is likely to manifest during **dispute resolution** between private players and ISRO entities.
  - Even though **IN-SPACe** (Indian National Space Promotion and Authorization Centre) is meant to be an independent agency, it falls under the **ambit of ISRO**, causing **potential conflicts of interest**.
- **Procedural hurdles:** Companies have often cited **multiplicity of approvals and procedural ambiguity** as barriers. For example, in 2017, Hughes, a US-based company, had announced a US\$ 500 million satellite communications system in India but company **has not yet received any approvals or an expected timeline**.
- **Lack of clarity on level of private involvement:** There is a lack of clarity regarding **definition and scope of private involvement** in the space sector given that governments still consider **some domains in space too crucial for national interest** to allow private participation.
- **Absence of coherent policy:** There is an **absence of a coherent policy framework** at the national level, which could provide **support and guidelines** to technology manufacturing businesses, including tax rebates or other advantages of operating in a Special Economic Zone (SEZ).
- **Limited technological advancements:** As ISRO works on the **traditional vendor-supplier model**, most **intellectual property (IP) is owned by the organisation**. This has hindered the technological advancements of Indian companies.
  - Currently, private players (operating satellites) have a **100% FDI limit** that is **subject to government approval** which may be prolonged for years.

### 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.

### Charting the road ahead

- **Regulatory clarity:** The purpose of regulation must be to **ensure compliance** with India's international obligations, **ensuring safety, covering liabilities and standardization**. Improved regulatory environment would mean **fewer barriers** of entry for private firms.
  - There is a need for legislation providing procedural clarity to **facilitate ISRO's partnership with industries and entrepreneurs**. Rekindling debate on **draft Space Activities Bill** could be a good start.

- **Independent regulator:** Creating an independent regulator to **govern ISRO and its affiliates as well as new private sector firms** can help in instilling confidence among private players. **Separate licences** can be awarded for different classes of **launch vehicles, orbits and services**.
- **Incentives to private companies:** By opening up **ISRO testing facilities to the private sector**, Indian rocket-making companies will be able to build their satellites or test their rockets, **reducing cost and increasing incentives** for firms to build operational spacecraft.
- **FDI reforms:** Government can consider implementing the **telecommunications FDI model**, which allows investments (up to 49%) under the automatic route and **investments (>50%)** through the **government's approval**.
- **Other steps:**
  - **IP-centric policy** to create reforms where local industry can invest in building their own IP and/or products that can **match global standards**;
  - Enable a **level playing field** for the private sector through **burden-sharing** between the public and private actors;
  - There is a **need for collaboration and integrated conversations** between various stakeholders who need to come together to help **establish a suitable framework for space policy and governance**.

## 7.2. 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.
- They are awarded **annually from a fund that Alfred Nobel** (Swedish inventor and entrepreneur) set aside in his **1895 will** for this purpose.
  - **Alfred Nobel's** own inventions include a **blasting cap, dynamite, and smokeless gunpowder**.
- **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**.
- **What do the winners receive?** The recipient of each prize receives **three things**:
  - A Nobel **diploma**, each of which is a unique work of art;
  - A Nobel **medal**;
  - A **cash prize** of 10m Swedish krona (£836,000; \$1.1m). They have to **deliver a lecture** to receive the money.
- **Who awards the prizes?** The **Royal Swedish Academy of Sciences** awards the Nobel Prize in **Physics & Chemistry** and the Nobel prize in Medicine is awarded by **Nobel Assembly at Karolinska Institutet, Stockholm, Sweden**.
- Prize winners are called **laureates**, to signify the **laurel wreath given to victors** of contests in ancient Greece. More than one, but **no more than three, people can win each prize**.


### 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.

## 7.2.1. THE NOBEL PRIZE IN PHYSICS 2021

**Prize awarded for:** Ground-breaking contributions to our 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.

### 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:** These discoveries make it possible to understand and describe many different and apparently entirely **random materials and phenomena**, in physics and in other areas, like mathematics, biology, neuroscience and machine learning.
- **Development of the theory of complex systems:** His method has been used in many disordered systems and become a **cornerstone of the theory of complex systems**.

## 7.2.2. NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE

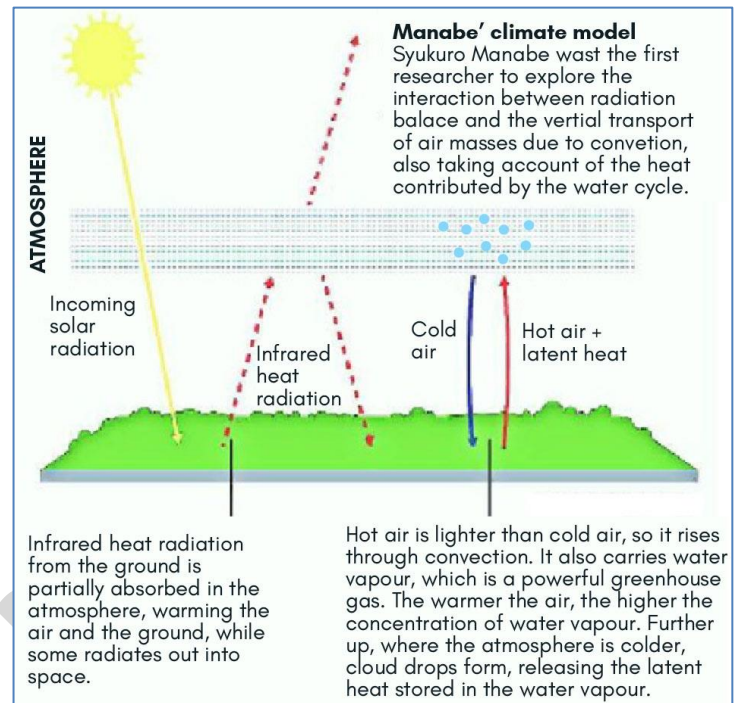
**Prize awarded for:** discoveries of **receptors for temperature and touch**.

### 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 receptor1**.



- 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**.

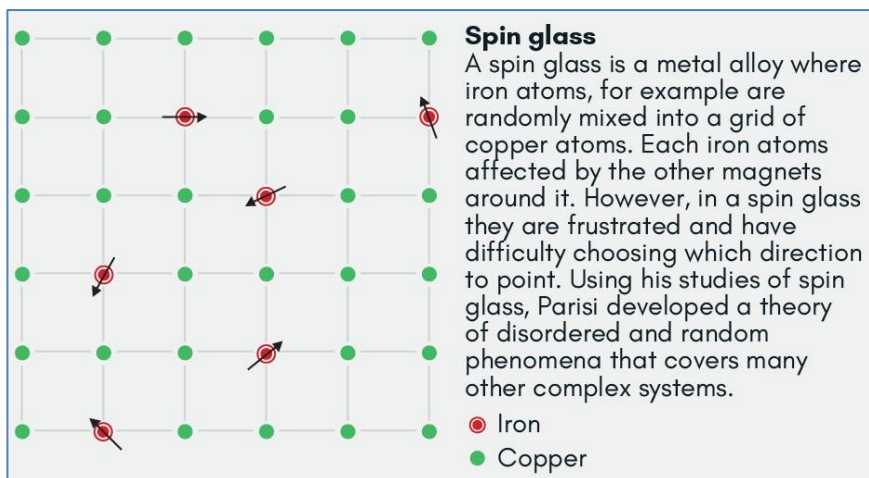
- Via Piezo1, a **second gene** was discovered and named **Piezo2**. Sensory neurons were found to express **high levels of Piezo2** and further studies firmly established that Piezo1 and Piezo2 are ion channels that are directly activated by the **exertion of pressure on cell membranes**.

- 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.

#### Applications of these discoveries:

- **Treatment of diseases:** The knowledge (of the TRPV1, TRPM8 and Piezo channels) is being used to **develop treatments** for a wide range of disease conditions, including **chronic pain**.
- **Molecular structure of sensors:** Along with the discoveries of **specific genes, proteins and pathways**, the scientists pioneered experimental methods that allow insight into the **structure of these pain and temperature sensors**.
- **Increasing precision of drugs:** The challenge for pain relieving drugs is to **precisely target regions** without causing imbalance in other necessary functions. These scientists' work significantly helped towards **reaching that goal**.



### 7.2.3. NOBEL PRIZE IN CHEMISTRY

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

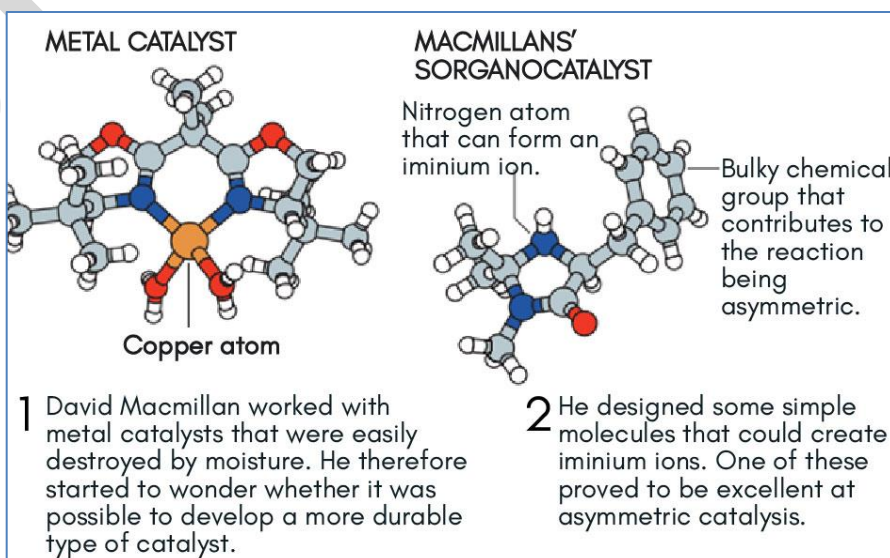
#### Awardees

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.

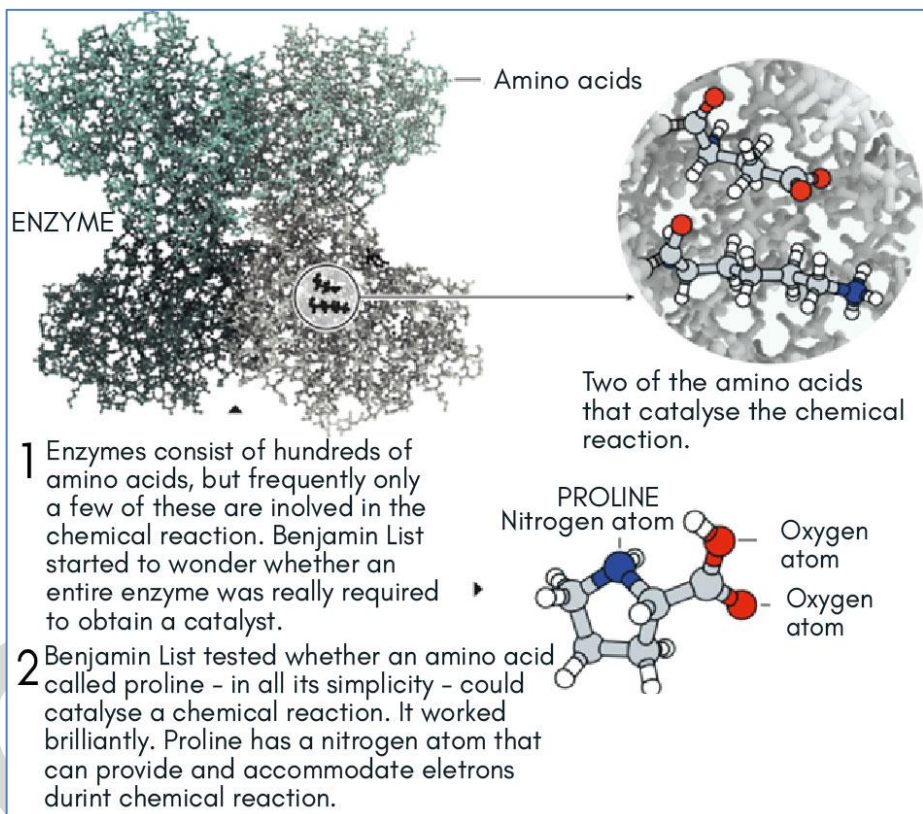
- For example, catalysts in catalytic converters of cars **transform toxic substances** in exhaust fumes to **harmless molecules**.



- 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 organocatalysis** and builds upon small organic molecules.

#### Significance of these discoveries:

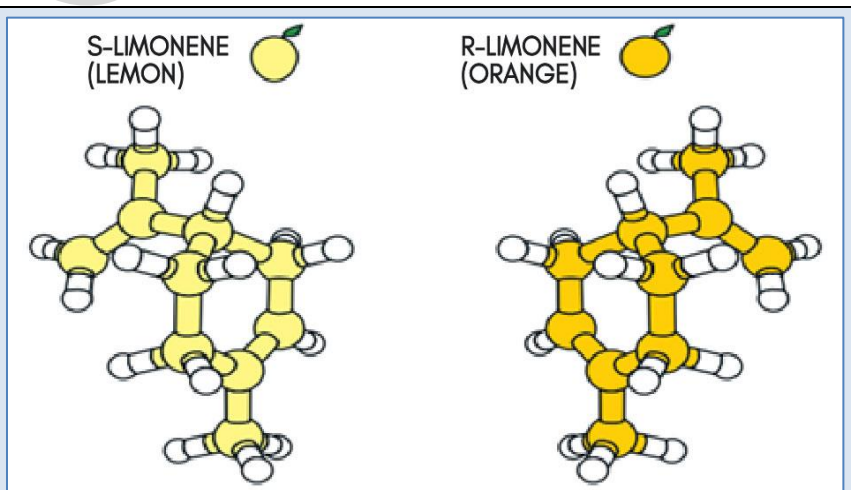
- **Eco-Friendly:** Organic catalysts have a **stable framework** of carbon atoms and often contain **common elements** such as oxygen, nitrogen, sulphur or phosphorus. Thus these catalysts are both **environmentally friendly and cheap to produce**.
- **Efficient:** Organic catalysts can be used to drive 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 per cent 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.



## 7.4. NEWS IN SHORTS

### 7.4.1. GOVT LAUNCHES PNEUMOCOCCAL CONJUGATE VACCINE ON PAN-INDIA BASIS

- Union Minister for Health and Family Welfare launched the **nationwide expansion of Pneumococcal Conjugate Vaccine (PCV)** under the **Universal Immunization Programme (UIP)**.
  - Pneumococcal disease is the name given to a **group of diseases caused by a bacterium called Streptococcus pneumoniae (also known as pneumo-coccus)**.
    - ✓ Pneumococcal disease can occur in **multiple organ systems, causing pneumonia, meningitis, bacteraemia/sepsis, sinusitis, bronchitis** and middle ear infection.
  - In India **around 16 percent of deaths** in Children occur **due to pneumonia**.
- **About UIP**
  - It is one of the largest public health programmes **targeting close to 26.7 million newborns and 29 million pregnant women annually**.
  - Under UIP, immunization is being provided free of cost **against 12 vaccine preventable diseases**:
    - ✓ **Nationally against 10 diseases**: Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Rotavirus diarrhea, Hepatitis B and Meningitis & Pneumonia caused by Haemophilus Influenzae type B;
    - ✓ **Sub-nationally against 2 diseases** - Pneumococcal Pneumonia and Japanese Encephalitis; of which Pneumococcal Conjugate vaccine is nationally expanded today (earlier in select districts of **Bihar, Himachal and to be expanded in phases**), while **JE vaccine is provided only in endemic districts**.
- A conjugate vaccine is a type of vaccine which **combines a weak antigen with a strong antigen as a carrier** so that the immune system has a stronger response to the weak antigen.

### 7.4.2. WORLD HEALTH ORGANIZATION (WHO) RECOMMENDS WORLD'S FIRST ANTIMALARIAL VACCINE

- WHO recommended widespread use of RTS,S/AS01 (RTS,S) or **Mosquirix malaria vaccine among children in sub-Saharan Africa** and in other regions with moderate to high Plasmodium falciparum malaria transmission.

- More than 2,60,000 African children under the age of five die from malaria annually.
- Malaria is caused by parasites that are transmitted to people **through bites of infected female Anopheles mosquitoes**. There are **5 parasite species that cause malaria in humans**.
  - **2 of these species** – Plasmodium falciparum and Plasmodium vivax – **pose the greatest threat**.
- According to World Malaria Report 2020 (by WHO), **India recorded largest reduction in cases in South-East Asia (SEA)** from 20 million in 2000 to about 5.6 million in 2019.
  - India, however, **still accounted for 88% of malaria cases and 86% of malaria deaths** in SEA in 2019.
  - A WHO report also mentioned **high Anti Malaria drug resistance in Tripura, Arunachal Pradesh and Mizoram**.
- **Initiatives taken in India**
  - Adopted **'National Framework for Malaria Elimination in India 2016–2030'** outlining strategy for elimination of malaria by 2030.
  - **National Strategic Plan for malaria elimination 2017-22**

### 7.4.3. WHO'S "SOLIDARITY" CLINICAL TRIAL FOR COVID-19

- India will roll out the next phase of World Health Organization's Solidarity trial - **Solidarity PLUS - which aims to assess the effectiveness of new drugs** in treating hospitalised Covid-19 patients.
  - **India is among the 52 countries** taking part in WHO's Solidarity PLUS trial.
  - In 2020 WHO initiated the Solidarity trial.
- India trial will study **two drugs - Imatinib and Infliximab**.
  - Imatinib is used for **treating certain cancers** while infliximab is used for **diseases of the immune system**, including Crohn's disease and rheumatoid arthritis.

### 7.4.4. ONE HEALTH CONSORTIUM LAUNCHED

- Consortium, by Department of Biotechnology (DBT), **envisages carrying out surveillance of important bacterial, viral and parasitic infections** of zoonotic as well as transboundary pathogens in country.
- One Health concept recognises that **health of human beings is connected to health of animals and environment**.



- One Health is an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors **communicate and work together to achieve better public health outcomes.**
  - Relevant areas of work of One Health approach include **food safety, control of zoonoses, and combatting antibiotic resistance.**

#### 7.4.5. ICMR'S DRONE RESPONSE AND OUTREACH IN NORTHEAST (I-DRONE)

- It is a **delivery model**, launched by Ministry of Health and Family Welfare, to **facilitate vaccine delivery to hard-to-reach terrains of India.**
- i-Drone will overcome these challenges **by deploying Unmanned Aerial vehicles (UAV) / drones to remote areas.**
  - Currently, the project has been granted permission for implementation in Manipur and

Nagaland, as well as Andaman and Nicobar Islands.

- Recently, i-Drone **used a made-in-India drone to facilitate COVID-19 vaccine delivery** to tough and hard-to-reach terrains of the Northeast region.

#### 7.4.6. NASA'S LUCY MISSION LAUNCHED

- The solar powered mission is NASA's **first mission to study Jupiter's Trojan asteroids** to gain new insights into the solar system's formation 4.5 billion years ago.
  - Trojans **orbit the Sun in two loose groups**, with one group leading ahead of Jupiter in its path, the other trailing behind.
- **Asteroids can be divided into following categories**
  - Those **found in the main asteroid belt**, between Mars and Jupiter.
  - **Trojans asteroids** that share an orbit with a larger planet.
  - **Near-Earth Asteroids**, which has orbits that pass close to the Earth.



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# 8. CULTURE

## 8.1. KALAMKARI PAINTINGS

### Why in News?

**Karuppur kalamkari paintings from Tamil Nadu** recently received the geographical indication (GI) tag.

### More about News

- Tamil Nadu, kalamkari paintings are done on **pure cotton cloth, predominantly used in temples for umbrella covers, cylindrical hangings, chariot covers and asmanagiri (false ceiling cloth pieces)**
- Kalamkari paintings are **done in Karuppur and its surrounding villages in the Udayarpalayam taluk in Ariyalur district, and in and around Sickhanayakanpatti and Thirupanandal in Thiruvaidaimaruthur taluk, Thanjavur district.**

### About Kalamkari Painting

- It is a **type of hand-painted or blockprinted cotton textile** produced in parts of India for hanging on walls.
- Kalamkari literally means, **Kalam - pen & kari - work**, i.e., art work **done using a pen.**
- It is **done on cotton or silk fabric** with a tamarind pen using natural dyes.
- This colourful art **dates back to more than 3000 B.C.**
- The traditional style of Kalamkari flourished in **Kalahasti (north of Chennai) and Masulipatnam (east of Hyderabad).**
- The paintings at that time used to **depict Hindu Deities and scenes from Hindu mythology.**
- This art was **patronised by the Mughals** particularly in Golconda.
- **Mostly natural dyes** are used in Kalamkari, which involves twenty-three steps.

### Distinctive styles of Kalamkari art in India:

- **Srikalahasti style:**
  - It flourished **around temples with Hindu patronage**, thus has an almost religious identity.
  - Here the **kalam or pen is used for freehand drawing of the subject**, and filling in the colours is entirely done by hand.

### Related News

- **Kallakurichi wood carvings from Tamil Nadu** also received the geographical indication (GI) tag.
- Kallakurichi wood carvings are **specialised in carving temple-related items** and also furniture, using traditional designs.
- **Other GI tags from Tamil Nadu** include the Kanyakumari cloves, Dindigul locks, Mahabalipuram stone sculpture, Nilgiri (orthodox) tea, Virupakshi hill banana, Thanjavur doll, Thanjavur paintings, Coimbatore wet grinder, Kancheepuram silk and saree.

### About GI Tag

- It is a sign used on products that have a **specific geographical origin and possess qualities or a reputation** that are due to that origin.
- A geographical indication right enables those who **have the right to use the indication to prevent its use by a third party** whose product does not conform to the applicable standards.
- Under **Paris Convention for the Protection of Industrial Property**, GIs are covered as an element of Intellectual property Rights.
- They are also covered under **Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement.**
- India, as a member of the World Trade Organization (WTO), enacted the **Geographical Indications of Goods (Registration & Protection) Act, 1999.**
- Tag is valid for **10 years only and it can be renewed from time to time for a period of 10 years each.**



### Other Block printing art in India

- **Gujarat:** Ajrakh Print
- **Rajasthan:** Sangneri, Ajrakh, Dabu
- **Madhya Pradesh:** Bagh Print, Bherogarh Print (Batik).
- **Calcutta, Serampur (West Bengal), Varanasi and Farrukabad (Uttar Pradesh)** are also important centres of block printing in India.

### Other folk arts depicting epic based mythology

- **Lepakshi Paintings:** Andhra Pradesh
- **Mewar School of Painting:** Rajasthan
- **Amber-Jaipur School of Painting:** Rajasthan
- **Madhubani Paintings:** Mithila region of India and Nepal
- **Kathakali:** Kerala
- **Dalkhai Dance:** Odisha
- **Pavakoothu:** Kerala
- **Nayaka paintings:** Madurai and Thanjavur

- The themes and deities are drawn from **great epics like Ramayana, Mahabharata, Puranas and other mythological classics.**
- These are depicted on **scrolls, temple hangings and chariot banners.**
- **Machilipatnam style:**
  - Pedana Kalamkari also known as Machilipatnam style involves vegetable dyed block-painting of a fabric.
  - It is **influenced by Persian art.**
  - The motifs **used are trees, flowers and leaf designs** are printed using blocks.

## 8.2. NEWS IN SHORTS

### 8.2.1. NOBEL PEACE PRIZE 2021

- **Awarded to:** Journalists Maria Ressa and Dmitry Muratov.
- **Contribution:** For their efforts to **safeguard freedom of expression**, which is a precondition for democracy and lasting peace."
  - In 2012, Ressa co-founded Rappler, a digital media company for investigative journalism. Ressa has focussed on Philippine President Rodrigo Duterte's controversial **“war on drug” campaign that has claimed thousands of lives.**
  - Russian journalist Dmitry Andreyevich Muratov co-founded the newspaper Novaja Gazeta. Murato has for decades defended freedom of speech in Russia under **“increasingly challenging conditions.”**

### 8.2.2. NOBEL PRIZE FOR LITERATURE 2021

- **Awarded to:** Tanzanian writer Abdulrazak Gurnah
- **Contribution:** For work that explores uncompromising and compassionate penetration of the effects of colonialism and the fate of the refugees in the gulf between cultures and continents.

### 8.2.3. NIHANGS

- Nihang is an **order of Sikh warriors**, characterised by blue robes, antiquated arms such as swords and spears, and decorated turbans surmounted by steel quoits.
- The order can be traced back to the **creation of the Khalsa by Guru Gobind Singh (10th Sikh Guru) in 1699.**
- The term ‘Nihang’ signifies the characteristic qualities of the clan — **their freedom from fear of danger or death, readiness for action and non-attachment to worldly possessions.**
- Nihangs are today divided into several groups, loosely organised into two “dals” (forces) — **Buddha Dal and Taruna Dal**, names initially given to the two sections into which the ‘Khalsa’ army was divided in 1733.
- Nihangs had a **major role in defending the Sikh panth after the fall of the first Sikh rule (1710-15)**, and during the onslaught of **Afghan invader Ahmed Shah Durrani (1748-67).**
- **Gatka (martial arts in Punjab)** is performed by Nihangs.



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# 9. ETHICS

## 9.1. FREEDOM OF SPEECH ON SOCIAL MEDIA: UNDERSTANDING THE REASONABLE RESTRICTIONS IN THE VIRTUAL WORLD

### Introduction

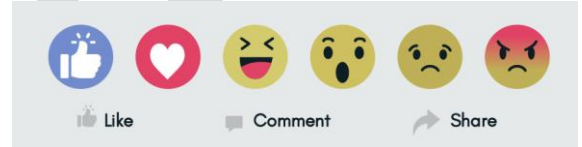
'Social media creating virus of lies, says Nobel Prize winner Maria Ressa', 'As Indians turn to social media for COVID-19 help, online resources for smaller cities begin to grow', 'Don't believe in fake videos of Tirumala floods on social media: TTD'. These headlines highlight a paradoxical picture of how expression on social media acts as an enabler but at the same time acts as a conduit for abuse of freedom of speech.

### What is freedom of speech and expression and how it manifests on social media?

Freedom of speech and expression can be broadly understood as the belief that every person has the **natural right to freely express themselves** through any media and frontier without outside interference, such as censorship, and without fear of reprisal, such as threats and persecutions.

In the Indian context, **Article 19 (1) (a) of the Constitution of India** confers on the citizens of India the right "to freedom of speech and expression". This freedom can be expressed by speech, writing, printing, pictures, or any other expression. The same translates to social media through-

- **Free sharing of information:** Content can be shared on social media in the form of 'posts', 'tweets', 'stories' among other forms of expression. This enables the individual to express their feelings, issues, and problems. E.g., Use of rainbow profile filters on Facebook by LGBRQIA+ community.
- **Expression of opinion:** Social media platforms encourage opinion formation and expression of opinion through features like 'comment', 'like' etc. Such form of communication fuels expression by making it interactive, motivating and acting as a feedback loop.
- **Building connections and conversations:** Social networking services can help people connect. The nature of social media enables people to **express themselves to a newer and larger audience**. E.g., Social media has become a networking and marketing pathway for several start-ups.
- **Seeking and receiving information:** Information is also shared among the users passively through 'news feed', 'following' option among others. E.g., Election commission of India conveys information through Systematic Voters' Education and Electoral Participation (SVEEP) programme on social media.
- **Group expression:** It facilitates formation of groups, their interaction, and their collective expression. E.g., UN Women's #HeForShe drew solidarity from all corners of the world taking forward a group sentiment.



Prevalence of these forms of communication gives another dimension to free speech. But there have been some unintended consequences with growing usage of social media.

### What are the issues that have arisen due to abuse of this right on social media platforms?

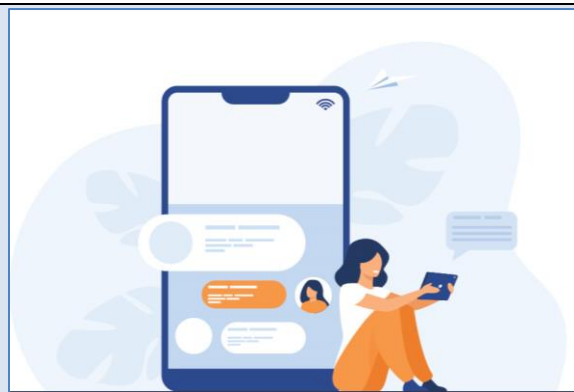
The characteristics of social media i.e., sense of anonymity and wider reach combined with misuse of freedom of speech has led to following issues-

- **Misinformation:** For example, spread misinformation about important matters such as COVID-19 and vaccines.
- **Internet trolling and inflammatory content:** Internet trolling can be understood as a malicious online behavior, characterized by **aggressive and deliberate provocation of others**. "Trolls" seek to **provoke, upset, and harm others** via inflammatory messages and posts.
  - For example, several instances of mob lynching have their source in inflammatory rumors spread by anti-social actors.
- **Defamatory or hateful content:** The perception that there are 'no consequences' for what you say on social media encourages anti-social elements make false, hurtful and hateful comments in relation to people, religion, interests, nationalities among others.

- **Unethical use by powerful actors:** Being a commercial entity, social media can be at times used in a deceitful manner by powerful actors such as large corporations, political parties etc. For example, the tool of fake news was allegedly used by actors in the US elections of 2016.
  - **Paid content** on social media such as fake followers, planted reviews etc. also misguide the user.
- **Severe expression of already prevalent societal fault lines:** The issues such as racism, casteism, communalism or regionalism among others tend to get expressed in a more aggravated form.

**How do these issues affect the society and people?**

- **Element of trust:** Increasing instances of misuse of social media and poor behavior on social media would remove the element of trust from the given ecosystem.
- **Discourages empathetic behavior:** Aforementioned activities create a culture of insensitivity and indifference on social media.
- **Creates an atmosphere akin to bullying:** Poor experiences on social media in terms of hurtful comments, unwelcoming atmosphere would make social media an unsafe space especially for vulnerable and impressionable participants.
- **Affecting Mental health:** Social acceptance is a psychological need of the human mind. Being a victim of online trolling creates a perception of non-acceptance by one's peers. This can drastically affect a person's self-esteem and mental health.



The misuse of freedom on social media demands reasonable restriction on freedom of speech on social media.

**What are the reasonable restrictions to freedom of speech and expression and how are they applied on social media?**

The freedom of speech and expression does not confer on the citizens the right to speak or publish without responsibility. As per Article 19(2) of the Constitution of India, the legislature may enact laws to impose restrictions on the right to speech and expression on the following grounds:

<b>Sovereignty and integrity of India</b>	<b>Security of the State</b>	<b>Friendly relations with foreign States</b>	<b>Incitement to an offence</b>
<b>Defamation</b>	<b>Contempt of court</b>	<b>Decency or morality</b>	<b>Public order</b>

The same grounds apply to restricting freedom of speech and expression on social media. To enforce these restrictions, following tools have been used-

- **Source-selective censorship:** Several websites, applications or groups which engage in activities which go beyond the purview of freedom of expression are banned from online platforms. For example, banning of several pornographic websites.
- **Content-selective censorship:** Content of sensitive nature which has the potential to disturb public order or go into the above-mentioned restricted areas is identified and removed from online platforms. For example, removal of communally charged posts or videos.
- **Platform-controlled Censorship:** Platforms like Facebook, Twitter, Instagram, and YouTube routinely remove posts deemed to violate standards on violence, sexual content, privacy, harassment, impersonation, self-harm, and other concerns.
- **Temporary bans:** In certain situations, a platform or overall social media is subjected to a temporary ban in the light of a security threat, public order etc. For instance, in 2015, the Bangladesh government blocked six social media sites namely Facebook, WhatsApp, Line, Messenger, Tango and Viber due to a potential security threat.
- **Penalization:** Commission of offences like defamatory remarks or inciting of violence via social media mode gets requisite punishment. The legal route adopted for enforcing this punishment is via the Information Technology Act, 2000 and the Information Technology Rules, 2021.

**Limitations of the current framework**

- **Subjective:** The IT Act contains a lot of subjective terms like "grossly offensive" or "causing annoyance", which instills fear and uncertainty in the users. This was highlighted in the Shreya Singhal vs. Union of India case.
  - According to a survey, 83% of people said that owing to past arrests made in the country, they think twice before posting anything on social media networks.

- **Imposed not voluntary:** The regulatory methods under which social media operates are imposed upon the users and are not voluntary in nature.
- **Jurisdiction issues:** Most of the major social media platforms are multi-national companies, which creates ambiguity in adherence to national laws. For example, blasphemy is a crime in Saudi Arabia but not so in United States or Australia.
- **Lack of clarity on expectations from the users:** There is no normative code of conduct or role clarity on what users are supposed to do or should they behave on these platforms.

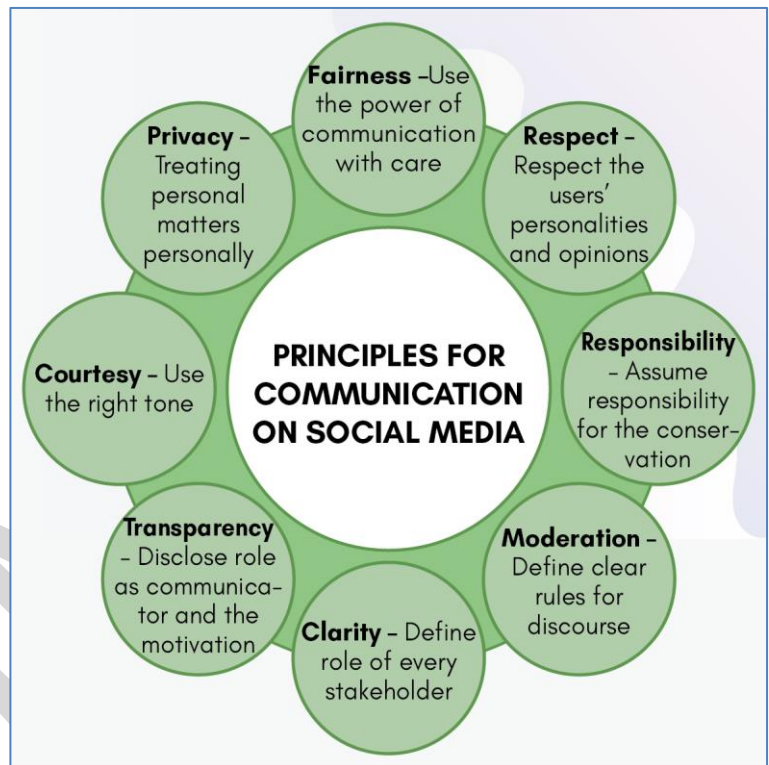
### Where should the buck stop?: Creating an ethics of communication for social media

Balancing freedom of speech and expression and effective enforcement of reasonable restrictions cannot be an ad-hoc and unilateral approach.

To ensure that the communication on social media is ethical, it is important **principled approach** (refer infographics) towards its regulation. At the same time, these principles are to be adopted in a **multi-stakeholder manner**.

In the light of these principles, **all the stakeholders have the responsibility** to make social media more ethical-

- **Users:** Users have the responsibility adhere to these communication principles so as to make social media interaction safe, purposeful and constructive for everybody.
  - This includes **exhibiting tolerance, maintaining decency, responsible sharing of content** and practicing **social media hygiene** by ignoring hurtful and hateful content.
- **Platforms:** Platforms have the duty to incorporate these **principles in the design architecture of the platform itself**.
  - This implies encouraging responsible, truthful, and respectful expression from its users.
  - Also, clarity on accountability of content, adoption of a democratic approach to post-censorship and protecting the privacy of its users need to be a part of the platform structure.
- **Government Authorities:** Governmental authorities play a vital role in **ensuring that the platforms are abiding** by these principles and at the same time **providing them legal and institutional support** to fulfill this role effectively.
  - This would entail **streamlining the legal and regulatory framework** in the line of these principles and ensuring that the **regulations are largely voluntary, multi-party and as objective as possible**.



### Conclusion

Freedom of speech and expression on social media like on other traditional media will organically grow only when the nature of communication is governed by moral and ethical principles and not by law.

**"Rights of the people are not protected by laws but by moral and political conscience of people." - BR Ambedkar.**

# 10. SCHEMES IN NEWS

## 10.1. PM CARES FOR CHILDREN SCHEME

### Why in News?

Ministry of Women and Child Development has issued the detailed guidelines for PM CARES for Children Scheme.

### About PM Cares for Children Scheme

Objective	Features
<b>Ministry:</b> Ministry of Women and Child Development	
<ul style="list-style-type: none"> <li>To support children who have lost both the Parents or legal Guardian or Adoptive Parents or Surviving Parent to COVID-19 pandemic during the period starting from 11th March 2020.</li> <li>To ensure comprehensive care and protection of Children in a sustained manner.</li> <li>To enable Child's well-being through health insurance.</li> <li>To empower them through education and equip them for self-sufficient existence with financial support on reaching 23 years of age.</li> </ul>	<ul style="list-style-type: none"> <li>Scheme provides support to these children through convergent approach, gap funding for ensuring education, health, monthly stipend from the age of 18 years, and lump sum amount of Rs. 10 lakhs on attaining 23 years of age.</li> <li><b>Eligibility:</b> All children who have lost due to COVID 19 pandemic             <ul style="list-style-type: none"> <li>Both parents or</li> <li>Surviving parent or</li> <li>Legal guardian/adoptive parents/single adoptive parent</li> <li>Child should not have completed 18 years of age on the date of death of parents.</li> <li><b>Time period:</b> Starting from 11.03.2020 the date on which WHO has declared and characterized COVID-19 as pandemic till 31.12.2021, shall be entitled to benefits under this scheme.</li> </ul> </li> <li>Scheme is expected to continue till the year when every identified beneficiary shall turn 23 years of age.</li> <li><b>Nodal Agencies</b> <ul style="list-style-type: none"> <li><b>Central level:</b> Ministry of Women and Child Development</li> <li><b>State level:</b> Department of Women and Child Development or Department of Social Justice in the State/UT Government</li> <li><b>District level:</b> District Magistrates (DM)</li> </ul> </li> <li><b>Entitlements under the scheme include:</b> <ul style="list-style-type: none"> <li><b>Support for Boarding and Lodging:</b> <ul style="list-style-type: none"> <li>✓ District Magistrate with the assistance of Child Welfare Committee (CWC) will explore the possibility of rehabilitating the child within her/his extended family, relatives, kith, or kin.</li> <li>✓ Child should be placed in foster care or Child Care Institution (CCI) if the extended family/ Foster family, relatives, kith or kin of the child are not available/not willing/not found fit by CWC or the child (aged 4 -10 years or above) is not willing to live with them.</li> <li>✓ Children more than 10 years old, may be enrolled in Netaji Subhash Chand Bose Awasiya Vidyalaya, Kasturba Gandhi Balika Vidyalaya, Eklavya Model Schools, Sainik School, Navodaya Vidyalaya, or any other residential school by the District Magistrate.</li> <li>✓ It may be ensured that the siblings stay together, as far as possible.</li> </ul> </li> <li><b>Assistance for Pre-school and School Education</b> <ul style="list-style-type: none"> <li>✓ For children below 6 years of age, they will receive support and assistance from the Anganwadi services for supplementary nutrition, etc.</li> <li>✓ For children below 10 years of age               <ul style="list-style-type: none"> <li>&gt; Admission in any nearest Govt/Private school as a day scholar.</li> <li>&gt; In Government Schools, two sets of free uniform and textbooks shall be provided, under Samagra Shiksha Abhiyan.</li> <li>&gt; In private schools, tuition fees shall be exempted under section 12(1)(c) of RTE Act.</li> </ul> </li> <li>✓ For children between 11-18 years of age: Admission in any nearest Govt/Private school as a day scholar.</li> </ul> </li> <li><b>Assistance for Higher Education:</b> <ul style="list-style-type: none"> <li>✓ Assistance in obtaining education loan for Professional courses /Higher Education in India</li> <li>✓ Scholarship as per the norms will be provided from various schemes of Ministry of Social Justice and Empowerment, Ministry of Tribal Affairs, etc.</li> </ul> </li> <li><b>Health Insurance: Enrolment under Ayushman Bharat Scheme (PM-JAY)</b> with a health insurance cover of Rs. 5 lakhs.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ <b>Financial Support:</b> <ul style="list-style-type: none"> <li>✓ The lump sum amount will be <b>transferred directly</b> in the post office account of beneficiaries.</li> <li>✓ Children will <b>receive monthly stipend</b> once they attain 18 years of age, by investing the corpus of Rs 10 lakhs. The beneficiary will receive stipend till they attain 23 years of age.</li> <li>✓ They will <b>receive an amount of Rs. 10 lakhs on attaining 23 years of age.</b></li> </ul> </li> <li>● <b>Funding of the Scheme:</b> The fund from the PM CARES fund will be <b>credited in a dedicated account</b> which <b>will be maintained and operated by the MoWCD.</b></li> </ul>
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## 10.2. PRADHAN MANTRI - MEGA INTEGRATED TEXTILE REGION AND APPAREL PARKS SCHEME (PM MITRA)

### Why in news?

Government of India plans to set up 7 (Seven) PM Mega Integrated Textile Region and Apparel Parks in partnership with the willing State Governments under Union Budget for 2021-22.

### About the scheme

- It is inspired by the **5F vision** of Hon'ble Prime Minister which encompasses - **Farm to fibre; fibre to factory; factory to fashion; fashion to foreign.** This integrated vision will help furthering the growth of textile sector in the economy.
- It will **reduce logistics costs and improve competitiveness** of Indian Textiles and help India in attracting investments, boosting employment generation and position itself strongly in the global textile market.
- It will **create world class infrastructure with plug and play** facilities to enable create global champions in exports.

Objectives	Key Features
<b>Ministry:</b> Ministry of Textiles	
<ul style="list-style-type: none"> <li>● To help India in achieving the United Nations Sustainable Development Goal 9 ("Build resilient infrastructure, promote sustainable industrialization and foster innovation").</li> <li>● To develop integrated large scale and modern industrial infrastructure facility for entire value-chain of the textile industry.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Greenfield and Brownfield PM MITRA Park</b> <ul style="list-style-type: none"> <li>○ It has a provision of <b>Development Capital Support (DCS)</b> at 30% of the project cost with a maximum support of <b>INR 500 Crore and INR 200 Crore per park for Greenfield and Brownfield projects respectively</b> from the Government of India.</li> </ul> </li> <li>● <b>Competitive Incentive Support (CIS)</b> <ul style="list-style-type: none"> <li>○ Provision of <b>INR 300 Crore per park</b> is being provided for incentivizing manufacturing units to setup early on <b>first come first serve basis.</b></li> <li>○ It is <b>only available to those manufacturing companies</b> who are <b>not availing Textile PLI scheme benefits</b> and will be available till the funds provided for the scheme are not exhausted.</li> </ul> </li> <li>● <b>Operational Model</b> <ul style="list-style-type: none"> <li>○ Parks will be developed in a Public Private Partnership (PPP) based <b>Master Developer (MD) model</b> on <b>Design-Build-Finance-Operate-Transfer (DBFOT)</b> format. <ul style="list-style-type: none"> <li>✓ MD model is a model where <b>private sector entity is responsible from first conception and planning</b>, all the way through to the implementation of major projects.</li> </ul> </li> </ul> </li> <li>● Other models such as Government SPV led Model or Hybrid model will also be <b>considered in exceptional situation</b> with the <b>approval of Government of India.</b></li> <li>● <b>Selection of location</b> State governments having ready availability of contiguous and dispute free land parcel of 1000+ acres will be eligible for application under the Scheme.</li> <li>● <b>Project Management Agency</b> A Project Management Agency (PMA) will be selected by fair and transparent selection process to act as the technical support arm.</li> </ul>

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## Places in News: India

### UTTARAKHAND

- Indian Navy mountaineers team got caught in an avalanche during Mount Trishul climbing.
- Heavy rains changed course in 4 rivers (Kosi, Gaura, Nandhaur and Dabka).

### CHHATTISGARH

- National Tiger Conservation Authority approved proposal to declare combined areas of Guru Ghasidas National Park and Tamor Pingla Wildlife Sanctuary as a Tiger Reserve.

### KERALA

- Edayur Chilli and Kuttiaattoor Mango received Geographical Indication status.
- Parambikulam Tiger Conservation Foundation has won the Earth Guardian Award.

### HIMACHAL PRADESH

- A team of trekkers went missing in Lamkhaga Pass (connects Himachal with Uttarakhand) amid inclement weather.

### LADAKH

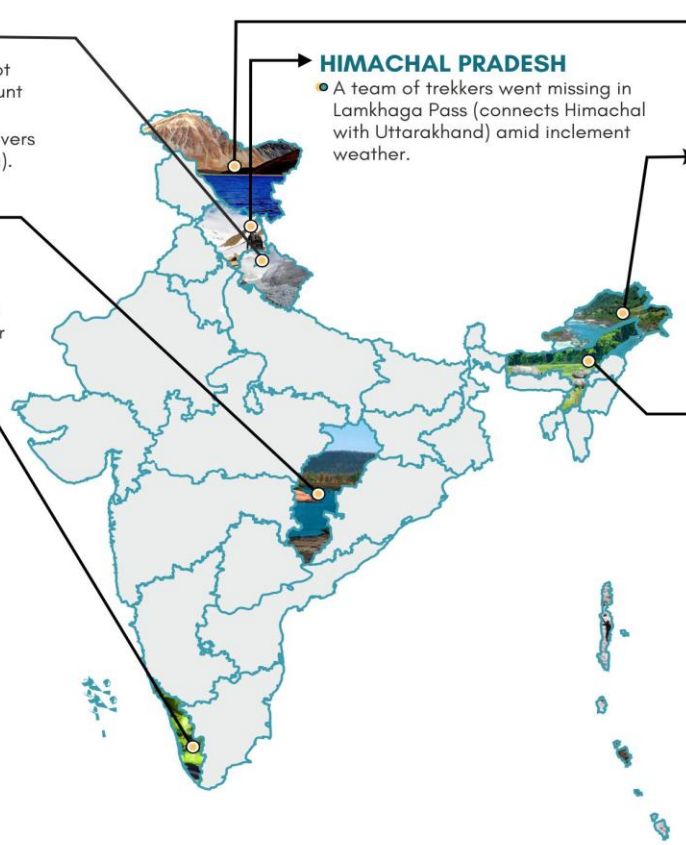
- Talks between India and China over eastern Ladakh have ended in an impasse.

### ARUNACHAL PRADESH

- Defence Ministry has decided to acquire 10 acres of strategic land in Upper Siang district.
- India and China soldiers came to minor face-off situation in Tawang.
- Border Roads Organisation carried out the breakthrough blast of the main tube of the Sela tunnel.

### ASSAM

- Supreme Court has asked government to remove all illegal constructions in animal corridors near Kaziranga.



## Places in News: World

### AZERBAIJAN

Iran held a large military drill along Azerbaijan borders.

### VATICAN CITY

PM visited Vatican City to meet Pope Francis.

### SUDAN

Sudan Army announced a state of emergency in the country.

### PAKISTAN

5.9 magnitude earthquake hit Quetta district of Balochistan.

### TANZANIA

Mount Kilimanjaro will be deglaciated by 2040s.

### LEBANON

Due to sectarian unrest between Shiites and Christians, Lebanon is on edge of a civil war.

### KENYA

Mount Kenya Massif will be deglaciated by 2040s.

### UZBEKISTAN

Chief Election Commissioner of India led delegation observed the Uzbekistan President Election as International Observer.

### UGANDA

Rwenzori Mountains will be deglaciated by 2040s.

### ETHIOPIA

Government launched air attacks to target rebel facilities.

### STRAIT OF HORMUZ

Amid rising tensions with Iran, US Air Forces Bomber flew over Strait of Hormuz.

### TAJIKISTAN

Tajikistan has allowed China to create a police base near Afghanistan border.

### TSUGARU STRAIT

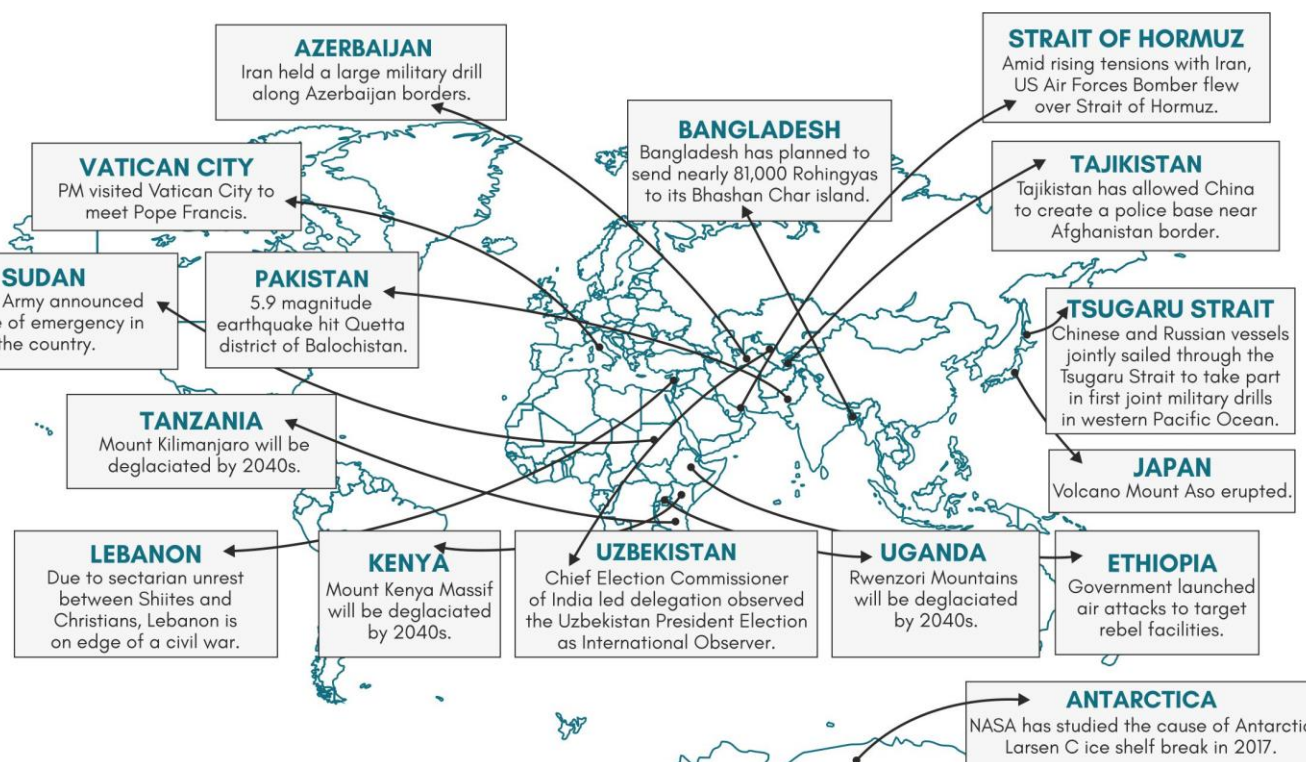
Chinese and Russian vessels jointly sailed through the Tsugaru Strait to take part in first joint military drills in western Pacific Ocean.

### JAPAN








Volcano Mount Aso erupted.





### ANTARCTICA

NASA has studied the cause of Antarctic Larsen C ice shelf break in 2017.




## Personalities in News

Personality	About	Ethical Values Exhibited by the personality
 <p><b>Maharishi Valmiki</b></p>	<ul style="list-style-type: none"> <li>Also famous as <b>Adikavi</b>, every year the full moon day of the <b>Ashwin month</b> is celebrated to mark the birth anniversary of <b>Maharishi Valmiki</b> (ValmikiJayanti).</li> <li>He is considered as the <b>first poet of Sanskrit literature</b> and wrote the epic Ramayana with 24,000 shlokas and 7 cantos; chronicling rich past and glorious culture of India.</li> </ul>	<ul style="list-style-type: none"> <li><b>Wisdom and Conscientiousness</b> <ul style="list-style-type: none"> <li>He was considered as Ocean of Hinduism Knowledge.</li> <li>He left his profession as dacoit and become writer once he understood wrongness of his actions.</li> </ul> </li> </ul>
 <p><b>Queen Heo Hwang-ok</b></p>	<ul style="list-style-type: none"> <li>She was a <b>Korean queen who is believed to have been born Princess Suriratna of Ayodhya</b>, daughter of King Padmasen and Indumati. <ul style="list-style-type: none"> <li>Padmasen ruled Kausala, a region that extended from present-day UP to Odisha.</li> </ul> </li> <li>He owned the <b>koh-i-noor diamond</b> and reconstructed the Golden Temple at Amritsar.</li> <li>Princess Suriratna <b>travelled to Korea and married King Kim Suro</b> and became Queen Heo Hwang-ok in 48 AD. <b>Her story is described in SamgukYusa</b> (Memorabilia of Three Kingdoms), a <b>13th-century work on Korea's three kingdoms</b>- Goguryeo, Baekje and Silla.</li> </ul>	<ul style="list-style-type: none"> <li><b>Perseverance</b> <ul style="list-style-type: none"> <li>She was known for her strong family values and ability to withstand hardship in a foreign land.</li> </ul> </li> </ul>
 <p><b>Aryabhata (476-550 CE)</b></p>	<ul style="list-style-type: none"> <li>Recently, DRDO Chairman <b>G Satheesh Reddy was conferred with Aryabhata Award</b> by Astronautical Society of India.</li> <li><b>Aryabhata (476-550 CE), a 5<sup>th</sup> century Indian Astronomer and Mathematician</b>, was part of Gupta ruler <b>Chandragupta II court</b>.</li> <li>He <b>wrote several treatises on mathematics and astronomy</b>, including <b>Aryabhatiya, and Arya-Siddhanta</b>.</li> <li>He showed <b>zero as a symbol and concept</b> along with a numeral, <b>calculated approximation of Pi (<math>\pi</math>)</b>, <b>found distance between earth and moon</b> along with earth diameter, earth's rotation around its axis, shining of moon and planets by reflected sunlight etc.</li> <li>In 1975, <b>India's first satellite sent into orbit was named after him</b>.</li> </ul>	<ul style="list-style-type: none"> <li><b>Logic and Ingenuity</b> <ul style="list-style-type: none"> <li>Aryabhata possessed an extraordinary mind which discovered immense knowledge about mathematics and astronomy using simple rules.</li> <li>By using brilliant yet simple techniques, he formulated principles and methods in dealing with numbers.</li> </ul> </li> </ul>
 <p><b>Adi Shankaracharya</b></p>	<ul style="list-style-type: none"> <li>PM will inaugurate the <b>reconstructed Samadhi and a statue of Adi Shankaracharya</b> in Kedarnath next month.</li> <li><b>Adi Shankaracharya</b>, also known as Jagadguru, was a spiritual philosopher and founder of <b>Advaita Vedanta</b> (non-dualism). He was born in Kaladi in Kerala.</li> <li>He wrote commentaries on a number of religious texts such as <b>Brahma Sutras, Upanishads, Bhagavad Gita</b> etc. and played an important role the revival of Hindu religion.</li> <li>Adi Shankara <b>also authored the Vivekachudamani</b>, spelling out the qualifications required in a student of Vedanta.</li> <li>He set up of <b>Jyotirmath</b> in Chamoli (Uttarakhand), <b>Dwarka Pitha</b> in Dwarka (Gujarat), <b>Govardhana Mutt</b> in Puri (Odisha) and <b>Sringeri Sharada Peeth</b> in Sringeri (Karnataka).</li> </ul>	<ul style="list-style-type: none"> <li><b>Respect for learning and faith in oneself.</b> <ul style="list-style-type: none"> <li>He laid down the foundation of debate and argumentative tradition in Indian thought.</li> <li>He considered the purity and steadiness of mind achieved in Yoga as an aid for self-liberation.</li> </ul> </li> </ul>
 <p><b>Kittur Rani Chennamma</b></p>	<ul style="list-style-type: none"> <li>In Karnataka, <b>Kittur Rani Chennamma Jayanti</b> was <b>celebrated</b> on 23<sup>rd</sup> October 2021.</li> <li>KitturChennamma, the Queen of Kittur, was <b>one of the first Indian rulers</b> to lead an armed rebellion against the British East India Company in 1824, <b>against the implementation of the Doctrine of Lapse</b>.</li> <li>Under <b>Doctrine of Lapse</b>, native rulers were not allowed to adopt a child if they had no children of their own. Their territory formed part of the British Empire automatically. <ul style="list-style-type: none"> <li>The Doctrine of Lapse was officially <b>codified between 1848 to 1856 by Lord Dalhousie</b>.</li> </ul> </li> <li>The Rani was <b>defeated (1824 CE)</b>. She was taken <b>prisoner and kept in the fort of Bailhongal for life</b>.</li> </ul>	<ul style="list-style-type: none"> <li><b>Courage and Resilience</b> <ul style="list-style-type: none"> <li>She was the earliest ruler in India who dared to fight mighty Britishers. She is revered as an icon of bravery in Karnataka.</li> </ul> </li> </ul>
 <p><b>Sir Syed Ahmad Khan</b></p>	<ul style="list-style-type: none"> <li>Sir Syed Ahmad Khan, an iconic social reformer and <b>founder of the Mohammedan Anglo-Oriental (MAO) College</b>, the precursor of Aligarh Muslim University (AMU), which has completed 100 years, was born on October 17, 1817.</li> <li>His distinctiveness lay in the way <b>he used education as a tool for national integration</b>.</li> <li>He laid out his vision for Hindu-Muslim unity in a speech in January 1883. <ul style="list-style-type: none"> <li>He laid the <b>foundation of comparative religious studies and revived the spirit of DaraShikoh's philosophy</b> of finding commonalities in different religions.</li> </ul> </li> <li>In <b>1888 he established the United Patriotic Association</b>, which included Muslims as well as Hindu members, all of whom were opposed to the Congress.</li> </ul>	<ul style="list-style-type: none"> <li><b>Rationalism and Enlightenment</b> <ul style="list-style-type: none"> <li>He wrote extensively about the need for rational-modern attitude in life to change socio-political realities.</li> <li>He worked to create intellectual awakening by building collective consciousness, often through new organisations and institutions, and bring into reality his dream of a civil society.</li> </ul> </li> </ul>
 <p><b>Shyamji Krishna Varma (4 October 1857 - 30 March 1930)</b></p>	<ul style="list-style-type: none"> <li>He was an Indian <b>freedom fighter, lawyer and journalist</b>.</li> <li><b>He founded:</b> <ul style="list-style-type: none"> <li><b>Indian Home Rule Society (IHRS)</b> in London in 1905 that to promote the cause of self-rule in British India.</li> <li><b>India House</b>, a student residence in London.</li> <li><b>Indian Sociologist</b> a monthly journal to propagate the cause of India's independence.</li> </ul> </li> <li>Later, <b>he shifted his base from England to Paris</b> and continued his movement.</li> <li>After the <b>outbreak of World War II, he moved to Geneva</b> (Switzerland) and spent the rest of his life there.</li> </ul>	<ul style="list-style-type: none"> <li><b>Patriotism and Selflessness</b> <ul style="list-style-type: none"> <li>Inspired by the ideas of National liberation, he decided to dedicate his whole life for working to hold the cause of independent nation.</li> </ul> </li> </ul>


 <p><b>Loknayak Jayaprakash Narayan (JP)</b> (11 October 1902- 8 October 1979)</p>	<ul style="list-style-type: none"> <li>Born near Patna, Bihar, JP quit college to take part in the <b>non-cooperation movement and participated in Quit India Movement</b>. <ul style="list-style-type: none"> <li>He set up the '<b>AzaadDasta</b>' in the Terai region of Nepal to resist <b>British rule</b>.</li> <li>He was influenced by <b>Marxism, associated with the socialist movement</b> and galvanised support for the <b>Bhoodan movement</b>.</li> <li>He gave the clarion call of '<b>Total Revolution</b>' in 1977 against the <b>incumbent government</b>.</li> </ul> </li> <li>He was <b>awarded the Bharat Ratna posthumously</b> (1999). His <b>biography 'The Dream of Revolution'</b> is authored by Bimal Prasad and Sujata Prasad.</li> </ul>	<ul style="list-style-type: none"> <li><b>Integrity and Simplicity</b> <ul style="list-style-type: none"> <li>He was immensely popular among youth due to his strength of character, simple life and principled position in politics.</li> <li>He was the crusader for clean polity in India. His call for total revolution against corruption led to great awareness among masses about democratic institutions.</li> </ul> </li> </ul>
 <p><b>Subrahmanyan Chandrasekhar</b> (19 Oct 1910- 21 August 1995)</p>	<ul style="list-style-type: none"> <li>Born in Lahore, <b>Subrahmanyan Chandrasekhar</b> was one of the foremost <b>astrophysicists</b> of the 20th century.</li> <li>He played an important role in the study of structure and evolution of the stars including his most notable contribution of '<b>Chandrasekhar Limit</b>'.</li> <li>According to <b>Chandrasekhar Limit</b>, a <b>white dwarf star</b> (end products of the stellar evolution) with mass above 1.44 times that of the sun will explode and turn into a neutron star or black hole.</li> <li>He won number of Prizes like: <b>Nobel Prize in Physics</b> (1983); <b>Copley Medal</b> (1984); and <b>Padma Vibhushan</b>(1968).</li> </ul>	<ul style="list-style-type: none"> <li><b>Pioneer and Curiosity</b> <ul style="list-style-type: none"> <li>He was one of the first scientists to couple the study of physics with the study of astronomy. His deeper interest and curiosity into mystery of space led him to follow the path of great discovery.</li> </ul> </li> </ul>
 <p><b>RK Laxman</b></p>	<ul style="list-style-type: none"> <li>PM on October 24 paid tributes to R.K. Laxman on 100th birth anniversary.</li> <li>Laxman was known for his cartoon creation '<b>The Common Man</b>'.</li> <li>RK Laxman wrote and published short stories, essays and travel articles, some of which were compiled in a <b>book titled The Distorted Mirror, published in 2003</b>.</li> <li><b>Awards:Padma Bhushan</b> in 1973; the <b>Ramon Magsaysay Award</b>, the Asian equivalent of the Nobel Prize, in 1984.</li> </ul>	<ul style="list-style-type: none"> <li><b>Empathy and Wit</b> <ul style="list-style-type: none"> <li>Through his work, he exhibited deep empathy for the cause of common man.</li> <li>His cartoons were remarkable as they mix sarcasm and wit beautifully.</li> </ul> </li> </ul>
 <p><b>Dr APJ Abdul Kalam</b> (15 October 1931- 27 July 2015)</p>	<ul style="list-style-type: none"> <li>Popularly known as the '<b>Missile Man</b>' of India or the '<b>People's President</b>', He was the 11th President of India (2002-2007).</li> <li><b>Projects led by him</b> <ul style="list-style-type: none"> <li>Development of <b>India's first indigenous Satellite Launch Vehicle (SLV-3)</b> which successfully injected the <b>Rohini satellite</b> into the near-earth orbit in 1980 and made India an exclusive member of Space Club;</li> <li><b>Indigenous Guided Missiles</b> at Defence Research and Development Organisation (DRDO);</li> <li><b>1998 Pokhran-II tests</b> which made India a nuclear weapon State.</li> <li><b>Appellations:</b> Padma Bhushan (1981), Padma Vibhushan (1990) and then Bharat Ratna (1997).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>Vision and Simplicity</b> <ul style="list-style-type: none"> <li>He significantly contributed to the development of rockets in India. His vision helped him to lead projects with great outcomes.</li> <li>He lived a very simple and pious life. His life and thoughts has continued to inspire generations to come.</li> </ul> </li> </ul>

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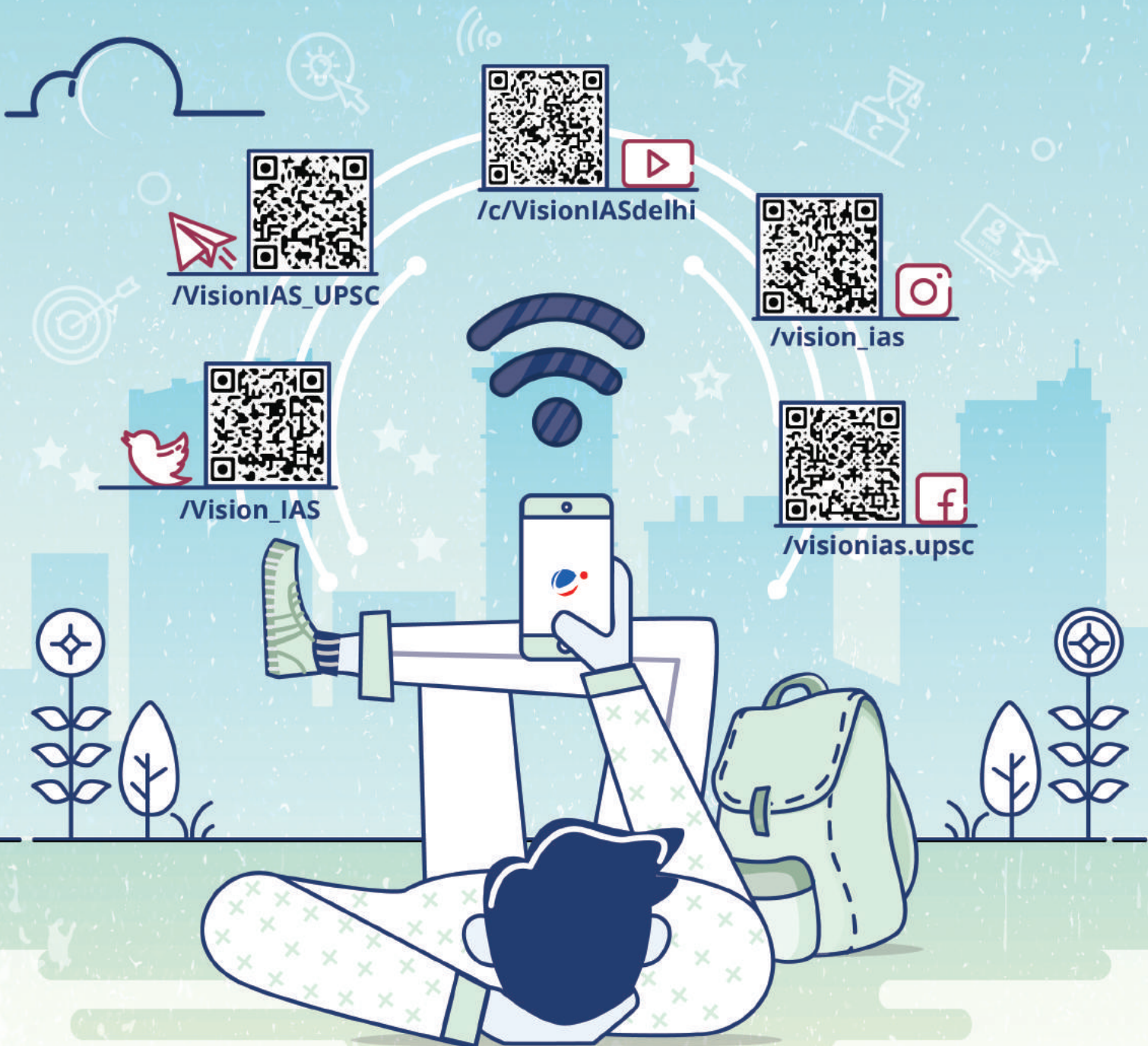
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 <p><b>30 Years of 1991 Economic Reforms: From One Revolution to Another</b></p>	<p>Three decades ago India embarked on a new economic journey in the form of LPG reforms. Since then, the Indian economy has come a long way and marked its firm presence in the global platform. But the COVID pandemic forces us to revisit the fundamental question: Just how successful have the 1991 reforms been? This document discusses the entire story behind 1991 economic reforms, and analyses how the experiences gained can guide us to chart a path for future economic policies.</p>	
 <p><b>Urban Planning in India: Building Future Cities of India</b></p>	<p>India is observing an unparalleled rate of urbanisation and it is crucial to acknowledge that our country's journey to becoming a highly productive nation depend on its engines of economic growth; Our Cities. Discussing the constituents of Urban planning and its role in development, this document elaborates on how to ensure preparedness of the nation to manage such a massive urban transition and save our cities from the clutches of unplanned urbanization and unregulated construction activities.</p>	
 <p><b>Forced Displacement: A Humanitarian Crisis and a Development Challenge</b></p>	<p>Every year, millions of people are forced to leave their home due to conflict, violence, human rights violations, persecution and natural hazards. It speaks louder than ever to the need for solidarity and ensuring that the world's refugees, internally displaced and asylum-seekers are properly protected and cared for while solutions are pursued. This document offers an overview of international forced displacement trends, its widespread implications across the countries, efforts that have been taken to deal with the same and suggests ways to manage this increasingly protracted issue.</p>	

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JALUKA**  
(ABHYAAS  
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AIR

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



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AIR

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



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CLASSROOM STUDENT)



**9**  
AIR

**APALA  
MISHRA**  
(ABHYAAS  
TEST SERIES)



**10**  
AIR

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(ALL INDIA TEST  
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**LUCKNOW**

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