



**ENSURE IAS**



# *Monthly Current Affairs*



**ECONOMY**



**POLITY & GOVERNANCE**



**INTERNATIONAL RELATIONS**



**SECURITY**



**SCIENCE & TECHNOLOGY**



**ENVIRONMENT**



**SOCIAL ISSUES**



**ETHICS**



**CULTURE**



**COMPREHENSIVE CURRENT AFFAIRS COVERAGE**



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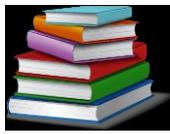
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# 1. ECONOMY

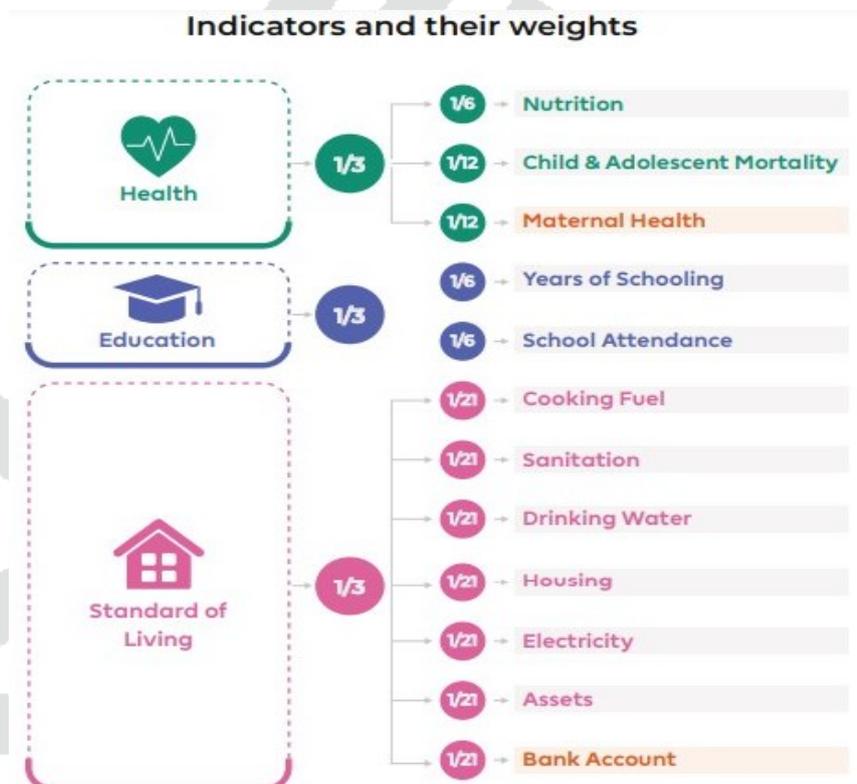
## 1.1 NATIONAL MULTIDIMENSIONAL POVERTY INDEX (MPI)

### Latest Context

Recently, 'National Multidimensional Poverty Index: A Progress Review 2023' was published by NITI Aayog. It is based on the National Family Health Survey -5(2019-21)

### Highlights of the National MPI Report 2023 (2nd Edition)

- In India, the proportion of multidimensionally poor people has decreased from 24.85% in 2015–16 to 14.96% in 2019–21.
- In total, 13.5 crore Indians were lifted out of poverty during the five years.
- Yet, one in seven Indians suffers from many forms of poverty.
- **Methodology:**
- Improvement in **factors** like having access to **cooking fuel, sanitation, clean water, and bank accounts.**
- **indicators** that have just slightly improved are those that relate to **nutrition and educational access.**

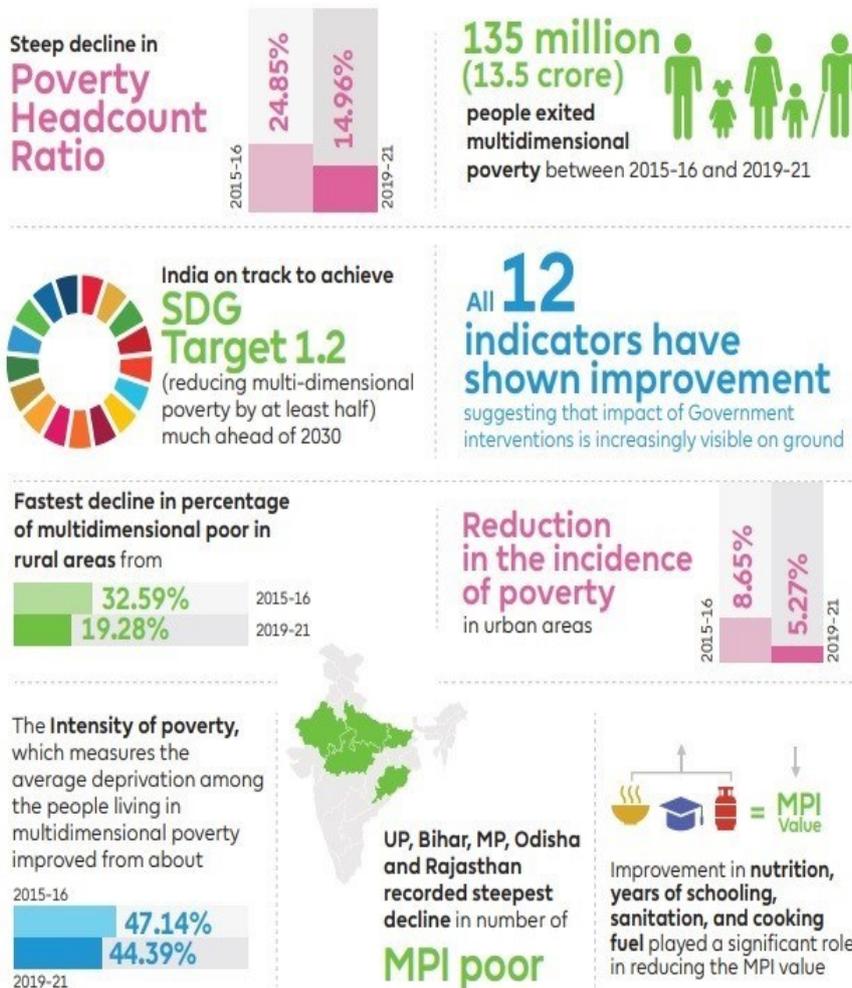




## Performance of various states

- **BIMARU states:** Due to advances in states like Bihar, UP, MP, Odisha, and Rajasthan, the number of people living in poverty in rural regions decreased the quickest (from 32.59 to 19.28%).
- States with fewer than 10% of the population experiencing multidimensional poverty:
- increased from 7 (Mizoram, HP, Punjab, Sikkim, TN, Goa, and Kerala) to 14 (Andhra Pradesh, Haryana, Karnataka, Maharashtra, Manipur, and Uttarakhand) between 2016 and 2021.
- No other Indian state has more than one-third of its population living in multidimensional poverty than Bihar.

### Highlights: MPI Progress Report 2023



## Comparing with Global MPI 2023

- Approximately 645 million individuals in India experienced multidimensional poverty in 2005–2006; this number dropped to 370 million in 2015–2016 and 230 million in 2019–2021.
- Thus, from 2005–2006 to 2019–2021, 415 million individuals living in poverty were lifted out of it.
- Decreased from 55.1 to 16.4% in incidence.
- All indices of deprivation decreased.

## Facts about the National Multidimensional Poverty Index (MPI)

- The project **aims** to deconstruct the Global MPI and create a globally aligned but personalised India MPI, with its first edition being issued in 2021.
- With the overall objective of raising India's standing in the Global MPI rankings, it aims to create thorough Reform Action Plans.
- The National MPI, which ranks States and UTs based on their performance, is coordinated by NITI Aayog.
- To determine multidimensional poverty, it takes into account overlapping deprivations in health, education, and living conditions.
- The '**deprivation score**' is determined by allocating a number to each of the specified factors (grouped into three main categories).
- A person is only deemed multidimensionally poor if their deprivation score is more than 0.33, which is calculated as the total of all their weighted indicators.



- **The National Family Health Survey-5 (NFHS-5)** served as the main data source for these results.

#### Reasons for Indians to be in a Multifaceted State of Poverty

- **Three sub-indicators of the health category—nutrition, child and adolescent mortality, and maternal health**—showed only modest progress.
- The biggest percentage of close to 30% was attributable to inadequate nutrition in determining India's MPI overall.
- **Other indicators**, such as the number of years of education, access to maternal health care, and school attendance, did not show a discernible reduction.
- **Within the standard of living category:**
  - Even though there has been a noticeable improvement in the availability of cooking fuel, 44% of Indians still lack it.
  - Despite improvements in sanitation statistics, nearly 30% of the population still lacks access to basic sanitation services.
  - Access to housing also continued to be a sign of relatively slight change. a criterion for living standards.

#### Government's flagship programmes

- **Poshan Abhiyan and Anaemia Mukh Bharat** have helped to lessen nutritional and health deprivations.
- **Sanitation:** The Jal Jeevan Mission (JJM) and the Swachh Bharat Mission (SBM) have improved sanitation throughout the nation.
- **Cooking Fuel:** The PM Ujjwala Yojana (PMUY) has improved lives.
- **Other initiatives:** Programmes like Samagra Shiksha (education), PM Jan Dhan Yojana (banking), PM Awas Yojana (housing), and Saubhagya (energy).

#### Conclusion

The deprivations across several indicators will be further reduced with consistent execution across a wide collection of activities and initiatives that have significant interconnections.

## 1.2 GOODS AND SERVICES TAX (GST)

#### Latest Context

Recently, India has completed six years of the Goods and Services Tax (GST) on 1 July 2023. On this day the implementation of GST was started. By implementing the GST, India took a very big step towards modifying its indirect taxation.

#### Key Points about GST

- It is an **indirect tax** (means **not directly paid by customers to the government**) that came into effect on **July 1, 2017**. It was introduced by bringing the 101st Amendment to the Indian Constitution.
- It is imposed on both **manufacturers and sellers of goods** in addition to suppliers of services.
- From a collection point of view, it is divided into **five tax slabs – 0%, 5%, 12%, 18%, and 28%**.



**GST Council:** GST Council is a top decision-making body committee to modify, reconcile or make recommendations to the Union and the States on GST like the goods and services which may be exempted or subjected from GST, model GST laws, etc. **Article 279A** of the **Indian Constitution** empowers the President of India to constitute a joint forum of the Centre and States called the GST Council.



### Need for GST

- Several indirect taxes at various levels of the supply chain create problems for the Indian tax system.
- It resulted in a **complicated and fragmented tax framework** that comprised excise duty, service tax, VAT, central sales tax (CST), and other taxes.
- It led to a cascading effect that increases the entire tax burden on goods and services.

### Hence, the primary goal of GST is –

- To simplify the tax system by substituting a single indirect tax for several indirect levies
- Eliminating tax cascading by establishing a uniform tax structure

### Achievements of GST:

- **Revenue collection:** The introduction of the GST is resulting in revenue collection. For instance, the **average growth rate of Gross GST revenue from 2018-19 to 2022-23** stands at **3%**, crossing the nominal GDP growth rate of 9.8%. Collection of the June 2023 has surpassed the **1.6 lakh crore mark** for the **4th time** since the inception of GST. It is a noteworthy achievement because indirect taxes express lower buoyancy means an increase in its revenue rate without increasing the tax rate.
- **A seamless market and digitized compliance:** It focused on the foundation for a seamless national market in addition to reshaping India's tax landscape and driving economic growth. The GST portal ensured smoother compliance for businesses, fostering a tech-enabled environment by digitizing processes from registration to return filing. Furthermore, it made an easy way for other significant indirect tax reforms comprising **e-way bills and e-invoicing**, promoting transparent data sharing between businesses and the government.
- **Empowering the manufacturing sector:** It is affecting the manufacturing sector in a very remarkable way because it eliminated the cascading effect of taxes and reduced manufacturing costs.

### Current Challenges

- There are a lot of complexities in return forms in addition to the ambiguity present in tax rates and classifications of certain goods and services leading to disputes and uncertainty.
- To combat tax fraud should be the top priority. There is a dire need to introduce measures to ensure compliance and weed out fraudulent businesses.
- Highly complex filling structure, fake invoicing; unequal voting structure; multiple slabs instead of proposed three-rate GST structure.

### Areas of the Concern

- Commence taxation of petroleum crude, high-speed diesel, petrol, natural gas and aviation turbine fuel and similarly, alcohol meant for human consumption;
- Inclusion of other levies such as electricity duty, stamp duty
- Clearly define the taxation regime on online gaming activities, cryptocurrency transactions, etc.
- The officials must also rationalize the tax rates (slabs) and update the law to deal with a digital world and keep up with the various technological developments.

### Steps being taken to Improve GST

- **Information sharing:** The government has amended provisions of the Prevention of Money Laundering Act (PMLA) 2002 to allow **Enforcement Directorate (ED) to share information with GST Network (GSTN)**.
  - Currently, GST Act under Section 158 gives the power to disclose the information it has about any prosecution under IPC and even under any other law for the time being in force.

#### GSTN NETWORK

- GSTN, a **not-for-profit company**, was created to provide the IT backbone for the GST system, including taxpayer registration, return filing, and tax payments.
- GSTC has approved the conversion of **GSTN into a Government Company**; hence, **100% of the shareholding is held by Government** (50% with Union Government and 50% jointly with State Governments & UTs) in GSTN



- **Increased Technology Penetration:** Use of Digital tools by field officers like ITC Verification, E-way Bill verification and generation of actionable information by ADVAIT ensured GST compliance.
- ADVAIT (Advanced Analytics in Indirect Taxes), rolled out in 2021, is a flagship analytics project for Indirect Taxes (by CBIC). It aims to use Big Data and Artificial Intelligence to enhance Indirect Tax revenue, increase the taxpayer base, and support data-driven tax policy.
- **Tighten Registration Norms:** To implement it, GST authorities have sketched a plan in order to introduce biometric authentication and geo-tagging for existing and new registrants if they match as risky entities availing input tax credits fraudulently.
- **Tightening of Return Filing System:** It aims to act against fraudsters misusing Permanent Account Number (PAN) and Aadhaar identification to obtain GST registration.

### Conclusion

- GST implementation has definitely been a success but it **is still a new reform** that must show its potential to witness phenomenal growth and harmonization in the coming years.
- Although GST has exhibited immense promise, reshaping the economy and driving digitization but at the same time it is also facing challenges and fraud.

## 1.3 GST COUNCIL TO LEVY 28% ON ONLINE GAMING COMPANIES

### Latest Context

Recently, the GST Council, in its 50<sup>th</sup> Meeting, took the decision of levying a uniform 28% tax on full face value for online gaming, casinos, and horse racing while reducing the tax rate for uncooked/ unfired snack pellets, cancer medicine, imitation zari thread.

**Key Note:** For this, Government will bring an amendment GST Act, 2017, to include online gaming under it.

### Main Highlights:

- **Levy 28% GST on online gaming, horse racing, and casinos on full value:** The GST council decided that there must be no difference between a 'game of skill and a game of chance'. In their previous meeting, the Group of Ministers (GoM) made a consensus on the proposed taxes on the said activities but there was no consensus **on online gaming** because **Goa** recommended imposing an **18% tax on platform fees**. As per the online gaming companies, the GST of 28% will not only create a hurdle for online gaming platforms' capacity to develop new games and technologies but will also be a jolt to their competitiveness in the market. Online gaming is a **state subject** under the **Seventh Schedule** of the Indian Constitution.
- **Tax on food and beverages in Cinema Halls:** The council declared that the GST on restaurants inside Cineplex will **be levied by 5% GST against 18% earlier**. A tax of 12% was levied on movie tickets that are below Rs. 100, while a tax of 18% GST was charged on movie tickets above the threshold before the change. The entire supply comprising tickets and supplies

### Types of Online Gaming

- **Game of Skill:** Games in which **the outcome depends on the player's expertise, practice, and experience** and not merely on chance.
  - **Until now, 18% GST was charged on the platform's commission/ service fee or gross gaming revenue.**
  - **Example:** fantasy sports and rummy games like Dream 11.
- **Game of Chance:** Games in which **the outcome is decided by randomised events** and treated similarly to betting, gambling and horse racing.
  - **Till now a 28% GST was charged** on these games.
  - **Example:** Ludo, poker, lottery etc.
- Besides this, **a TDS of 30% is deducted from the winnings in both game types.**



must be treated as a composite supply and taxed according to the applicable rate of the principal supply, which in this case is a cinema ticket.

- **Council to exempt GST on cancer drugs:** Moreover, the meeting also took the decision to exempt **GST on import of cancer drug Dinutuximab**, and **Food for Special Medical Purposes (FSMP)** which is used in the treatment of rare diseases. Presently, **12% integrated GST** is levied on this drug.
- **Council on Taxation on MUV:** The GST Council also made a decision on the **definition of utility vehicles** in addition to tightening norms for registration clarity on the taxation of **Multi Utility Vehicles (MUV)**. For MUV, the GST council took a decision to decide a levy of **22% compensation cess**, except for **Sedan**.
- **Council to set up Appellate Tribunal:** During the meeting, the finance minister said that many states have requested benches. She added that no request will be denied.

### Online Gaming Industry in India

- Online gaming has seen a significant spike in demand across various online games such as Multiplayer online games, Role-playing games, real-time strategy or skill games.
- **Status & Potential:**
  - **Current Value:** Estimated to be worth \$ 2.6 Bn.
  - **Projected Growth:** A Compound Annual Growth Rate (CAGR) of approximately 27% over the next five years.
  - **User Base:** With a user base of 180 Mn, India has **the largest fantasy sports market**.
  - **Employment:** In this Industry, currently, around **100,000 people** were working in 2022.
  - **FDI:** Till FY2022, it attracted **₹15,000 crore** in FDI.

### Need for Regulating Online Gaming in India

- **Protection of Minors:** Many online games have age-appropriate content, and certain games may contain violent or explicit material. Without proper regulation, minors might easily access and engage with content that is not suitable for their age, potentially leading to desensitization or behavioural issues.
- **Addiction and Health Concerns:** Excessive gaming can lead to addiction and various health concerns, including sedentary lifestyle-related issues, sleep disturbances, and mental health problems. Regulation can help enforce limits on gaming hours, ensuring that players, especially younger individuals, don't succumb to harmful habits.
- **Consumer Protection:** Regulations can establish guidelines for in-game purchases, loot boxes, microtransactions, and virtual goods. This can prevent players, particularly vulnerable individuals, from falling prey to exploitative practices and overspending on virtual items.
- **Gambling-Like Features:** Some online games include mechanics that resemble gambling, such as loot boxes or gacha systems. These mechanics can have a gambling-like effect on players, potentially leading to financial problems and addictive behavior. Regulation can help define what constitutes gambling and protect players from these elements.
- **Economic Impact:** The online gaming industry is rapidly growing and has significant economic implications. Regulating the industry can help ensure fair competition, prevent monopolies, and ensure that revenue generated from gaming activities is properly taxed and managed.
- **Cheating and Fraud:** Online gaming can sometimes involve cheating, hacking, or fraudulent activities that can negatively impact players' experiences. Regulation can help establish standards for fair play, player conduct, and punishment for those who engage in unethical practices.
- **Cultural and Social Impact:** Certain games might contain content that is offensive or harmful to specific cultural, religious, or social groups. Regulations can address issues related to content moderation and ensure that games do not promote hatred or discrimination.
- **Data Privacy and Security:** Online gaming platforms collect a vast amount of personal and sensitive data from players. Proper regulations can ensure that this data is handled securely and that players' privacy rights are respected.



### Challenges in Regulating Online Gaming

- **Global Nature and Jurisdictional Issues:** Online gaming transcends geographical boundaries, making it difficult for any single country to regulate effectively. Jurisdictional issues can arise when a gaming platform or service is based in one country but accessed by players from around the world. This makes it challenging to enforce consistent regulations and address legal issues across different jurisdictions.
- **Age Verification and Child Protection:** Online gaming platforms often attract players of all ages, including children. Ensuring that minors do not have access to age-restricted content and enforcing appropriate age verification measures is a significant challenge. Striking a balance between protecting children from inappropriate content and allowing adults to enjoy gaming can be complex.
- **Addiction and Player Well-being:** Online gaming has been associated with addictive behaviors and negative impacts on player well-being. Design elements such as loot boxes, microtransactions, and in-game rewards can contribute to compulsive behaviors. Regulating these aspects to prevent exploitation of vulnerable players while preserving game design and revenue models requires careful consideration.
- **Data Privacy and Security:** Online gaming platforms collect and store a significant amount of personal and sensitive data from players. Ensuring the privacy and security of this data is crucial to prevent data breaches, unauthorized access, and potential misuse. Balancing the need for data collection for game functionality with protecting player privacy is a challenge.
- **Fairness and Cheating:** Maintaining a fair gaming environment is essential to retain player trust. However, cheating, hacking, and exploiting vulnerabilities in games are common issues. Regulating these activities to prevent unfair advantages while allowing for innovation and creativity in gameplay can be complex.
- **Emerging Technologies:** Online gaming often incorporates emerging technologies such as virtual reality, augmented reality, and blockchain. These technologies can introduce novel regulatory challenges, especially when existing laws do not cover these innovative aspects of gaming.
- **Cross-Platform Play and Interoperability:** Many online games support cross-platform play, allowing players on different devices to interact. Ensuring a consistent experience across platforms and addressing potential imbalances between different device types can be a challenge.
- **Economic Impact and Monetization:** The business models of online gaming can vary widely, from subscription-based services to free-to-play games with microtransactions. Balancing the need for developers to monetize their products while avoiding predatory practices that exploit players' wallets is a challenge for regulators.
- **Cultural Sensitivity and Content Regulation:** Online gaming can have cultural, social, and political implications. Content that is acceptable in one culture might be offensive or inappropriate in another. Regulating content to align with cultural norms and values while respecting freedom of expression presents a challenge.
- **Lack of Comprehensive Regulation:** The dynamic and rapidly evolving nature of the online gaming industry can lead to regulatory gaps. New gaming formats, business models, and technologies may emerge faster than regulations can be adapted, potentially leaving players exposed to risks.
- **Balancing Innovation and Regulation:** Striking the right balance between promoting innovation in game design and enforcing regulations to protect players can be challenging. Overregulation could stifle creativity, while under regulation might lead to negative consequences for players.

### Way Forward

- **Securing legal clarity and reduced multiplicity of regulation:** For instance, under Article 248, the Centre may invoke residuary powers to frame a model law.
- **Ensuring transparency of the online gaming companies:** So that codes are not tweaked to favour any particular set of individuals or the company itself.



- There is a dire need to setting up a **clear distinction** between **Game of Skills** and **Chance**
- Introducing Screen timeout/limiting the number of games per individual.
- **Curbing loss chasing:** A cap can be introduced on the number of transactions from an individual across platforms or one platform to avoid more significant economic losses.

## 1.4 WIDENING TAX BASE

### Latest Context

Recently, Union Finance Minister asked the Income-Tax Department for widening the tax base by adopting **three broad principles of transparency, objectivity, and taxpayer-friendliness**

### Current Status of Taxation in India

- **Tax to GDP ratio:** 11.1% in FY23.
  - **Direct Taxes:** 6%
  - **Indirect taxes:** 5.1%.
- Lower than the **emerging market economy average of 21% and the OECD average of 34%**.
- **Filing of Income Tax Returns (ITR):** 5.3% of the total population.
- **Year-on-year growth in net direct tax collections:** 17.67% at ₹16.61 lakh crore in FY23, as per Central Board of Direct Taxes (CBDT)

### Know the Term

- The concept of Income Tax was first introduced in India in **1860** by **James Wilson**, the first Finance Minister of the British India Government.
- The tax was **temporarily repealed between 1865-1886** and is continuing its existence till date.

### Reason for Low Tax Base in India

- **Large Informal Economy:** A substantial portion of the Indian economy operates in the informal sector, where transactions are often undocumented and income is not reported. This informal sector accounts for a significant portion of economic activity, and individuals and businesses in this sector often escape taxation.
- **Agricultural Income Exemption:** Agricultural income is largely exempt from taxation in India. This exemption was intended to support rural livelihoods, but it has also created a loophole that allows wealthy individuals to declare their income as agricultural and avoid paying taxes.
- **Widespread Poverty:** India has a significant proportion of its population living below the poverty line. Many of these individuals do not earn enough income to be eligible for income taxation. As a result, the tax base is limited to a smaller proportion of the population.
- **High-Income Inequality:** While India has a growing middle class and a small segment of high-income earners, a large portion of the population remains in low-income brackets. This inequality in income distribution restricts the potential tax base.
- **Lack of Awareness:** Many individuals, especially in rural areas, are not fully aware of their tax obligations or the benefits of paying taxes. This lack of awareness can contribute to non-compliance.
- **Complex Tax System:** India's tax system is known for its complexity and frequent changes in tax regulations. This complexity can lead to confusion among taxpayers, making it difficult for them to accurately assess and meet their tax obligations.
- **Tax Evasion and Avoidance:** Tax evasion and avoidance are prevalent issues in India. Some individuals and businesses engage in illegal or unethical practices to reduce their tax liability, further diminishing the tax base.
- **Weak Tax Administration:** Inefficient tax administration, including challenges in tax collection and enforcement, can hinder efforts to expand the tax base. This can result in taxpayers evading their obligations without facing significant consequences.
- **Limited Formal Employment:** A substantial portion of the workforce is engaged in informal or casual employment, which often does not provide the necessary documentation for tax purposes.



- **Corruption:** Corruption can undermine tax collection efforts and discourage individuals from paying taxes when they perceive that their tax payments might be misused or not put to proper use.

### Steps Taken by the Government to Widen Tax Base

Transparency	<ul style="list-style-type: none"> <li>• <b>Cross seeding of PAN with Bank Accounts and Aadhaar</b> helping the government to track all formal transactions through banks.</li> </ul>
Objectivity	<ul style="list-style-type: none"> <li>• <b>Introduction of new data sources</b> in the Statement of Financial Transactions (SFT), such as dividends, interest, etc</li> <li>• <b>Increase of New TDS codes</b> from 36 to 65 codes resulted in increase in reported transactions</li> </ul>
Taxpayer-Friendliness	<ul style="list-style-type: none"> <li>• <b>Simplified Personal Income Tax Regime.</b></li> <li>• <b>e-Appeals scheme</b> to reduce pending appeals and streamline the disposal process.</li> <li>• <b>Roll Out of Common IT Return Form</b></li> </ul>

### Other Measures to Widen Tax Base

- **Simplification of Tax Laws and Procedures:** Complex tax laws can discourage compliance and encourage tax evasion. Simplifying tax laws and procedures can make it easier for individuals and businesses to understand and comply with their tax obligations.
- **Increasing Tax Awareness and Education:** Educating taxpayers about their obligations and the benefits of paying taxes can help improve voluntary compliance. This can be done through campaigns, workshops, and online resources.
- **Widening the Tax Net:** Identifying sectors of the economy that are currently not under the tax net and bringing them into the tax system can significantly expand the tax base. This includes informal sectors, small businesses, and individuals with unreported income.
- **Digitalization and Data Mining:** Utilizing technology and data analytics to track financial transactions and detect cases of tax evasion and underreporting can help bring more taxpayers into the net.
- **Reducing Cash Transactions:** Promoting digital transactions and discouraging large cash transactions can help in tracking economic activities and preventing tax evasion.
- **Improving Tax Compliance:** Strengthening tax administration and enforcement mechanisms can discourage tax evasion and encourage more individuals and businesses to comply with tax laws.
- **Phasing Out Tax Exemptions:** While exemptions are meant to promote certain activities, they can also create opportunities for tax avoidance. Gradually phasing out unwarranted exemptions can lead to a more comprehensive tax base.
- **Tightening Transfer Pricing Regulations:** Ensuring that transactions between related parties are at arm's length can prevent profit shifting and base erosion.
- **Real Estate Reforms:** Proper valuation and taxation of real estate transactions can prevent the use of real estate as a means to hide wealth and evade taxes.
- **Incentivizing Formalization:** Encouraging informal businesses to become formal entities by providing benefits such as easier access to credit and government schemes can increase the tax base.
- **Strengthening International Cooperation:** Combatting cross-border tax evasion and base erosion requires international cooperation and the exchange of financial information between countries.

### Conclusion

Widen tax base will generate more revenue, reduce pressure on middle and low-income groups, and will bring stability and resilience, fairness and equity that will promote good governance.



## 1.5 JAN VISHWASH BILL, 2023

### Latest Context

Recently, during the monsoon session, the Jan Vishwas (Amendment of Provisions) Bill, 2023 was passed in Lok Sabha with an aim to boost to Ease of Living and Ease of Doing Business.

### More Information

Through this bill, It has been proposed that there is a need to **amend 183 provisions in 42 Central Acts** administered by 19 Ministries/Departments, consisting of various aspects like copyright, motor vehicles, cinematography, food safety, environment, agriculture, media, industry, trade, information technology etc.

### Background

In December 2022, the Union Ministry of Commerce and Industry tabled this Bill in Parliament and then it was referred to the Joint Parliamentary Committee. According to the reports, most of the recommendations of the JPC have been approved by the Union Cabinet which cleared the way for its passing.

### Objective of the Bill

- In order to **restructure the regulatory architecture of the country** with decriminalization of minor offences under 42 Acts.
- For lowering the **compliance burden and promote ease of living and doing business** in the country.

### Salient provisions of the Bill

- **Decriminalization:** There are **180 offences** covering **42 laws** governing environment, agriculture, media, industry and trade, etc. that have been decriminalized through this bill.
- **Completely remove/ replace Clauses related to Imprisonment**
  - With monetary fines compounding offences in some provisions
  - Under the Indian Post Office Act, 1898, it eliminates all penalties and offences.
- **Changes in Grievance Redressal Mechanisms:** Appointment of one or more adjudicating officers in order to determine penalties.
- **A periodic revision of fines and penalties:** An increase of 10% of the minimum amount every 3 years for various offences in the specified Acts.

Category	Legal Provision	Definition	Prison term	Fine
Adulterated Drugs	S. 17A S. 27(a) S. 27(b)	Those drugs containing noxious substances or is prepared in unsanitary conditions.	If capable of causing "hurt", a prison term of between 10 years and life in prison. If not capable of causing "hurt", a prison term between three years to five years.	If capable of causing hurt, a fine of either Rs. 10 lakhs or three times the value of the drugs – whichever is higher. If not capable of hurt, a fine of Rs. 1 lakh or three times the value of drug – whichever is higher.
Spurious Drugs	S. 17B S. 27(a) S. 27(b)	Legalese for what are commonly known as counterfeit drugs.	If capable of causing "hurt", a prison term of between 10 years and life in prison. If not capable of causing "hurt", a prison term between seven years to life in prison.	If capable of causing hurt, a fine of either Rs. 10 lakhs or three times the value of the drugs – whichever is higher. If not capable of hurt, a fine of Rs. 3 lakhs or three times the value of drug – whichever is higher.
Misbranded Drugs	S. 17 S. 27(d)	Drugs that are not labelled in the right manner or which are physically altered to appear to have greater therapeutic value	A prison term of minimum one year (subject to "special reason" exceptions) and a maximum of two years.	A fine of Rs 20,000 only.
Not of Standard Quality (NSQ) Drugs	S. 16 S. 27(d)	Drugs that fail to meet quality standards mandated in Section 16 read with Second Schedule to D&C Act.	A prison term of minimum one year (subject to "special reason" exceptions) and a maximum of two years.	A fine of Rs 20,000 only.

### Need for the Bill

- A large number of compliances that have an impact on doing business in India:
  - There are **1,536 laws which translate into around 70,000 compliances** that govern doing business in India currently.
  - Out of these, 26,134 clauses that have imprisonment as a penalty for non-compliance.
- **Lengthy Procedure:** To date, lengthy processing time in order to take approval results in escalating costs and dampening the entrepreneurial spirit.

### Significance of the Bill

- Decreasing the compliance burden will provide impetus to the business ecosystem which in turn will **improve the well-being of the public.**
- Smoother and speedy processes will **attract more investment.**



- This bill will also lower the judicial burden because settlement by compounding method, adjudication and administrative mechanism will save time, energy and resources. In other words, it seeks to catalyze ‘**trust-based governance**’ – **promoting ease of doing business and ease of living**.

#### Laws covered in the Bill

- The Copyright Act, 1957
- The Motor Vehicles Act, 1988
- The Cinematograph Act, 1952
- The Air (Prevention and Control of Pollution) Act, 1981
- The Environment (Protection) Act, 1986
- The Indian Forest Act, 1927
- The Agricultural Produce (Grading & Marking) Act, 1937
- The Information Technology Act, 2000
- The Food Safety and Standards Act, 2006.

#### Concerns

- **Quasi-decriminalization:** It substitutes imprisonment with fines or penalties that are not enough for decriminalization
- **Lessen the impact of environmental legislation:** Removing the imprisonment provision might finish the deterrence impact, especially for large corporations profiteering from the offence.
- **Technical competence:** Adjudicating officers may lack the technical competence necessary to decide all penalties under the Air (Prevention and Control of Pollution) Act 1981 and the Environment (Protection) Act 1986.
- Several offences such as theft or misappropriation of postal articles proposed to be removed have nothing to do with its objective of decriminalization to promote ease of doing business.

#### Conclusion

The fundamental of democratic governance lies in the fact that government trusts its own people and institutions. Numerous outdated rules and regulations cause a trust deficit. By resolving the above issues, the Jan Vishwas Bill will help to clear the burdensome collection of old and outdated legislation.

## 1.6 GIG WORKERS AND GIG ECONOMY

#### Latest Context

Recently, the **Standing Committee on Labour, Textiles, and Skill Development** has asked the Ministry of Labour and Employment to formulate and implement welfare schemes for Gig workers in the country.

#### More about the news

- In addition, the **G20 Labour and Employment Ministers Meeting 2023** has recently concluded. In this meeting, emphasis was laid on the well-being of Gig workers and a document on "**Sustainable Social Protection for Gig & Platform Workers**" was released.
- In this direction, the **Government of Rajasthan** has formulated a **welfare bill for Gig workers** by passing a "**Platform Based Gig Workers (Registration and Welfare) Bill, 2023**" with an aim to create the "**Rajasthan Platform Based Gig Workers Welfare Board**", which will have members from gig workers, aggregators, and civil servants.
- The state government is planning to **maintain a database of gig workers and generate a unique ID** for every one of them.



### Gig Workers and Gig Economy in India

- As per the findings of the **Economic Survey 2020–21**, India has **one of the world's largest numbers of gig workers**.
- According to **Niti Aayog's** latest report on **Gig Economy**, the gig economy in India employs **approximately 7.5 million workers** and it is expected to rise to **23.6 million by the year 2029-30**.
- Presently, almost **30% of gig workers are engaged in low-skilled jobs** such as cab driving and food delivery, almost **46% in medium-skilled jobs** such as plumbing and beauty services, and around **23% in high-skilled jobs** such as graphic designing and tutoring.
- Generally, Gig workers are not provided **social security benefits** and are **excluded** from the **labour laws** due to their ambiguous employment status.

#### Gig Workers

Gig Workers are the ones who are engaged in livelihood which lies outside the **traditional employer-employee arrangement**. They are sliced into the following categories.

- **Platform Gig Workers:** They are the ones who work on online software, apps, or digital platforms like food aggregator platforms- Zomato, Swiggy, Ola etc.
- **Non-Platform Gig Workers:** They are the ones who are generally have casual wage and own-account workers engaged in conventional sector, part-time or full-time.

### Challenges in Gig Economy

- **Lack of Job Security and Benefits:** Gig workers are typically classified as independent contractors or freelancers, which means they often lack job security, benefits (such as health insurance, retirement plans, and paid leave), and legal protections that traditional full-time employees enjoy. This can lead to financial instability and difficulties accessing necessary services.
- **Income Instability:** Gig workers often experience unpredictable income streams due to the nature of their work being project-based or on-demand. This instability can make it challenging to budget, save, and plan for the future.
- **Exploitation and Low Pay:** The competitive nature of the gig economy can lead to downward pressure on wages. Many gig platforms operate on a race-to-the-bottom model, where workers are forced to accept low pay in order to secure jobs, leading to potential exploitation and inadequate compensation for the work performed.
- **Lack of Employment Rights:** Traditional employment relationships come with legal protections such as minimum wage laws, workplace safety regulations, and protection against discrimination. Gig workers often lack these protections because they are considered independent contractors rather than employees.
- **Isolation and Lack of Social Interaction:** Gig work is often solitary, with workers performing tasks remotely or independently. This isolation can lead to feelings of loneliness and reduced opportunities for social interaction that are common in traditional workplaces.
- **Unpredictable Working Hours:** Gig workers may face challenges in maintaining a healthy work-life balance due to irregular and unpredictable working hours. This can impact personal well-being, relationships, and overall quality of life.
- **Skill Mismatch and Career Progression:** Some gig workers might find themselves in roles that don't align with their skills, qualifications, or long-term career goals. Limited opportunities for skill development and career progression can hinder professional growth.

### Reasons for Providing Social Security Benefits to Gig Workers

- **Financial Stability:** Gig workers often face income volatility and unpredictable work schedules, which can make it challenging to maintain financial stability. Social security benefits such as retirement savings, disability insurance, and unemployment benefits provide a safety net to help gig workers during periods of financial hardship.
- **Protection Against Economic Risks:** Gig workers typically lack the traditional benefits and protections that come with full-time employment, such as health insurance, workers' compensation, and paid leave. Social security benefits can help mitigate these risks by providing healthcare coverage, disability benefits, and other forms of assistance.



- **Equal Treatment and Fairness:** Extending social security benefits to gig workers ensures fairness and equal treatment in the labour market. It recognizes that gig workers contribute to the economy and should have access to the same basic protections as traditional employees.
- **Long-Term Retirement Security:** Gig workers often have limited access to retirement savings plans such as employer-sponsored pensions. Social security benefits offer a crucial retirement safety net by providing a steady income stream during the retirement years.
- **Social Safety Net:** Social security benefits serve as a crucial social safety net for individuals who may face unexpected life events or emergencies. Gig workers, like anyone else, can experience accidents, illnesses, or other unforeseen circumstances that disrupt their ability to work. Access to social security benefits can help them cope with these challenges.
- **Economic Stimulus:** Providing social security benefits to gig workers can have a positive impact on the overall economy. When workers have a safety net and financial security, they are more likely to spend their income, which boosts consumer demand and stimulates economic growth.

### Main Challenges in Providing Social Security Benefits to Gig Workers

- **Classification and Eligibility:** One of the primary challenges is determining the classification and eligibility criteria for gig workers. Gig workers often fall into a grey area between traditional employment and self-employment, making it difficult to define their status for social security purposes. Clear guidelines need to be established to determine who qualifies as a gig worker and is eligible for benefits.
- **Funding and Cost:** Extending social security benefits to gig workers requires adequate funding. Traditional social security programs are typically funded through payroll taxes paid by employers and employees. However, the gig economy operates differently, with workers often considered independent contractors responsible for their own taxes. Determining the appropriate funding mechanism for gig workers' social security benefits can be challenging.
- **Administrative Complexity:** Adapting existing social security systems to accommodate gig workers' needs can be administratively complex. Establishing mechanisms for tracking and verifying gig workers' income, contributions, and eligibility can be challenging due to the decentralized and diverse nature of the gig economy. Implementing streamlined processes and leveraging technology may be necessary to overcome these administrative complexities.
- **Flexibility and Portability:** Gig workers often move between different platforms or engage in multiple gig jobs simultaneously. Ensuring the flexibility and portability of social security benefits across various work arrangements can be complex. Benefits should be designed in a way that allows gig workers to access them regardless of the platform or specific gig job they are engaged in.
- **Awareness and Education:** Many gig workers may not be fully aware of their rights and entitlements regarding social security benefits. Ensuring that gig workers are informed about the benefits available to them and how to access them is crucial. Educational campaigns and outreach efforts may be necessary to improve awareness and understanding among gig workers.
- **Legal and Regulatory Frameworks:** The gig economy operates across national borders, which can present challenges in establishing consistent social security regulations and frameworks. Harmonizing laws and regulations across different jurisdictions to ensure gig workers receive adequate social security benefits can be a complex task.
- **Balancing Flexibility and Benefits Access:** A key attraction of gig work is the flexibility it offers. However, implementing social security benefits for gig workers should strike a balance between maintaining their work flexibility and providing access to necessary protections. Designing benefit programs that accommodate the unique needs of gig workers without compromising their flexibility can be a significant challenge.

### Way Forward

- **Legal and Policy Reforms:** Governments can review and update labour laws and social security policies to adapt to the changing nature of work in the gig economy. This may involve revising employment classifications, expanding coverage criteria, and creating new categories or mechanisms specifically tailored to gig workers.



- **Portable Benefits:** Portable benefits are a potential solution to provide gig workers with access to social security benefits that are not tied to a specific job or employer. These benefits can be designed to be flexible, allowing workers to accrue and carry benefits across multiple gigs or platforms. Examples of portable benefits include portable retirement savings accounts, individual health savings accounts, and individualized training accounts.
- **Collaboration with Gig Economy Platforms:** Collaboration between government agencies and gig economy platforms is crucial to ensuring gig workers' social security. Platforms can play a role in facilitating benefit contributions and administration. Governments can work with platforms to develop innovative solutions that allow for seamless integration of social security contributions and facilitate benefit access for gig workers.
- **Mandatory or Voluntary Contribution Programs:** Governments can consider implementing mandatory or voluntary contribution programs for gig workers. These programs could require gig workers to contribute a portion of their earnings to a social security fund or provide them with the option to voluntarily contribute. This helps ensure consistent funding for social security benefits for gig workers.
- **Education and Awareness:** Enhancing gig workers' awareness and understanding of social security benefits is essential. Governments, labour organizations, and gig economy platforms should collaborate to provide clear and accessible information to gig workers about their entitlements, eligibility criteria, and how to access benefits. Educational campaigns and resources can help gig workers make informed decisions regarding their social security.
- **Strengthening Safety Net Programs:** Governments can strengthen existing safety net programs to better support gig workers. This may involve expanding eligibility for unemployment benefits, disability insurance, and healthcare coverage to cover gig workers. Tailoring these programs to the specific needs of gig workers can help provide them with essential protections during periods of income volatility or emergencies.

## 1.7 FOREIGN PORTFOLIO INVESTMENT

### Latest Context

Recently, the Security Exchange Board of India (SEBI) issued a consultation paper on a framework for mandating **additional disclosures from high-risk Foreign Portfolio Investors (FPIs)**.

### Objective

- To **enhance trust in the Indian securities markets** by mandating additional disclosures around ownership of, economic interest in high-risk FPIs.
- To prevent possible avoidance of minimum public shareholding (MPS) requirements and **potential misuse of the FPI route** to guard against the inherent risks of opportunistic takeover of Indian companies.
- To minimize **any inconvenience to the FPI ecosystem**, only a limited number of objectively identified high-risk FPIs with either concentrated single group equity exposures or significant equity holdings will be mandated to provide additional granular disclosures around the ownership of, economic interest in, and control of such funds.

### Key Highlights

- **Categorization of FPIs:** All FPIs have been categorized as
  - **Low-Risk FPIs:** Government and Government related entities such as central banks, and sovereign wealth funds.
  - **Moderate-Risk FPIs:** Pension Funds or Public Retail Funds with widespread and dispersed investors in such funds.
  - **High-Risk FPIs:** All other FPIs
- **Stricter Rules for High-Risk FPIs**
  - To mitigate the risk of circumvention of regulations such as MPS, and to prevent potential misuse of the FPI route, it is

#### Asset Under Management (AUM)

Assets under management (AUM) is the **total value of all the money and investments** that an asset management company is responsible for managing on behalf of its investors. Example: Hedge Fund, Mutual Fund etc.



proposed that enhanced transparency measures for fully identifying all holders of ownership, economic, and control rights may be mandated for certain objectively identified high-risk FPIs that fulfil certain criteria.

- For requiring additional disclosures, the above risk categorization is proposed to be **coupled with either the quantum of concentrated investments** by FPIs in a **single corporate group** (to prevent circumvention of MPS etc.), or the **size of the overall equity AUM**
  - ✓ High-risk FPIs holding **more than 50%** of their AUM in a single corporate group would be required to comply with the additional disclosure requirements.
  - ✓ High-risk FPIs with an **overall holding** in Indian equity markets of over **Rs 25,000 crore** will also be required to comply with new disclosure requirements.

### Need or Existing Issues with FPIs

- **Potential Avoidance of SEBI Regulations:** As per the current trend, in order to avoid the regulatory framework like **maintaining the Minimum Public Shareholding (MPS)** some of the FPIs concentrate a big chunk of their equity in a single company group or investee company. In some cases, this investment has been static for a long time raising the suspicion that promoters of such corporate groups, or other investors acting in concert, could be using the FPI route for avoiding the regulatory requirements.
- **Potential Misuse of FPI Route for Avoidance of Press Note 3:** PN3 requires that **an entity of a country** that shares a **land border with India** can invest only under the Government route.
  - Since PN3 does not apply to FPI investments, the FPI route could **potentially be misused** to avoid the stipulations of PN3.
- **Failure to disclose Related Party Transactions (RPTs):** RPTs are **arrangements** or deals **between entities** with a common interest or a **relationship by companies**. Recently, the Hindenburg report raised the concern of nondisclosure of RPTs.
  - The framework for FPI allows indirect avoidance of the RPT disclosure requirements.

#### Minimum Public Shareholding Rules (MPS)

- According to this rule, all listed companies in India are required to ensure that **at least 25% of their equity shares** are held by **non-promoters, i.e. public**
- Public shareholders could be individual

#### Press Note (3) of 2020

Press Note 3 of 2020 dated 17 April 2020 (PN 3) provides that “**an entity of a country**, which shares a **land boundary with India** or the beneficial owner of an investment into India who is situated in or is a citizen of any such country, **can only invest under the government route**.”

### Significance of the proposed regulations

- Through these changes, it would be possible now to identify the beneficial owner of FPI investments which has always been a concern of the SEBI.
- This would enhance transparency and help avert regulatory requirements, and keep up with the minimum (25%) public shareholding norms.

### Risks Related to FPI

- **Market Risk:** FPI investments are exposed to market volatility, including fluctuations in stock prices, bond yields, and currency exchange rates. Sudden changes in market conditions can lead to significant losses for investors.
- **Currency Risk:** Changes in exchange rates can impact the value of foreign investments when converted back into the investor's home currency. If the local currency depreciates against the investor's currency, it can result in lower returns or even losses.
- **Political and Regulatory Risk:** Political instability, changes in government policies, and regulatory shifts in the host country can have a direct impact on the value of FPI investments. Sudden policy changes or unfavorable regulations can lead to unexpected losses.



- **Liquidity Risk:** Some foreign markets may have lower trading volumes and less liquidity compared to more established markets. This can make it difficult for investors to quickly buy or sell their holdings at desired prices.
- **Economic Risk:** Economic downturns or recessionary periods in the host country can negatively affect the performance of FPI investments. Poor economic conditions can lead to reduced corporate earnings, lower bond prices, and other adverse effects on investment returns.
- **Interest Rate Risk:** Changes in interest rates can impact the value of bonds and other fixed-income investments. Rising interest rates can lead to a decrease in bond prices, affecting the overall portfolio value.
- **Country Risk:** FPI investments in certain countries may be exposed to heightened country-specific risks, such as geopolitical tensions, civil unrest, and economic instability. These factors can significantly impact investment returns.

### Present Provisions of FPIs in India

- Under SEBI (Foreign Portfolio Investors) Regulation 2019, FPIs are regulated by SEBI.
- **Legislative Provisions**
  - **Foreign Exchange Management Act, 1999 (FEMA)** is the primary legislation governing FPI in India.
  - **Prevention of Money Laundering Act, 2002 (PMLA)** and the Prevention of Money Laundering (Maintenance of Records Rules), 2005 (PML Rules)

### Difference Between Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI)

Foreign Direct Investment (FDI)	Foreign Portfolio Investment (FPI)
<ul style="list-style-type: none"> <li>• FDI investors typically <b>take controlling positions in domestic firms</b> or joint ventures and are actively involved in their management</li> </ul>	<ul style="list-style-type: none"> <li>• FPI investors, on the other hand, are <b>generally passive investors</b> who are not actively involved in the day-to-day operations and strategic plans of domestic companies, even if they have a controlling interest in them</li> </ul>
<ul style="list-style-type: none"> <li>• FDI investors take a <b>long-term approach</b> to their investments since it can take years from the planning stage to project implementation</li> </ul>	<ul style="list-style-type: none"> <li>• It is considered a <b>short-term investment</b>.</li> </ul>
<ul style="list-style-type: none"> <li>• Its aim is to <b>increase capacity or productivity</b> or change management control.</li> </ul>	<ul style="list-style-type: none"> <li>• It results in <b>capital inflow</b>.</li> </ul>
<ul style="list-style-type: none"> <li>• Its <b>entry and exit</b> both are difficult.</li> </ul>	<ul style="list-style-type: none"> <li>• Its <b>entry and exit</b> both are easy.</li> </ul>

## 1.8 CORPORATE DEBT MARKET DEVELOPMENT FUND

### Latest Context

Recently, the Security Exchange Board of India introduced the **Corporate Debt Market Development Fund** in order to prevent a financial crisis.

### Corporate Debt Market Development Fund

- During market dislocations, it will be a **backstop facility** for specified debt funds.
- It is meant to **provide liquidity support** in the event of a **financial crisis**.
- The objective of this fund is to inculcate **confidence amongst the participants** in the **corporate bond market** and to increase secondary market liquidity.
- It will have an **initial corpus of Rs 3,000 crore** contributed by mutual funds.
- **Ten-times leverage of the fund (Additional corpus)** has been approved by the government thus CDMDF may raise funds up to **Rs 30,000 crore**.
- **Specified debt-oriented mutual fund schemes** and **asset management companies of mutual funds** can contribute to this fund.
- It is guaranteed by the **National Credit Guarantee Trust Company (NCGTC)** and **SBI Mutual Fund** will manage the backstop facility.



- During market dislocation, specified mutual fund schemes will have access to the fund for selling securities. This access will be in **proportional to the contribution made to the fund** at a mutual fund level.

### Corporate Debt Market

- The debt market, also called the **bond market, fixed-income market, or credit market** is the collective name given to all trades and issues of debt securities. The market can be broadly divided into **Government Debt Market** and **Corporate Debt Market**.
- **Issue:** Companies issue corporate bonds to finance current operations, expand product lines, or open new manufacturing facilities.
- **Nature:** In general, they **describe longer-term debt instruments** that provide a maturity of at least one year.
- **Regulation:** SEBI has jurisdiction over the corporate debt market.
  - The regulatory jurisdiction between the SEBI and RBI was clarified in 2000 by an amendment to the Securities Contract (Regulation) Act 1956. Under this, RBI's regulatory jurisdiction includes money market and government securities.
- **Status of the Market in India:** As a **percentage of GDP**, outstanding corporate bonds in India, stood around **17% in March 2022**.
  - Other emerging Asian economies have much higher percentages: **South Korea (>80%), Malaysia (>50%), China (~40%)**

### Significance of Corporate Debt Market

- **Capital Formation:** The corporate debt market allows companies to raise funds by issuing bonds or other debt instruments. This capital can be used for various purposes such as expanding operations, funding research and development, making acquisitions, and more. By providing an alternative to equity financing, the debt market allows companies to access funds without diluting ownership.
- **Diversification of Investment:** Corporate debt securities offer investors an opportunity to diversify their investment portfolios beyond equities. Bonds and other debt instruments often have different risk profiles compared to stocks, and they can provide stable income streams, making them attractive to investors seeking income and capital preservation.
- **Risk Management:** The corporate debt market provides tools for companies to manage their financial risk. Through various types of debt instruments, such as fixed-rate bonds and floating-rate notes, companies can effectively manage interest rate risk and match their debt liabilities with their cash flow patterns.
- **Liquidity:** The secondary market for corporate debt provides liquidity to both issuers and investors. Companies that have issued debt can sell their securities in the secondary market if they need to raise funds quickly. Investors can buy and sell these debt securities, providing an avenue to convert their investments into cash before maturity.
- **Price Discovery:** The corporate debt market contributes to price discovery and transparency in the financial markets. Prices of debt securities are influenced by various factors, including interest rates, credit ratings, economic conditions, and the financial health of the issuing company. The pricing mechanism in the debt market reflects market participants' collective assessment of these factors.
- **Credit Allocation:** The corporate debt market plays a role in allocating credit to different sectors of the economy. Companies from various industries and sectors can issue debt to raise funds. This allows investors to allocate capital to sectors they believe will perform well, while providing companies with the necessary funds to grow and innovate.
- **Economic Indicator:** The corporate debt market can reflect economic conditions and investor sentiment. An active and liquid corporate debt market can provide insights into investor confidence, risk appetite, and perceptions of credit quality, which in turn can offer valuable information about the overall economic environment.



### Problems of Corporate Debt Market in India

- **Lack of Liquidity:** The Indian corporate debt market was considered less liquid compared to other developed markets. This reduced liquidity made it difficult for investors to easily buy or sell corporate bonds at fair prices, potentially leading to market inefficiencies.
- **Limited Investor Base:** The investor base in the Indian corporate debt market was primarily dominated by banks and financial institutions. This lack of diversity in investors limited the depth and breadth of the market and could potentially impact pricing and demand.
- **Credit Risk Assessment:** There were concerns about the accuracy of credit risk assessment in the corporate bond market. The ability to accurately assess the creditworthiness of issuers was crucial to avoid defaults and ensure investor protection.
- **Issuer Concentration:** A few large corporations dominated the corporate debt market, leading to issuer concentration risk. If one of these major issuers were to face financial distress, it could have a significant impact on the overall market.
- **Rating Agencies:** Reliance on credit rating agencies for assessing the credit quality of bonds was a concern. There were instances where credit rating agencies failed to promptly downgrade bonds that eventually defaulted, leading to questions about their effectiveness and independence.
- **Regulatory Framework:** The regulatory framework governing the corporate debt market was evolving but was seen by some as needing further refinement. Regulations related to disclosure, transparency, and investor protection were points of discussion.
- **Secondary Market Development:** The secondary market for corporate bonds in India was relatively underdeveloped compared to the primary market. This hindered the ability of investors to trade bonds after their initial issuance.

### Way Forward

- **Enhanced Disclosure and Transparency**
  - Mandate timely and accurate disclosure of financial information by issuers.
  - Implement stricter enforcement mechanisms for non-compliance with disclosure norms.
  - Develop a standardized reporting framework for corporate bonds to improve comparability.
- **Credit Rating Reform**
  - Encourage competition among credit rating agencies to enhance the quality and reliability of ratings.
  - Implement regular monitoring and assessment of rating agencies' performance.
  - Promote the use of additional sources of credit information beyond credit rating agencies.
- **Market Infrastructure**
  - Establish a centralized electronic trading platform for corporate bonds to improve transparency, price discovery, and liquidity.
  - Develop a robust secondary market for corporate bonds with efficient clearing, settlement, and custody mechanisms.
  - Introduce electronic book-building mechanisms for primary issuance to streamline the process.
- **Investor Education and Participation**
  - Conduct awareness campaigns and educational programs to familiarize investors with corporate bonds.
  - Introduce retail-friendly bond products to encourage broader investor participation.
- **Liquidity Enhancement**
  - Implement market-making schemes to provide continuous two-way quotes for select corporate bonds.
  - Encourage institutional participation by relaxing investment limits for specific categories of investors.



- **Regulatory Reforms**
  - Streamline regulatory approval processes for issuance to reduce time and costs.
  - Rationalize tax treatment of different debt instruments to create a level playing field.

## 1.9 THE MINES AND MINERALS (DEVELOPMENT AND REGULATION) AMENDMENT BILL, 2023

### Latest Context

Recently, the Central Government introduced the Mines and Minerals (Development and Regulation) Amendment Bill, 2023 and it was passed by the Parliament.

### Background

- To address various issues in the mining and mineral sector, the MMDR Act, 1957 has been amended several times.
- In 2015, amendments brought about **auction-based mineral allocation** in addition to setting up the **District Mineral Foundation (DMF)** for community welfare, and the **National Mineral Exploration Trust (NMET)** for exploration promotion.
- In 2016, 2020, and 2021, amendments have been introduced to focus on emerging challenges and reforms, including removing the captive vs. merchant mine distinction.

**Critical and Deep-seated Minerals**

**Critical Minerals:** They are **natural resources which are very vital** for various industries, comprising technology, manufacturing, and clean energy. For instance, Lithium, Nickel, Cobalt etc.

**Deep-Seated Minerals:** They are the minerals that are **found deep within the Earth’s crust** and are typically more **challenging and costly** in exploring and mining in comparison to minerals closer to the surface. E.g., Gold, Copper, Diamonds etc.

### Comparison between MMDR Act 1857 and Proposed Bill,2023

Key Provisions	MMDR Act 1857	MMDR Act 2023
<b>Private Sector to Mine Atomic Minerals</b>	It is limited to State agencies for exploration.	<ul style="list-style-type: none"> <li>• It permits the private sector to mine <b>6 atomic minerals</b>-lithium, beryllium, niobium, titanium, tantalum and zirconium</li> <li>• It empowers the central government to auction mining leases and composite licenses for critical minerals.</li> </ul>
<b>Auction for Exploration License</b>	Under it, there is <b>no provision for an exploration license auction</b>	<ul style="list-style-type: none"> <li>• Through <b>competitive bidding</b>, the state government grants licenses, while the Central government prescribes auction details</li> </ul>
<b>Maximum Area in which Activities are</b>	Prospecting license: <b>Up to 25 sq. km</b>	<ul style="list-style-type: none"> <li>• It permits activities under a single exploration license in an area of up to <b>1,000 square kilometres</b></li> </ul>
<b>Incentive for Exploration License</b>		<ul style="list-style-type: none"> <li>• The state conducts auctions for mining leases if resources are proven after exploration. Licensee receives a share in the auction value of the mining lease for prospected minerals.</li> </ul>



This bill significantly lays emphasis on **stimulating private sector involvement** in the mining sector in the following manner

- **Expanding Mining Opportunities:** There are **six atomic minerals** that were previously reserved exclusively for government entities. No
- **Enabling Exploration Activities:** The Bill **abolishes previous prohibitions imposed** by the Act on certain exploration activities such as pitting, trenching, drilling, and sub-surface excavation.
- **Introduction of Exploration License (EL):** It brings a new **exploration license (EL)** with an aim to promote **reconnaissance-level and prospective-stage exploration** by private players.
- **Defining Exploration Area:** It clearly defines the **maximum exploration area**, permitting **activities within 1,000 square kilometres** under a single exploration license.
- **Central Government Auctions:** It empowers the central government to **conduct auctions for composite licenses and mining leases** specifically for critical and strategic minerals.

#### India's Current Status

- Presently, India is the **world's 4th largest producer of iron ore** and as of 2022, it is the **second largest producer of coal**.
- All over the world, India is the **second-largest producer of Aluminium**.

#### IMPORT DEPENDENCY OF INDIA

- **100% dependency:** India is fully dependent on other countries for lithium, cobalt, nickel, niobium, beryllium, and tantalum.
- **Major Dependency:** India is majorly dependent on other countries for copper, zinc, lead, gold, silver, platinum group elements (PGEs), and diamonds.
- The Ministry of Mines, in June this year, released a list of **30 minerals critical** to the country's economic development and national security.

#### Importance of Private Sector Participation in the Mines and Minerals Exploration

- **Investment and Funding:** Private companies often have the financial resources required for extensive and expensive mineral exploration projects. They can invest in advanced technologies, equipment, and skilled personnel necessary for efficient and effective exploration.
- **Technological Expertise:** Private sector entities bring advanced exploration technologies and techniques to the table. Their expertise in geophysics, remote sensing, geochemistry, and data analysis can greatly enhance the accuracy and efficiency of exploration efforts.
- **Innovation:** Private companies are known for their innovative approaches to problem-solving. They can introduce new methods for locating and extracting critical and deep-seated minerals, which can lead to breakthroughs in the field.
- **Speed and Efficiency:** Private sector operations tend to be more streamlined and agile than government agencies. This can result in quicker decision-making, reduced bureaucracy, and faster exploration progress.
- **Market Demand:** Many critical minerals are essential for modern technologies such as electronics, renewable energy systems, and advanced manufacturing. Private companies have a keen interest in securing a steady supply of these minerals to meet market demands.
- **Risk Tolerance:** The private sector is often more willing to take on higher risks associated with mineral exploration. This includes investing in speculative ventures where the outcome is uncertain, which can lead to discoveries that might have been overlooked by more risk-averse public agencies.
- **Global Competition:** The global race for critical minerals has intensified as countries seek to secure their supply chains. Private companies can leverage their international connections and networks to access expertise, resources, and partnerships on a global scale.

#### Some Potential Issues and Concerns

- **Regulatory Challenges:** The regulatory environment in India's mining sector can be **complex and subject to frequent changes**. Obtaining exploration licenses, environmental clearances, and other permits can be time-consuming and cumbersome, leading to delays in project initiation.



- **Land Acquisition and Community Displacement:** Mining exploration often requires **significant land acquisition**, which can lead to **conflicts with local communities** and indigenous populations. Displacement and disruption of livelihoods can result in social unrest and protests, causing further delays and negative public perception.
- **Environmental Concerns:** Mining activities can have a **substantial impact** on the environment, including deforestation, soil erosion, water pollution, and habitat destruction. Balancing economic development with environmental conservation is a significant challenge.
- **Lack of Infrastructure:** Many potential mining sites in India **lack proper infrastructure, including roads, power supply**, and transportation networks. This can increase the cost of exploration and make it logistically challenging.
- **Technological Obsolescence: Outdated technology and techniques** in the mining sector can hinder efficiency and safety. Modern exploration methods, such as remote sensing, geospatial analysis, and advanced geological modelling, might not be widely adopted.
- **Investment and Financing:** Adequate funding is crucial for successful mining exploration. However, securing long-term investment can be challenging due to uncertainties surrounding regulations, market conditions, and the potential for project delays.
- **Lack of Data Transparency:** Access to **accurate geological and exploration** data is crucial for making informed decisions. The lack of transparent data-sharing mechanisms can hinder private sector players from making well-informed investment choices.

### Conclusion

The mineral sector in India needs more reforms specifically in exploring and mining Critical Minerals crucial for economic growth and national security. Limited availability and extraction concentration of these minerals pose supply chain vulnerabilities and disruptions. Due to India's energy transition commitment and goal of achieving Net-Zero emissions by 2070, critical minerals have gained importance.

## 1.10 PRADHAN MANTRI GRAM SADAK YOJNA (PMGSY)

### Latest Context

The Parliamentary Standing Committee on Rural Development recently released its report on Pradhan Mantri Gram Sadak Yojna (PMGSY). Reports also highlighted that as of 31<sup>st</sup> January 2023, **96.24%** under **PMGSY-I** and **97.01%** under **PMGSY-II** of the targets fixed have been achieved.

### Pradhan Mantri Gram Sadak Yojna (PMGSY)

- **Introduction:** This scheme was launched by the Ministry of Rural Development in 2000. It is a Centrally Sponsored Scheme.
- **Objective:** Its objective is to connect, within the next three years, every village that has a **population of more than 1000** through good **All-weather roads** and **every village of more than 500 persons** similarly connected by the year 2007.
  - Rural Road Connectivity is not only a key component of Rural Development in India, but it is also recognized as an effective Poverty Reduction Program.
- In addition, it lays emphasis on **upgrading existing roads** in these areas, though the **primary focus** is to **provide connectivity to unconnected habitations**.
- In order to provide all-weather roads, the scheme lays emphasis on making special provisions for the **draining of roads by adequate cross-drainage structures** such as culverts, minor bridges and causeways.
- The central government's funding is **60% of the cost** and it **increased up to 90%** for northeastern and hill states.
- Currently, the **third phase – PMGSY – III** of this scheme is going on.
- Under this scheme, the roads **developed are maintained** by the **Panchayati Raj Institutions**.
- The nodal ministry for this scheme is the Ministry of Rural Development.



- An agreement was signed between the **National Rural Roads Development Agency (NRRDA)**, the **Ministry of Rural Development**, and the **ILO** to enable the international organization to help with the implementation of the project in 2012.

### Phases of PMSGY

Particulars	PMSGY-I	PMSGY-II	PMSGY-III
Launch	2000	2013	2019
<b>Objectives</b>	<b>Enhanced Road Connectivity</b> with access to all-season roads	For the <b>upgradation</b> of selected <b>through Routes and Major Rural Links (MRLs)</b> with a target to upgrade 50,000 km in various states and Union Territories.	For consolidation of <b>125000 Km</b> existing <b>Rural Road Network</b> by up-gradation of existing through Routes and Major Rural Links (MRLs) that connect habitations to <ul style="list-style-type: none"> <li>• Gramin Agricultural Markets (GrAMs)</li> <li>• Higher Secondary Schools</li> <li>• Hospitals</li> </ul>
<b>Timeline</b>	<b>September 2022</b>	<b>September 2022</b>	<b>March 2025</b>

### Problems in the Implementation of Pradhan Mantri Gram Sadak Yojna (PMSGY)

- **Funding Constraints:** **Adequate funding** is crucial for the successful implementation of any infrastructure project. PMSGY has faced funding constraints at various points, which can lead to delays in project execution or compromise on the quality of roads.
- **Land Acquisition:** **Acquiring land for road construction** can be a complex and time-consuming process. In rural areas, land ownership might be unclear, leading to disputes. Additionally, getting the required right-of-way for road construction can be challenging, causing delays in project implementation.
- **Geographical and Terrain Challenges:** Many rural areas are located in **geographically challenging terrains** such as hilly, mountainous, or flood-prone regions. Constructing roads in such areas is more expensive and technically complex.
- **Quality of Construction:** Maintaining the **quality of road construction** is vital to ensure the longevity of the infrastructure. However, due to factors like inadequate supervision and corruption, the quality of construction can sometimes be compromised, leading to roads that deteriorate quickly.
- **Maintenance and Sustainability:** Even well-constructed roads require **regular maintenance** to remain functional. However, maintenance practices in some areas have been inadequate, leading to roads falling into disrepair over time.
- **Monitoring and Accountability:** **Effective monitoring mechanisms** are essential to ensure that funds are used appropriately and projects are progressing as planned. Lack of proper monitoring and accountability can result in delays, mismanagement, and even embezzlement of funds.
- **Technical Expertise:** Implementation of road projects requires technical expertise in various areas such as engineering, geology, and hydrology. In some cases, there might be a **shortage of skilled personnel**, which can impact the quality and efficiency of project execution.
- **Bureaucratic Hurdles:** The bureaucratic process of **project approval**, clearances, and coordination among different government departments can be **cumbersome** and slow down project implementation.

### Way Forward

- **Effective Planning and Monitoring**
  - Strengthen the **planning process** by conducting **detailed surveys** and feasibility studies before road construction begins.
  - Establish a **robust monitoring mechanism** to track the progress of road construction projects, ensuring they are completed within stipulated timeframes.



- **Transparency and Accountability**
  - Implement a **transparent bidding process for selecting contractors** and awarding contracts to ensure fairness and competition.
  - Set up a **grievance redressal mechanism** where local communities can raise concerns about the quality or progress of road construction.
- **Capacity Building**
  - **Train and educate local authorities**, engineers, and workers about the technical aspects of road construction and maintenance.
  - Promote **skill development** among the local workforce to enhance their participation in construction activities.
- **Quality Control**
  - Establish **stringent quality control measures** to ensure that roads are built to specified standards and can withstand various weather conditions.
  - Conduct **regular inspections and audits** to assess the quality of construction materials used.
- **Innovative Technologies**
  - Explore the use of **innovative construction techniques and technologies** to expedite road construction without compromising on quality.
  - Implement **geospatial technologies for accurate surveying and mapping** of road alignments.
- **Community Engagement**
  - Involve **local communities in the decision-making process** for road planning and construction to ensure that roads are built where they are most needed.
  - **Encourage community participation** in maintenance activities to ensure the longevity of constructed roads.
- **Financial Management**
  - Allocate **sufficient funds for the timely completion** of road projects and their maintenance.
  - Implement **proper financial management practices** to prevent delays due to fund shortages.
- **Inter-Agency Coordination**
  - Foster **coordination between various government departments and agencies** involved in road construction to streamline processes and prevent duplication of efforts.
- **Prioritization of Connectivity**
  - Prioritize **road construction in areas that lack adequate connectivity**, focusing on remote and economically backward regions.
- **Use of Local Resources**
  - Utilize **locally available construction materials** and resources wherever possible to reduce costs and promote local economic development.

## 1.11 NATIONAL BANK FOR AGRICULTURAL AND RURAL DEVELOPMENT (NABARD)

### Latest Context

Recently, the Union Home Minister lauded the performance of the National Bank for Agricultural and Development (NABARD) and said it worked as a backbone of the country.

### National Bank for Agricultural and Development (NABARD)

- It is a development bank whose primary emphasis is on **the rural sector of the country**. It is the **topmost banking institution** in India that provides **finance for Agriculture and rural development**.
- It is **headquartered in Mumbai** which is known as the **country's financial capital**. Its main responsibility is the development of small industries, cottage industries, and any other such village or rural projects.



- In 1982, under the **Parliamentary Act-National Bank for Agriculture and Rural Development Act, 1981**, It was established as a **statutory body**.

### Functions of the National Bank for Agricultural and Development (NABARD)

- The main emphasis of NABARD-led initiatives is building an **empowered and financially inclusive rural India** through **specific goal-oriented departments** that are categorized broadly into three heads: **Financial, Developmental, and Supervision**.
- It offers **refinancing support** for **building rural infrastructure**. Moreover, it also formulates **district-level credit plans** to **guide and motivate the banking industry** in achieving these targets.
- Its job is also to **supervise the Cooperative Banks and Regional Rural Banks (RRBs)** and help them **develop sound banking practices** and integrate them into the CBS (Core Banking Solution) platform.
  - **Core Banking Solution (CBS):** It is the **networking of branches**, that facilitates customers to operate their accounts, and avail banking services from any branch of the Bank on the CBS network, regardless of where they maintain their account.
- It also plays a crucial role in designing the **Union Government's development schemes** and their implementation. Moreover, it also offers training to **handicraft artisans** and helps them in **developing a marketing platform** for selling these articles.
- It has **several international partnerships** comprising **leading global organizations** and **World Bank-affiliated institutions** that are breaking new ground in the fields of rural development as well as agriculture.
  - These global organizations play a **very vital role as consultants** in providing **advisory services** as well as financial assistance designed to ensure the uplifting of rural peoples and the optimization of various agricultural processes.

### Role of NABARD IN Transforming Rural Economy

- **Credit Facilitation:** NABARD provides **credit facilities to various institutions** like Regional Rural Banks (RRBs), Cooperative Banks, and State Cooperative Agriculture and Rural Development Banks (SCARDBs). These institutions further lend to farmers, rural artisans, entrepreneurs, and self-help groups. This credit infusion supports agricultural and rural development activities and promotes economic growth in rural areas. In the last 42 years, NABARD has **refinanced Rs 20 lakh crore** in the rural economy
- **Rural Infrastructure Development:** NABARD **finances and supports the development of rural infrastructure projects** such as irrigation, roads, bridges, warehouses, and cold storage facilities. This infrastructure development enhances agricultural productivity, reduces post-harvest losses, and connects rural areas to markets. Around Rs. **5 lakh crores** have been **sanctioned** under the **country's Rural Infrastructure Development Fund (RIDF)** (created in NABARD).
- **Promotion of Agriculture and Allied Sectors:** NABARD **promotes agriculture and its allied sectors like dairy, fisheries, and animal husbandry** by providing financial assistance, training, and technical support. This helps in diversifying rural livelihoods and increasing rural incomes.
- **Microfinance and Self-Help Groups (SHGs):** NABARD **plays a significant role in promoting microfinance** through SHGs. It provides financial support and capacity-building training to these groups, enabling them to engage in income-generating activities, small enterprises, and rural development projects.
- **Inclusive Growth:** NABARD focuses on **inclusive growth by supporting marginalized and vulnerable sections of society**, such as small and marginal farmers, women, and tribal communities. It aims to reduce economic disparities and enhance livelihood opportunities for these groups.
- **Innovation and Research:** NABARD supports **research and innovation in agriculture and rural development**. It funds research projects, studies, and pilot programs that aim to enhance productivity, sustainability, and resilience in the rural economy.



- **Natural Resource Management:** NABARD promotes **sustainable agricultural practices** and natural resource management by financing projects related to watershed development, soil conservation, water management, and renewable energy in rural areas.
- **Financial Inclusion:** NABARD contributes to **financial inclusion by extending its support to the establishment of rural banking infrastructure**, mobile banking services, and other initiatives that ensure access to financial services for people in remote areas.
- **Capacity Building and Training:** NABARD organizes **training programs for various stakeholders in the rural sector**, including farmers, bankers, and government officials. These programs enhance the knowledge and skills needed to implement modern agricultural practices and efficient financial management.
- **Policy Advocacy:** NABARD plays an active role in influencing rural development policies by providing recommendations and insights to government bodies. Its experience and expertise contribute to shaping policies that foster rural economic growth.

### Problems in Present Institutional Rural Credit Lending in India

- **Regional Imbalance in Credit Allocation:** In comparison to other regions, the Southern Region had the **largest share (45.9%)** followed by the **Northern Region (17.1%)**, the **Eastern Region** hardly received **9.5 % of agriculture credit** disbursed in 2020-21 that shows the regional imbalances in credit allocation.
- **Discrepancy based on landholding:** Presently, medium and large farmers **constitute just 14 % of total farmers** receive **48 % of the agricultural credit**.
  - The main reason behind the **low credit disbursement** to small and marginal farmers is the **decrease in the share of RRBs** and Cooperatives in total credit disbursement.
  - Despite holding a significant proportion of the farm space, agricultural tenants have **limited inclusion in the institutional credit system**.
- **Gender disparity in credit distribution:** According to the World Bank index data, **only 5 % of Indian women** have access to bank credit.
- **Limited Access to Formal Credit:** Many small and marginalized farmers in rural areas face **difficulties in accessing formal credit from banks and financial institutions**. This is often due to the lack of proper documentation, collateral, and credit history.
- **High Dependence on Informal Sources:** In the absence of formal credit, many rural households are **forced to rely on informal moneylenders** who charge very high-interest rates, leading to a cycle of debt.
- **Inadequate Institutional Infrastructure:** Many rural areas **lack proper banking infrastructure**, with a shortage of bank branches and ATMs. This makes it difficult for farmers to access credit and financial services conveniently.

### Way Forward

- **Digitalization and Financial Inclusion:** Expanding **digital banking services and promoting financial literacy** can help rural communities access credit more easily. Government initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY) aimed to provide every household with access to banking facilities. This can also facilitate direct benefit transfers and reduce the dependence on informal lenders.
- **Supportive Policy Environment:** The government should create a **favorable policy environment** that encourages lending institutions to **prioritize rural credit**. This could include providing incentives, subsidies, and risk-sharing arrangements to financial institutions willing to lend to rural areas.
- **Credit Guarantee Schemes:** Establish or **strengthen credit guarantee schemes** that mitigate the risks associated with lending to rural borrowers. These schemes provide a safety net for financial institutions, encouraging them to lend to those who might otherwise be deemed too risky.
- **Rural Fintech Solutions:** Encourage the development and adoption of rural-focused fintech solutions. Mobile banking, digital wallets, and peer-to-peer lending platforms can make credit more accessible and convenient for rural populations.



- **Collaboration with Microfinance Institutions (MFIs):** Partner with **well-regulated microfinance institutions** to extend credit to rural areas. MFIs often have a deeper understanding of local dynamics and can provide tailored financial products to rural borrowers.

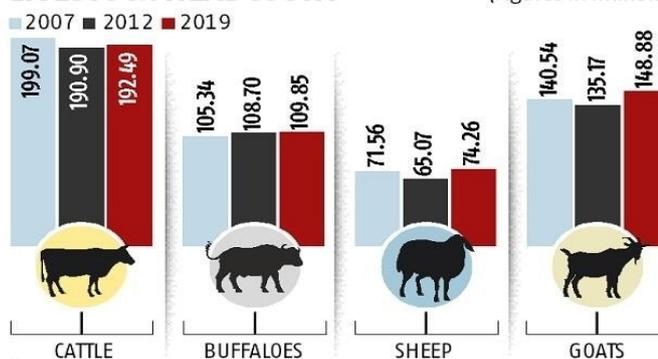
## 1.12 FIRST-EVER “CREDIT GUARANTEE SCHEME” FOR THE LIVESTOCK SECTOR

### Latest Context

To support the **Micro, Small and Medium Enterprises (MSMEs)** in the **Livestock sector**, the Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry and Dairying (DAHD) has established the "**Credit Guarantee Scheme**" under the Animal Husbandry Infrastructure Development Fund (AHIDF).

### LIVESTOCK HEADCOUNT

(Figures in million)



### Highlights of the Credit Guarantee Scheme

- **Objective:** It aims to **improve the credit delivery system** and **provide easy access to capital** for entrepreneurs operating in the livestock industry.
  - The **primary objective** is to **motivate lenders to prioritise project viability and offer credit facilities** based on the principal security of the assets being funded.
  - It encourages **investments in a variety of livestock industry sectors**, including dairy and meat processing, animal feed plants, breed development technologies, waste management, and veterinary vaccine and medication production facilities, by making financial aid available.
  - A **credit guarantee fund trust worth Rs 750 crore** has been established by the DAHD to cover up to **25% of credit facilities** provided by lending institutions to eligible MSMEs.
- The credit guarantee portal has been developed as a rule-based **B2B portal** and implemented the enrolment of eligible lending institutions under the Credit Guarantee Scheme, issuance/renewal of Credit Guarantee Cover and Settlement of Claims.
- **Eligible for the scheme:** The programme targets **underserved groups in society**, such as first-generation business owners and those from disadvantaged backgrounds who frequently lack collateral security for their businesses.

### Animal Husbandry Infrastructure Development Fund (AHIDF)

- It is a **central sector scheme** started by the Ministry of Agriculture, Forestry, and Fisheries. It aims to **promote investments** in facilities for the production of dairy products, meat, and animal feed.
- Under the **AtmaNirbhar Bharat Abhiyan stimulus package** of Rs. **15,000 crores** for the Animal Husbandry Infrastructure Development Fund (AHIDF) were allocated.
- It incentivizes investments by individual entrepreneurs, private companies, MSME, Farmers Producers Organizations (FPOs) and **Section 8 companies** to establish
  - **Dairy Processing** and value-addition infrastructure
  - **Meat processing** and value-addition infrastructure
  - **animal feed plant**
  - **Breed improvement technology** and breed multiplication farm
  - **Establishing drug production and veterinary facilities.**
  - **Animal waste to wealth management** (Agri-waste management)
- **Financial Support**
  - **Interest Subvention of 3%**
  - **Loan up to 90%** of the total project cost from any Scheduled Bank, National Cooperative



### Significance of the Credit Guarantee Scheme

- **Empowering Unprivileged Entrepreneurs:**
  - The program's main goal is to support first-generation entrepreneurs and vulnerable groups in society who lack collateral protection for their livestock-related operations.
  - It gives them access to credit options and financial support.
- **Boosting Livestock Sector:** The programme promotes investments in dairy and meat processing, animal feed factories, breed improvement technology, waste management, and veterinary vaccine and medication production facilities by offering loan guarantee coverage. This will boost the cattle industry's production and expansion.

### Challenges of the Credit Guarantee Scheme

- **Awareness and Outreach:** It might be difficult to make sure potential recipients are aware of the programme and its advantages, particularly in remote rural areas.
- **Timely Disbursement:** Effective implementation depends on prompt credit issuance to qualified MSMEs.
- **Risk Management:** Effective risk management and default prevention are crucial for managing the credit guarantee fund.
- **Monitoring and Evaluation:** To make the required adjustments and correct any flaws, the scheme's influence must be regularly monitored and evaluated.

#### Government Initiatives for Live Stock Sector

- **National Livestock Mission:** To promote entrepreneurship development and breed improvement in poultry, sheep, goat and piggyery including feed and fodder development.
- **Rashtriya Gokul Mission:** For the development and conservation of indigenous bovine breeds.
- **Livestock Health & Disease Control (LH&DC):** To improve animal health through prophylactic vaccination, disease surveillance and strengthening of veterinary infrastructure.
- **Supporting Dairy Cooperatives and Farmer Producer Organizations (SDCFPO):** To provide working capital to state cooperatives and federations.

### Way Forward

- **Disease Control and Management**
  - Strengthen **disease surveillance, early detection**, and rapid response systems.
  - Invest in **veterinary healthcare infrastructure** and manpower to effectively control and manage livestock diseases.
  - Promote **vaccination programs and awareness campaigns** among livestock owners.
- **Improved Breeding and Genetics**
  - Promote **selective breeding to improve the quality** and productivity of livestock.
  - Establish and **support breeding programs that focus on indigenous and local breeds** to conserve biodiversity.
  - Enhance **artificial insemination facilities** and access to quality breeding stock.
- **Nutrition and Feed Management**
  - Develop and **disseminate balanced and affordable animal** feed formulations.
  - Encourage the **cultivation of fodder crops** and promote efficient feed management practices.
  - Provide **training to farmers on proper nutrition** and feeding practices.
- **Extension Services and Education**
  - Strengthen **extension services** to provide farmers with **up-to-date knowledge and practices related** to livestock management.
  - Offer **training programs on animal husbandry practices**, disease management, and modern farming techniques.
- **Value-Added Products and Processing**
  - Encourage **investment in processing and value addition to minimize post-harvest losses** and create additional income streams.
  - Establish **cold chain infrastructure** to store and transport perishable livestock products.



- **Access to Finance and Insurance**
  - Provide **affordable credit and financial services to small and marginal farmers** engaged in livestock rearing.
  - Introduce **livestock insurance schemes** to mitigate risks associated with disease outbreaks and natural disaster

### Conclusion

An important governmental endeavour to revitalise the rural economy and tap into the potential of MSMEs in the livestock industry is the "Credit Guarantee Scheme" for the sector. The initiative intends to encourage entrepreneurship, improve livestock infrastructure, and boost economic growth in rural regions to contribute to India's overall socio-economic development.

## 1.13 PRICING OF AGRICULTURAL PRODUCE

### Latest Context

Recently, the sudden price rise of **Tomato crops in Maharashtra and Karnataka** has become a major cause of concern. Further, it led to the debate on agricultural produce price hiking.

**More on News:** It is happening due to the combination of **various factors** like **monsoons, high temperatures, low production, heavy rainfall, and reduced supply** from **neighbouring states**.

### Factors Responsible for Price Hike

- **Supply and Demand Imbalance:** If the supply of tomatoes is lower than the demand, prices tend to rise. This can be due to factors like adverse weather conditions (droughts, floods, etc.) affecting crop yields, diseases or pests damaging crops, or disruptions in the supply chain.
- **Seasonal Variations:** Tomatoes are often grown seasonally, and any disruption in supply during the off-season can lead to price hikes. For example, if there is a shortage due to inadequate storage or transportation infrastructure, prices may rise.
- **Transportation and Distribution Issues:** Poor transportation infrastructure and distribution networks can result in wastage of perishable agricultural produce like tomatoes. This can lead to reduced supply in certain areas, driving up prices.
- **Crop Diseases and Pests:** Outbreaks of diseases or infestations of pests can lead to reduced crop yields, affecting the overall supply and contributing to price hikes
- **Input Costs:** Rising costs of inputs like fertilizers, pesticides, labor, and machinery can increase the production cost for farmers. This might lead to decreased supply if farmers find it less profitable to cultivate certain crops, thereby causing price hikes.
- **Virus Impact:** The attacks of the **Cucumber Mosaic Virus (CMV)** and the **Tomato Mosaic Virus (ToMV)** are also responsible for current crop losses.

### Price Monitoring and Control Mechanism in India

- **Price Monitoring Division (PMD):** Under the Department of Consumer Affairs, the Price Monitoring Division monitors the **prices of selected essential commodities**.
  - Its job is to monitor the **price situation and give advance feedback** for taking preventive measures.
  - To give **temporary relief**, it **implements commodity-specific market intervention schemes**.
  - To monitor the **prices of 22 essential food commodities**, the Centre **targets around 750 PMCs** (one in each district).
- **Operation Greens:** On the lines of **Operation Flood**, it was launched to promote Farmer Producers Organizations (FPOs), agri-logistics, processing facilities, and professional management.
  - It **consists of 22 perishable crops**, comprising Tomato, Onion and Potato (TOP).



- **Essential Commodities Act, 1955:** It empowers the central government to control the production, supply, distribution, trade, and commerce of certain commodities.
  - The Act can **impose stock limits** on essential commodities to regulate their prices and availability in the market

### Comparison between the Cucumber Mosaic Virus (CMV) and the Tomato Mosaic Virus (ToMV)

Parameters	Tomato Mosaic Virus (ToMV)	Cucumber Mosaic Virus (CMV)
Crops Affected	Tobacco, Peppers, Tomato, and certain ornamental plants.	Melon, eggplant Cucumber, tomato, carrot, lettuce, celery, cucurbits (members of the gourd family, including, pumpkin, zucchini etc.), and some ornamentals.
Spread	<ul style="list-style-type: none"> <li>• It spreads through primarily <b>infected seeds, saplings, and agricultural tools.</b></li> <li>• In addition, it spreads through the <b>hands of nursery workers</b></li> </ul>	<ul style="list-style-type: none"> <li>• Spread by <b>aphids, which are sap-sucking insects.</b> <ul style="list-style-type: none"> <li>➤ <b>Conditions of high temperature</b> followed by <b>intermittent rain</b> permit aphids to multiply.</li> <li>➤ Very <b>low chance</b> of spread through human touch</li> </ul> </li> </ul>
Characteristics	<ul style="list-style-type: none"> <li>➤ <b>Distortion of leaves</b> and twisting of younger leaves.</li> <li>➤ The fruit <b>develops necrotic spots</b>, which leads to overripening.</li> <li>➤ Younger plants are dwarfed.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Distortion of leaves at the top and bottom</b> while those in the middle remain relatively blemish-free.</li> <li>➤ Causes <b>stunting and lower production</b></li> </ul>
Remedy	<ul style="list-style-type: none"> <li>➤ <b>Seed treatment with adequate bio-safety.</b></li> <li>➤ <b>Clearing weeds before fresh planting.</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Stop Aphids by spraying quick-acting insecticides or mineral oils on the plants.</b></li> </ul>

### Problems in Agri Produce Pricing in India

- **Market Fragmentation and Lack of Transparency:** India's agricultural markets are **highly fragmented, with numerous intermediaries and traders** involved in the supply chain. This fragmentation leads to a lack of transparency in pricing, making it difficult for farmers to understand fair market prices and negotiate effectively.
- **Information Asymmetry:** Farmers often **lack access to real-time market information**, including prices in different markets, demand trends, and global market dynamics. This information asymmetry puts them at a disadvantage when negotiating with middlemen and traders.
- **Monopoly Power of Middlemen:** Middlemen and intermediaries often hold **significant bargaining power** due to their control over distribution networks and access to markets. This can lead to the exploitation of farmers by offering low prices for their produce.
- **Inadequate Storage and Infrastructure:** **Poor post-harvest infrastructure, including storage and transportation facilities**, leads to significant losses of perishable produce. The lack of proper storage facilities affects supply and can lead to price volatility.
- **Government Interventions:** While government intervention is intended to stabilize prices and support farmers, it can sometimes **distort the market dynamics**. **Minimum Support Prices (MSPs) for certain crops can lead to overproduction of those crops** and neglect of other crops, impacting overall agricultural diversity.
- **Weather and Climate Risks:** Agricultural production is **highly dependent on weather and climate conditions**. **Erratic weather patterns**, including droughts and floods, can lead to reduced yields, affecting supply and consequently, prices.
- **Global Price Fluctuations:** India is a major player in the global agricultural market. **Fluctuations in international prices of commodities** can impact domestic prices, and Indian farmers can be vulnerable to sudden shifts in global demand and supply.



### Way Forward

- **Technological Advancements**
  - Promote the adoption of **modern farming techniques, precision agriculture**, and mechanization to enhance productivity and reduce labour-intensive tasks.
  - Encourage the use of **genetically modified (GM) crops** that are pest-resistant, drought-tolerant, and have higher yields.
- **Irrigation and Water Management**
  - Invest in **irrigation infrastructure such as drip and sprinkler systems** to ensure efficient water usage and mitigate the impact of erratic monsoons.
  - Promote **rainwater harvesting** and water conservation practices.
- **Soil Health and Fertility**
  - Implement **soil testing and provide customized nutrient** recommendations to farmers.
  - Promote the use of **organic and green manures** to improve soil structure and fertility.
- **Crop Diversification**
  - Encourage farmers to **diversify their crops to reduce the risks** associated with monocropping.
  - Promote the **cultivation of high-value crops**, fruits, and vegetables.
- **Market Access and Linkages**
  - Strengthen **agricultural marketing infrastructure** by developing efficient supply chains, storage facilities, and cold storage units.
- **Price Stabilization**
  - Introduce **effective price support mechanisms** to ensure that farmers receive remunerative prices for their produce.

## 1.14 FARM MECHANISATION

### Latest Context

Recently, a report on “**Research and Development in Farm Mechanisation for Small and Marginal Farmers**” has been tabled by the Standing Committee on Agriculture, Animal Husbandry and Food Processing in the Lok Sabha.

### Salient Features of the Report

- The government should raise investment in **research and development for farm mechanisation**, especially for **small and marginal farmers** because it plays a critical role in increasing agricultural production and productivity
- As per the report, the agriculture ministry **allocated 30% less funds** for research and development to the farm mechanisation scheme between **FY20 and FY23**.
- From **Rs 217 crore in 2019-20** to **Rs 179 crore in FY23**, according to the report, there has been a **continuous reduction in funds** allocated for the R&D in the farm mechanisation scheme.

### Farm Mechanisation in India

- **Definition:** It means the **development and use of machines** that can take the place of human and animal power in agricultural processes.
- **Status of Farm Mechanisation in India**
  - According to the Report, currently, the **overall agricultural mechanisation level** in India is **approximately 47%** which is lower than that of **other developing countries** such as **China (59.5%), and Brazil (75%)**
  - It has also urged the Ministry of Agriculture, it should **achieve 75% in farm mechanisation** from the **present level of 47%** in a much shorter period than 25 years earlier



- Currently, approximately **86% of the total land holdings** are in **small and marginal size groups** that require special efforts for mechanisation.
- The agriculture ministry is extending a **subsidy of around 40-50% of the cost of the equipment to small and marginal farmers** for the purchase of tractors, power tillers, combine harvesters, rotavators and rice transplanters under the **sub-mission on agricultural mechanisation scheme**.

### Significance of Farm Mechanization

- According to the report, it significantly contributes to the agricultural sector in India. It leads to **savings in seed (15%-20%), fertilizer (15%-20%), cropping intensity (5%-20%), increase in crop yield (13%-23%), improvement in germination rate (7%-25%), labour cost (20%-30%)**.

### Problems in Farm Mechanization in India

- **Small Landholdings:** The **majority of farmers** in India **own small landholdings**, which makes it economically challenging for them to invest in expensive farm machinery. The cost of mechanization equipment can often outweigh the benefits for small-scale farmers.
- **Lack of Capital:** Farm machinery is **capital-intensive**, and many farmers, especially smallholders, lack the financial resources to purchase or lease modern equipment. This leads to reliance on traditional manual labour despite its inefficiencies.
- **Fragmented Land:** Land in India is often divided into **small and fragmented plots due to inheritance practices**. This makes it difficult to use large-scale mechanized equipment effectively, as fields are often irregularly shaped and scattered.
- **Lack of Awareness and Training:** Many farmers, particularly in **rural and remote areas**, **lack awareness** about the benefits of mechanization and how to effectively use the available machinery. Proper training and extension services are essential for maximizing the benefits of mechanization.
- **Maintenance and Repairs:** Mechanized equipment requires **regular maintenance and occasional repairs**. The lack of **local infrastructure and skilled mechanics** in rural areas can lead to prolonged downtime of machinery, affecting crop timelines.
- **Soil and Terrain Variability:** Indian agriculture covers a **vast range of soil types and terrains**. Identifying and deploying the right machinery for specific soil and terrain conditions is crucial for effective mechanization, but it can be complex.
- **Environmental Concerns:** **Overreliance on certain mechanization practices**, such as **excessive tilling**, can lead to **soil degradation and environmental issues**. Balancing mechanization with sustainable farming practices is a challenge.
- **Energy Sources:** Many farm machines **require fossil fuels for operation**. **Fluctuating fuel prices and the environmental impact** of these energy sources add complexities to the cost-effectiveness and sustainability of mechanization.
- **Infrastructure Challenges:** Poor **rural infrastructure**, including **inadequate roads and transportation facilities**, can make it difficult to deliver machinery to remote areas and hinder the movement of machinery during critical farming seasons.

### Government Initiatives to Improve Farm Mechanisation

- **Sub Mission on Agricultural Mechanization (SMAM) 2014- 15** under the Ministry of Agriculture and Farmers Welfare
  - To support of the State Governments in **providing training and demonstration** of agricultural machinery and assist farmers in procuring agricultural machinery and equipment.
  - It is currently merged with the **Rashtriya Krishi Vikas Yojana**.
- **Custom Hiring Centres (CHCs):** They are being set up under the **SMAM scheme** through which Cooperatives and Farmers Producers Organisation subsidies are provided.
- States such as **Kerala, Tamil Nadu and Madhya Pradesh** provide farmers with farm machinery at concessional rates.

### Way Forward

- **Awareness and Training**
  - Conduct **awareness campaigns to educate farmers** about the benefits of mechanization and modern farming techniques.



- Provide **training programs to farmers on the proper use**, maintenance, and repair of agricultural machinery.
- **Financial Support**
  - Offer **subsidies, grants, and low-interest loans** for the purchase of agricultural machinery and equipment.
  - Establish **special funds to support small and marginal farmers** in adopting mechanization.
- **Custom Hiring Centers (CHCs)**
  - Set up **CHCs in rural areas** where farmers can rent machinery at **affordable rates for specific tasks**, reducing the financial burden of owning machinery.
  - The government can **provide incentives to entrepreneurs** to establish and operate CHCs.
- **Research and Development**
  - Invest in **R&D to develop and adapt agricultural machinery** suited to the needs of Indian crops and farming practices.
- **Collaborate with agricultural universities and research institutions** to develop innovative mechanization solutions.
- **Technology Dissemination**
  - Create platforms for **sharing information about the latest agricultural machinery** and technologies.
  - Develop **mobile apps, websites, and helplines** that provide farmers with information on machinery availability, usage, and maintenance.
- **Public-Private Partnerships (PPPs)**
  - Foster **collaboration** between **government bodies, private companies, and NGOs** to improve access to machinery and technology.
  - PPPs can facilitate technology transfer, training, and maintenance services.
- **Promotion of Agri-Entrepreneurship**
  - Encourage **young entrepreneurs to enter the agricultural machinery rental and maintenance business**.
  - Provide them with **training, financial support, and technical guidance**.
- **Sustainable Farming Practices**
  - Promote **precision farming techniques** that optimize the use of inputs, reduce waste, and enhance productivity.
  - Integrate **mechanization with sustainable practices** like conservation tillage and organic farming.

## 1.15 SHORT NEWS

### 1.15.1 GLOBAL REGULATORY FRAMEWORK FOR CRYPTO ASSET ACTIVITIES

The **global regulatory framework for crypto-asset activities** was finalised by the Financial Stability Board (FSB).

- The regulatory framework aims to promote **comprehensiveness and international consistency of regulatory and supervisory approaches** by including learnings from events in **crypto-asset markets**
  - It is based on the **principle of ‘same activity, same risk, same regulation’**. It ensures that crypto-asset activities and stablecoins are subject to consistent and comprehensive regulation.
  - It consists of two **high-level recommendations for regulation, supervision and oversight of crypto-asset activities and markets and global stablecoin arrangements (GSCs)**.

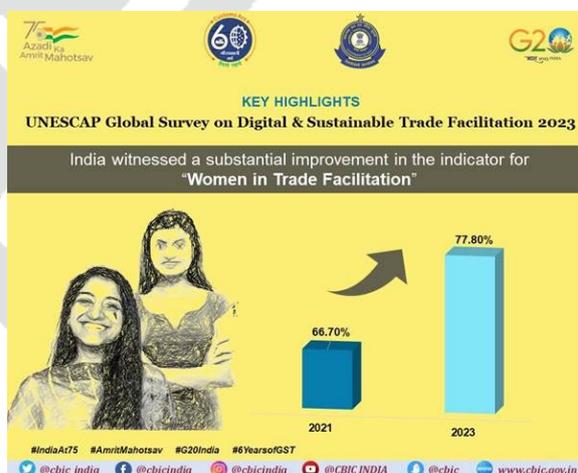


- FSB has strengthened **both sets of recommendations** in three areas
  - ✓ Ensuring adequate safeguarding of client assets
  - ✓ Addressing risks associated with conflicts of interest
  - ✓ Strengthening cross-border cooperation.
- **Central Bank Digital Currencies** are **not subject** to these recommendations.
- **About Crypto-assets and Stablecoins**
  - Crypto assets are private-sector digital assets that depend primarily on cryptography, distributed ledger, or similar technology.
    - ✓ Different segments of crypto-asset markets are – unbacked crypto-assets (such as Bitcoin), stablecoins, and decentralised finance (DeFi).
  - Stablecoin is a cryptocurrency whose value is pegged to the price of another asset.

### 1.15.2 GLOBAL SURVEY ON DIGITAL AND TRADE FACILITATION

Recently, the United Nations Economic and Social Commission for Asia Pacific (UNESCAP) released its Global Survey on Digital and Sustainable Trade Facilitation and **India is at the forefront of the trade facilitation efforts.** **Key Features of the Survey**

- The survey conducted by the UNESCAP is a fact-based survey rather than a perception-based survey. The survey covers the WTO Trade Facilitation Agreement along with a set of nearly 60 trade facilitation measures which are categorised into 11 categories, namely,
  - Institutional arrangement and cooperation; Transparency; Formalities; Transit facilitation; Cross-border paperless trade; Paperless trade, Trade facilitation for SMEs; Agricultural trade facilitation; Women in trade facilitation; Trade finance for trade facilitation; and Trade facilitation in time of crisis.
- It covers **140 economies**.
- UNESCAP conducts the survey every two years.



#### Main Highlights of the Survey

- It put India at the **forefront of global trade facilitation efforts**. India registered a very impressive score in the survey by achieving a score of about **93% in 2023**, which is an improvement from **90% in 2021**. In various sub-indicators, India achieved remarkable success i.e. **100% score** in Institutional Arrangement and Cooperation, Transparency, Formalities, and Paperless Trade.
- A significant improvement in the **"Women in Trade Facilitation"** component, which registered an increase from **about 66% in 2021 to about 78% in 2023**, which pointed out India's commitment to gender equality and women empowerment in the trade sector.





- **Remarkable Initiatives:** Single Window Interface for Facilitation of Trade (SWIFT), Turant Customs (it encompasses Faceless Customs, Paperless Customs, and Contactless Customs.), Pre-Arrival data processing, and e-Sanchit
- India was found the **best-performing country** in the **South Asia region**, crossing several developed nations including **Canada, France, the UK, and Germany**.

### Significance

It highlighted the importance of various initiatives taken by India with a view to ease of doing business and fostering a trade-facilitative environment in the country.

### UNESCAP

It was founded in **1947**. Its **headquarters** is in **Bangkok**. There are **five regional commissions** under the jurisdiction of the **United Nations Economic and Social Council**. It is one of them.

## 1.15.3 GLOBAL MINIMUM TAX

To ensure that **multinational corporations pay taxes** wherever they operate, the US, India, and approximately **140 other countries** are close to striking an agreement on the revision of global tax laws.

### Key Points

- The **OECD** began the Base Erosion and Profit Shifting (BEPS) programme in 2013 as part of its efforts to help nations fight tax evasion and corporate tax avoidance.
- **Base Erosion and Profit Shifting (BEPS):** BEPS refers to tax planning strategies used by multinational enterprises (MNEs) that exploit gaps and mismatches in tax rules to avoid paying tax.
- Corporate tax evasion is projected to cost between USD 100 and USD 240 billion annually by the OECD.
- **Addressing tax issues brought on by the digitalization of the economy** is a crucial component of the BEPS Project.
- A **two-pillar solution** was offered by the OECD/G20 Inclusive Framework on BEPS to guarantee that major MNEs pay taxes in the countries where they conduct business and generate profits.
  - **Pillar 1:** In market jurisdictions where the MNE's users and customers are located, 25% of profits earned by the largest and most lucrative MNEs above a certain profit margin would be distributed.
  - **Pillar 2:** Ensures that major MNEs, regardless of the jurisdiction where profits may be reported, pay at least a global minimum tax (GMT) at a rate of 15%.
- **By 2025**, over 90% of MNEs with revenues of more than 750 million euros would be subject to the levy, which will go into force the following year.
- **Global Minimum Tax (GMT):** A Global Minimum Tax (GMT) applies a standard minimum tax rate to a defined corporate income base worldwide.
- **Corporate Tax:** Corporate Tax is a direct tax levied on the net income or profit of a corporate entity from their business, foreign or domestic. The rate at which the tax is imposed as per the provisions of the Income Tax Act, of 1961 is known as the Corporate Tax Rate.

### GLOBAL TAX DEAL FOR MNCs: HIGHLIGHTS

- **140 nations close to finalizing global tax deal for MNCs**
- **US and India praised for dedication to Two-Pillar tax deal**
- **Agreement requires removal of digital services taxes**
- **Crucial matters to be addressed for consensus agreement**

### Facts about the OECD

- The **Organisation for European Economic Co-operation (OEEC)**, which became the **OECD in 1948**, was established to oversee the Marshall Plan for post-war rebuilding on the continent, which was mostly sponsored by the United States.



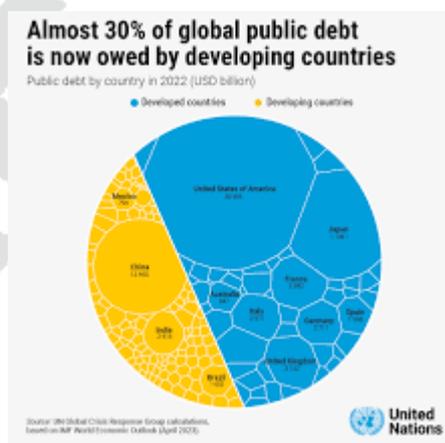
- When the USA and Canada joined, the OEEC was renamed the OECD to reflect a larger membership.
- **To promote global trade and economic growth**, 38 nations make up the **Organisation for Economic Co-operation and Development (OECD)**, an intergovernmental organisation.
- The majority of OECD members are considered developed nations since they have high-income economies and very high Human Development Indexes (HDI).
- The OECD's headquarters is in Paris, France.
- **OECD is the group of which India is not a member.**
- **Key OECD partners include** Brazil, China, South Africa, Indonesia and India.

#### 1.15.4 'A WORLD DEBT' REPORT

Recently, the United Nations for Trade and Development (UNCTAD) released a report titled 'A World of Debt'.

##### Key Highlights

- Public Debt around the globe is rising over the last decades. The cascading effect is causing a high rise in public debt that resulted in high public debt which is **fivefold since the year 2000**. In 2022, global public debt which comprises the **general government's domestic and external debt** reached a record USD 92 trillion.
- Developing countries constitute almost **30% of the total debt** out of which 70% is attributed to **China, India, and Brazil**.
- Half of developing countries invest more than **1.5% of their GDP and 6.9% of their government revenues in interest payments than on education or health**.
- Developing countries rely more on private creditors now, making credit more expensive and debt restructuring more complex.



##### Factors Responsible for High Public Debt

- Growing development financing needs – exacerbated by the COVID-19 pandemic the cost-of-living crisis, and climate change – and by limited alternative sources of financing.
- Inequality in global financial architecture makes the access of developing countries to financing inadequate and expensive that causes slow economic growth
- Relying on private creditors makes credit expensive and hence causes high public debt.

##### Roadmap for Addressing Global Debt Burden

- Provide greater liquidity in times of crisis expanding contingency finance
- Making the System more inclusive
- Tackling the high cost of debt and rising risk of debt distress

##### United Nations Conference on Trade and Development (UNCTAD)

- UNCTAD is a **permanent intergovernmental body** established by the UN General Assembly in **1964**.
- It has **195 member states (including India)** and it is part of the UN Sustainable Development Group





- **Other Reports of UNCTAD:** Trade and Development Report, Digital Economy Report, Technology, and Innovation Report etc

### 1.15.5 MAHILA SAMMAN SAVINGS CERTIFICATES (MSSC)

Recently, the Government allowed all **Public Sector Banks** and **eligible Private Sector Banks** to implement and **operationalise the Mahila Samman Savings Certificate (MSSC), 2023.**

- MSSC aims to provide financial security to young girls and women in India enabling financial inclusion and empowerment.
- **Key Features**
  - It is a **small savings scheme.**
  - It is available for subscription in Post Offices, and eligible Scheduled Banks.
    - ✓ Under the MSSC scheme, **an account** can be opened on or **before March 31, 2025**, for a **tenure of two years.**
  - **Eligibility:** Under the MSSC Scheme, an account can be made by a woman for herself or by a guardian on behalf of a minor girl.
  - **Interest Rate:** Under MSSC, **the deposit** made **will bear interest at the rate of 7.5% per annum** which will be **compounded quarterly.**
  - **Investment Limit:** A **minimum of ₹1000** and **any sum in multiple of 100** may be deposited within **the maximum limit of ₹200,000.**
  - **Maturity date:** Under this Scheme, the maturity of the investment is **two years.**
  - **Withdrawal:** From the date of account opening, the **40% withdrawal of eligible balance** can be taken **after one year.**
  - **Taxation:** Under the Mahila Samman Savings Certificate, **all earnings will be taxable** according to the existing income tax provisions. However, TDS (Tax Deducted at Source) will not be deducted under the scheme.

### 1.15.6 TWIN BALANCE SHEET PROBLEM

Recently, the Finance Minister indicated that the Indian Economy got rid of the problem of **twin balance sheet problems of Banks and Corporates** and it has been moved to the twin-balance sheet advantage.

**Background of the Problem:** For the first time, the **Economic Survey 2015-16** highlighted this problem. Weakening balance sheets of public sector banks and of some large corporate houses is one of the most critical short-term challenges and hurdles for the Indian economy in order to get recover from the economic crisis.

- It is also known as the **‘Twin balance sheet challenge’**, or the **TBS problem** which is one of the major impediments to private investment and hence to a full-fledged economic recovery.

**Twin Balance Sheet Problem:** It connotes the **huge debt on the books of corporate entities** in addition to the **estimated Rs10 trillion of stressed assets** that have accumulated at banks due to their **incapability of borrowers to repay.** Therefore, the TBS Problem is a **two-fold problem** for the Indian economy which deals with

1. **Overleveraged companies** – Debt accumulation is one of the biggest problems of companies and therefore they are unable to pay interest payments on loans.
 

**Note:** **Approximately, 40%** of corporate debt is owed by companies that are not in a position to earn enough to pay back their interest payments. It means that they have an **interest coverage ratio** of less than 1 in technical terms.
2. **Bad-loan-encumbered-banks** – Non-Performing Assets (NPA) are one of the biggest problems of Indian banks. They constitute 9% of the total banking system of India. For Public Sector Banks, it is as high as 12.1% contributing to four-fifths of the total NPAs. The moment companies fail to pay back principal or interest, banks are also in trouble.



### Steps Taken by Government to Address TBS Problem

- The 5/25 Refinancing of Infrastructure Scheme
- 4R strategy i.e. Recognizing the problem of NPA, Recapitalizing banks, Resolving their problems, and Reforming them
- RBI introduced the Central Repository of Information on Large Credits (CRILC) to enable banks to share information on large loans.
- Insolvency and Bankruptcy Code, 2016.
- National Asset Reconstruction Company (NARCL) to handle bad debt.

### 1.15.7 CENTRALISED INFORMATION MANAGEMENT SYSTEM (CIMS)

- The CIMS, a **next-generation data warehouse** has been introduced by The Reserve Bank of India recently.
- It is a platform that is to be used for **data mining, text mining, and statistical analysis**.
  - It will improve **monetary policymaking** through **refined economic analysis** and management of big data flow.
  - By using it, more **data for public use** can be disseminated. It will also **support online statistical analysis** by external users will be possible.
  - It has been started with **reporting by commercial banks**, which will be gradually extended to **Urban Cooperative Banks (UCBs)** and **Non-Banking Financial Companies (NBFCs)**.
  - The **first enterprise-wide data warehouse**, the **Central Database Management System (CDBMS)** was established by RBI in 2002.

### 1.15.8 PROJECT WAVE

- Indian Bank has released its **new services** under its **digital transformation initiative ‘Project WAVE (World of Advance Virtual Experience)’**.
- In collaboration with **National E-Governance Services Ltd**, this service has been introduced.
- Under this service, an **electronic bank guarantee (e-BG) service** has been introduced to ease traditional paper-based processes.

### 1.15.9 EXPORT PREPARED INDEX (EPI)

The **third edition of the Export Preparedness Index (EPI) for States/UTs of India for the year 2022** was recently announced by **NITI Aayog**.

#### Facts about the Export Preparedness Index

- **EPI** is a comprehensive tool that measures the export preparedness of the States and UTs in India.
- Understanding the factors that affect export performance is necessary since exports are essential for simulating the economic progress and development of a nation.
- To determine the strengths and weaknesses of States and UTs across export-related characteristics, the index conducts a thorough examination of each.
- **Pillars**
  - **Policy:** A comprehensive trade policy offering strategic import and export direction.
  - **Business Ecosystem:** An effective business ecosystem helps states in attracting investments and building up the necessary infrastructure to support start-ups by people.





- **Export Ecosystem:** Analyse the export-specific business environment.
- **Export Performance:** It evaluates the state and UT export footprints and is the sole output-based parameter.
- **Ten Sub Pillars:** Export Promotion Policy; Business Environment; Infrastructure; Transport Connectivity; Export Infrastructure; Institutional Framework; Trade Support; R&D Infrastructure; Export Diversification; and Growth Orientation.
- **Features:** The Export Promotion Index (EPI) is a data-driven initiative to identify the key regions essential for export promotion at the sub-national level (states and union territories).

### Key Highlights of the EPI 2022

- **Performance of States**
  - **Top Performers**
    - ✓ In EPI 2022, Tamil Nadu came in first place, followed by Maharashtra and Karnataka.
    - ✓ Gujarat, which was ranked first in EPI 2021 (which was published in 2022), has dropped to fourth place in EPI 2022.
    - ✓ The success of Tamil Nadu in terms of export performance measures, such as the number of exports, the concentration of exports, and the size of the worldwide market, led to its top ranking.
    - ✓ In industries including automotive, leather, textiles, and electrical products, it has consistently been a leader.
  - **Hilly/Himalayan States**
    - ✓ The Himalayan/hilly state with the highest score in the EPI 2022 was Uttarakhand. After that came Himachal Pradesh, Manipur, Tripura, Sikkim, Nagaland, Meghalaya, Arunachal Pradesh, and Mizoram.
  - **Landlocked Regions**
    - ✓ Among the landlocked areas, Haryana topped the list, indicating its preparedness for exports and followed by Telangana, Uttar Pradesh, Punjab, Madhya Pradesh, and Rajasthan.
  - **Union Territories/Small States**
    - ✓ Goa came out on top in the EPI 2022 among union territories and small states. The second, third, fourth, and fifth places, respectively, were taken by Jammu & Kashmir, Delhi, the Andaman and Nicobar Islands, and Ladakh.

### 1.15.10 PRODUCTION LINKED INCENTIVE (PLI) SCHEME 2.0 FOR IT HARDWARE

Recently, the Union Cabinet has approved the introduction of the Production-Linked Incentive (PLI) Scheme 2.0 for IT Hardware to enhance the manufacturing capabilities of India and enhance Exports – Aatm-nirbhar Bharat.

**Production-Linked Incentive Scheme 2.0:** It was launched in 2020 with the aim to make the domestic manufacturing sector competitive at the global level and creating global champions in manufacturing.

- It is available in **14 manufacturing sectors** like food products, textile products, medical devices, pharmaceuticals etc.
- In 2021, the PLI scheme for IT hardware was first notified.
- PLI 2.0 for IT hardware aims at broadening and deepening the IT hardware manufacturing ecosystem in the country.
- Target Segment includes laptops, Tablets, All-in-One PCs, Servers, and Ultra Small Form Factor manufactured in India.





- Semiconductor design, IC manufacturing, and packaging are included as incentivized components of PLI 2.0.

### Key Features

- Its objective is to **encourage domestic production** of IT hardware products like laptops, tablets, all-in-one PCs, servers and ultra-small form factor (USFF) devices, by providing financial incentives to eligible companies on the basis of their incremental sales and investment performance.
- Its scope covers the **manufacturing of key components and sub-assemblies like semiconductor design, IC manufacturing, and packaging**, that are necessary for developing a robust and competitive IT hardware ecosystem in India.
- For a period of six (6) years, it will offer an average incentive of **approximately 5% on net incremental sales** (over the base year) of goods manufactured in India and covered under the target segment.
- To provide flexibility and options for applicants and to encourage the localization of the value chain within the country, it has been designed.
- Through this scheme, it is expected that it will generate employment opportunities, boost innovation, enhance exports, and contribute to the overall growth of the IT sector in India.

### 1.15.11 BHOOMI SAMMAN AWARD 2023

Recently, the Secretaries of 9 states have received Bhoomi Samman awards for their achievements in the implementation of the Digital India Land Records Modernization Programme (DILRMP).

#### Digital India Land Records Modernization Programme (DILRMP)

- It's an initiative undertaken by the Government of India **to digitize land records across the country**.
- **Before 2016**, the DILRMP was known by the name '**National Land Record Modernization Programme**'.
- It was **launched in 2008** and is implemented by the **Department of Land Resources** under the **Ministry of Rural Development, Government of India**.
- The primary objective of the programme is to **modernize land administration processes, reduce manual intervention, enhance transparency and provide easy access to land records** for citizens.
- It involved collaboration between the central government, state governments, and various other agencies to achieve its objectives.
- As per the Management Information System of Digital India land Records Modernisation Programme (DILRMP), **out of 6,56,793 villages, maps have been Geo-referenced in almost 2,31,026 villages (35%) and 1,17,38,272 maps have been digitised as on May 2023**.

### 1.15.12 STANDING COMMITTEE ON STATISTICS (SCOS)

The **Ministry of Statistics & Programme Implementation (MoSPI)** has formulated a Draft "National Policy on Official Statistics (NPOS)".

#### Key Points

- This policy lays forth a roadmap for modernised data collecting and prompt information dissemination.
- It supports the United Nations Fundamental Principles of Official Statistics (UNFPOS), which India adopted in 2016.
- UNFPOS requests a high degree of independence for national statistical systems while outlining 10 principles for official statistics.
- **Need for the revised policy:**



- Inadequate timely and accurate social and economic statistics.
- Lack of a common standard for official statistics.
- to improve digital capabilities for delivering government statistics using Big Data, Artificial Intelligence, etc.
- **Key highlights of the draft:**
  - MoSPI is leading the development of an integrated data system. enabling interoperability across various data-producing systems at the national, state, and UT levels.
  - For this, an **online web resource** would be developed.
  - **Using Administrative Statistics Most Effectively:** to cut back on government spending, eliminate survey errors, etc.
  - **Focusing on core official statistics:** Because they are so important to the economy, core statistics must be reliable and up to date.
  - **Eight domains**, including National Income, Production & Services sectors, Budgetary Transactions, etc., each included a collection of essential statistics.

### 1.15.13 INDUSTRIAL LICENSE

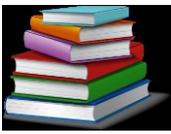
- The Department for Promotion of Industry and Internal Trade (DPIIT) which comes under the Ministry of Commerce & Industry has **extended the validity period of industrial licenses** from **three years to fifteen years** for promoting ease of doing business.
  - The concerned administrative ministry can further **grant a three-year extension** in case the license holder has not commenced commercial production **within 15 years** of the issue of the license.
  - Any **industrial license** where commercial production has not started **within the extended period (15+3 years)** shall be treated as automatically lapsed.
  - In India, industrial licenses are issued under and are regulated by the Industries (Development and Regulation) Act (IDRA), 1951.

### 3.15.14 ELECTRIC FREIGHT VEHICLE

Recently, top leaders of prominent manufacturing companies and logistic service providers came together to forge an alliance for demanding on an increasing basis electric freight vehicles by 2030. This announcement was made during the NITI Aayog's **e-FAST India** at the **14<sup>th</sup> Clean Energy Ministerial (CEM)**.

#### e-FAST INDIA

- It was launched in **September 2022**. Its full form is **Electric Freight Accelerator for Sustainable Transport – India**.
- Its **objective** is to speed up the transition towards cleaner and greener freight transportation. Freight transport is the movement of goods from one place to another.
- It is led by **NITI Aayog** and supported by 12 knowledge partners.
- **Features**
  - It will assist in **strengthening partnerships** in addition to identifying and supporting innovative freight solutions.
  - Its motto is to **encourage freight electrification**, supported by ground-based demonstration pilots and research that is supported by evidence.
  - It will **assist with scalable trials and provide information for policymakers** aiming to hasten India's freight electrification.



### Significance of Freight Electrification

- As far as Road freight is concerned, it accounts for **about 71%** of the overall freight movement.
- It contributes to **almost 14% of India's total greenhouse gas (GHG) emissions**.
- It is also heavily reliant on fossil fuel imports.

### Challenges to Freight Electrification

- Fractured nature of the industry because it is primarily owned by individuals and small fleet owner-operators.
- There is an **absence of collected data** on freight movement.
- Other problems such as **technological hurdles**. For instance, the weight of the battery needed to support large payloads and long-distance travel, topography, climate,
- **Temperature** also affects the performance of electric vehicles

### Clean Energy Ministerial (CEM)

- This initiative was launched at the United Nations Framework Convention on Climate Change Conference of Parties in Copenhagen in **2009**.
- **Member Countries: 29 Countries**. India is also a member.
- **Goal:** It is a **global forum** in order to promote policies and programs for the development of clean energy technology. It also aims to share experiences & best practices encouraging the transition to a global clean energy economy
- **Focus Areas:** It lays emphasis on three global climate and energy policy goals:
  - Improve energy efficiency worldwide
  - Enhance clean energy supply
  - Expand clean energy access



## 2.

## POLITY &amp; GOVERNANCE

## 2.1 UNIFORM CIVIL CODE (UCC)

## Latest Context

Recently, the 22nd Law Commission of India (LCI) sought suggestions from various stakeholders on Uniform Civil Code (UCC).

## Background

- Generally, laws are applicable to everyone equally but in some personal issues (like marriages, divorces) different religions have different principles. Therefore, in India the personal laws were not framed equally for everyone, it means in India different religions have different personal laws.
- Indian Constitution mentioned in **Article 44** that state should make efforts that in future these personal laws should also be uniformly applicable to everyone. These uniform personal laws are called UCC.
- In last 70 years, government & many social organizations tried to bring UCC but in India **different religions had so much of diversity** that every time when government tried to bring UCC, some of religious communities opposed UCC because they want to protect their unique identity.
- It means, there have been always **2 groups- one, supporting UCC equally for all communities & other opposing UCC** which want to protect uniqueness of different religions.

## Arguments in favour of UCC

- Common Code would **enable uniform civil principles**, which would help in **establishing uniformity** across the entire nation.
- If all the people belonging to different castes, religions, communities etc. starts following the same laws, that **would bring peace and reduce riots**.
- It would also **help in ending discrimination** on grounds of sex, religion, caste etc, and **strengthen the secular fabric** of the nation.
- UCC could also ensure **Women the Right to a dignified life and control over their life as well as body**.
- The process of applying uniform code **would help in eliminating many evils, injustices and irrational traditions across the communities**.
- **The huge population base of India would be better administered** after the application of UCC.

## Arguments against UCC

- **UCC might affect the diversity and multiculturalism of India** as the unified law can possibly wash away these unique characteristics of the nation.
- Uniform civil code is getting **rejection from religious bodies** also, on the **ground of its possible interference in religious affairs**, which is **violative of the fundamental right** under **Article 25** of the constitution. [Article 25 of the constitution grants the fundamental right to practice and propagation of religion.]

### Uniform Civil Code

A uniform civil code means that all citizens will be subject to the same set of personal laws.

In Part IV, Article 44 of the Directive Principles in the Constitution says the "State shall endeavour to provide for its citizens a uniform civil code (UCC) throughout the territory of India".

#### List of controversial cases

- ✓ The State of Bombay vs Narasu Appa Mali AIR 1952 Bom 84
- ✓ Lily Thomas, Etc. Etc. vs Union of India & Ors. 2000 (2) ALD Cri 686
- ✓ S. R. Bommai vs Union of India 1994 SCC (3) 1531
- ✓ Sarla Mudgal vs Union of India 1995 AIR 1985 573
- ✓ Mohd. Ahmed Khan vs Shah Bano Begum AIR 1985 SC 945
- ✓ Ahmedabad Women Action Group... vs Union of India AIR 1997, 3 SCC 573

#### Need for Uniform Civil Code

- ❖ Promotes secularism
- ❖ Irrespective of religion, must be treated same
- ❖ Providing Gender justice
- ❖ Laws are simplified

#### Drawbacks for Uniform Civil Code

- ❖ Communal outrage
- ❖ States interference in personal matters
- ❖ Complications in constitution



### Way Forward

The government can bring the personal aspects such as marriage, adoption, succession and maintenance into UCC in stages. To resolve the sensitive issues like UCC, common consensus of all the stakeholders is needed.

## 2.2 JUDICIAL PENDENCY

### Latest context

Recently, the **Ministry of Law and Justice** informed the Rajya Sabha that over **5.02 crore cases are pending** in various courts in India.

### Trend of pendency of cases

Court	Pendency in 2019	Pendency in 2020	Pendency in 2021	Pendency in 2022
<b>Supreme Court</b>	59,535 (as on December 2019)	64,426 (as on December 2020)	69,855 (as on December 2021)	70,154 (as on March 2022)
<b>High Courts</b>	46,84,354 (as on December 2019)	56,42,567 (as on December 2020)	56,49,068 (as on December 2021)	58,90,726 (as on March 2022)
<b>District &amp; Subordinate Courts</b>	3,22,96,224 (as on December 2019)	3,66,39,436 (as on December 2020)	4,05,79,062 (as on December 2020)	4,09,85,490 (as on March 2022)

### Reasons for the High Pendency of Cases

- **Government as the largest litigant:** 46 percent of the total pending cases in the court system pertain to the government. Hence, the government has been cognisant of its role in contributing to litigation simply by being the biggest litigator in the courts
- **Low ratio of judges to population:** India has about 21 judges for every million people, as the government recently informed the Rajya Sabha. China, by contrast, has about 159 judges for every million people.
- **Delay in appointment of Judges and Judicial officers:** Delay in filling the vacancies of judicial officers and judges contribute in pendency of cases.
- **Rising trend of Litigation:** More people and organizations are approaching courts whereas this trend is not reflected in the number of judges available to hear these cases. An analysis of data on the **National Judicial Data Grid**, a database of the Department of Justice, shows that courts saw an increase of over 27% in pendency between December 2019 and April 2022.
- **Frequent Adjournments:** Indecisiveness of cases due to clarity and doubtful evidence, leading to rising pendency of cases.
- **Lack of infrastructure:** Court complexes lack adequate funds, internet, lackadaisical working style of staff, and courtrooms to occupy judges. It affects the normal functioning of the courts.
- **Delayed Investigation:** Delay in processing both civil and criminal cases due to non-availability of counsel, misaligned incentives, the complexity of facts involved, nature of evidence, etc. leads to rising judicial pendency.



### Impact of High Pendency

- **Delayed Justice:** One of the most prominent impacts of high pendency is the delay in delivering justice. Lengthy legal proceedings can result in individuals and businesses waiting for years to get their cases resolved. This delay undermines the principle of timely justice and can lead to frustration and loss of faith in the legal system.
- **Economic Implications:** Prolonged legal proceedings can have serious economic consequences. Businesses may suffer financial losses due to unresolved disputes, and individuals may face financial strain from legal fees and the inability to access their rightful assets or compensation.
- **Backlog Accumulation:** High pendency contributes to the accumulation of case backlogs, which in turn further exacerbates the problem. Overworked judges and court staff struggle to keep up with the influx of cases, making it difficult to make meaningful progress.
- **Deterrent to Investment:** A sluggish judicial system can discourage both domestic and foreign investments. Businesses are reluctant to invest in an environment where legal disputes take years to resolve, as this uncertainty adds risk to their operations.
- **Social Discontent:** The perception of an inefficient legal system can lead to social discontent and unrest. People may seek alternative methods to resolve disputes, including informal means, if they lose faith in the formal judicial process.
- **Judicial Morale:** High pendency can lead to burnout and reduced morale among judges and legal professionals. Overworked judges may struggle to give each case the attention it deserves, potentially compromising the quality of justice delivered.

### Way Forward

- **Judge-to-population ratio:** Needs to improve the **judge-to-population ratio** to reduce the workload of judges. Presently there is 1 judge over 1 million population.
- **Promoting Alternative Dispute Resolution (ADR) mechanisms:** Alternative Resolution mechanism (like Lok Adalat) should be promoted.
- **Strengthen digital and physical infrastructure:** The government should provide adequate funds for developing and upgrading the digital and physical infrastructure like e-courts etc.
- **Increase the productivity of the court system:** The Centre had suggested measures like increasing the number of working days of courts, establishment of fast-track courts, and Indian Courts and Tribunal Services (ICTs) to increase the productivity of the court system.
- **Setting a Deadline:** Repeated adjournments lead to the pendency of cases. Thus, having a system of time-bound disposal can reduce the pendency of cases.
- **Changes in criminal justice and procedural laws:** Simplifying the judicial procedures and proper training to police personnel to speed up the trials.

## 2.3 MULTI-STATE COOPERATIVE SOCIETIES (AMENDMENT) BILL 2023

### Latest context

Recently, the **Multi-State Cooperative Societies (Amendment) Bill 2023** was introduced in the Parliament. It seeks to amend the **Multi-State Co-operative Societies Act 2002**.

### Background

- Co-operatives are **voluntary, democratic, and autonomous organizations controlled by their members**, who actively participate in their policies and decision-making.
- There are instances of **village communities** collectively creating assets like village tanks and forests even before formal cooperative societies were formed in India.



- The **first five-year plan (1951-56)**, supported the adoption of co-operatives to cover various aspects of community development.
- **Presently, there are about 8.6 lakh cooperatives** in the country mostly operating in primary sectors.

#### About Multi-State Co-Operative Societies

- The Multi-state co-operative societies operates in more than one state. They operate in various sectors including agriculture, textile, poultry, and marketing, etc.
- Best example of a multi-state co-operative society is **AMUL**.

#### Constitutional provisions with respect to Cooperatives

**Article 43B** (DPSP) of the Indian Constitution inserted by the 97th Amendment (2011), states shall put effort to promote

- Voluntary formation
- Autonomous functioning
- Democratic control
- Professional management

**Article 19(1)(c)** guarantees freedom to form association or union or cooperative society.

#### Salient aspects of Multi-State Cooperative Societies (Amendment) Bill 2023

- **Cooperative Election Authority**
  - It establishes the Co-operative Election Authority **to conduct and supervise elections** to the boards of multi-state co-operative societies.
  - The authority will consist of a chairperson, vice-chairperson, and up to three members **appointed by the central government** on the recommendations of a selection committee.
  - It will have the same power in line with the election commission of India.
  - It will ensure free and fair elections.
- **Co-operative Ombudsman**
  - The central government can appoint one or more Co-operative Ombudsman with territorial jurisdiction.
  - It will expect to **redress the grievances of members** with respect to function and operational irregularities.
  - The Ombudsman shall complete the process of inquiry and adjudication **within 3 months from the receipt of the complaint**.
  - **Appeals** against the directions of the Ombudsman may be filed with the Central Registrar within a month.
- **Inclusive Representation:** The bill suggests two **women members** and one member from the **scheduled caste** must be in the board of the cooperative. Hence, more democratic function and inclusivity in decision-making will come.
- **Strengthen the governance of credit society**
  - Central register will make norms for effective governance.
  - Transparent selection of auditor.
  - Increased monetary penalty to multistate cooperatives for the violation of the provisions
- **Merger of cooperative societies**
  - **The Act provides for the merger and split** of multi-state co-operative societies by passing a resolution at a general meeting with at least **two-thirds of the members present and voting**.
  - The Bill also allows state co-operative societies to **merge into an existing multi-state co-operative society**, subject to the respective state laws.
- **Revival of sick co-operative societies**
  - The Bill seeks to establish the **Co-operative Rehabilitation, Reconstruction and Development Fund** for revival of sick multi-state co-operative societies.
  - Multi-state co-operative societies that are in profit for the last 3 financial years are compulsorily finance the Fund.



### Key provisions of the Multi-State Cooperative Societies Act, 2002

- **Application:** The Act applies to all multi-state cooperative societies, which are operating in multiple States.
- **Registration:** All MSCS shall be registered under the Act through a Central Registrar which is appointed by the Central Government.
- **Internal Governance:** Every multi-state cooperative society is allowed to make its bye-laws consistent with the provisions of this act for its internal governance.
- **Reorganization:** Central Registrar to prepare a reorganisation (merger) of a cooperative bank.

### Need of the Bill

- Introducing a system of regular elections to ensure democratic function.
- **To improve the ease of process and business-** simplified and transparent registration process through digital and electronic means.
- To fulfil the constitutional mandate - vibrant and professional cooperative to fulfill the ideals of economic democracy (active participation in economic activities).
- **Grievance redressal** – Addressing the individual issues of members to build trust and professionalism.
- Revival of sick multi-state co-operative society through a dedicated fund.

### Significance of the Bill

- **It is expected to strengthen cooperatives** by making them transparent and introducing a system of regular free and fair elections.
- Address concerns with the **functioning and governance** of cooperative societies.
- Online registration and timely clearance will lead to **ease of doing business**.
- Participation of vulnerable sections of society (women and scheduled caste) will make in decision-making will boost the **democratic functioning of a cooperative society**.
- Any member of society can reach the ombudsman in case of failure to get credible information which further boosts the confidence of members.

### Concern

- **Burden on well-functioning societies:** Sick multi-state co-operative societies will be revived by a Fund that will be financed through contributions by profitable multi-state co-operative societies.
- **Against the cooperative principles of autonomy:** Giving the government the power to restrict recovery of its shareholding in multi-state co-operative societies against the principles of

### Conclusion

Cooperatives form the backbone of the Indian rural economy, provisions of the Bill can drive a cooperative revolution that facilitates ease of business, and bring transparency and electoral reforms. Strengthening the cooperatives by expanding their sphere of work into other areas like LPG and petrol pumps is the need of the hour to achieve India's target of becoming a 5-trillion-dollar economy.

## 2.4 CINEMATOGRAPH (AMENDMENT) BILL, 2023

### Latest Context

Recently, the **Cinematograph (Amendment) Bill, 2023** was introduced in the Parliament. It seeks to amend provisions of the **Cinematograph Act 1952**.



## Objective of the Cinematograph (Amendment) Bill 2023

- To ensure that films are produced in accordance with the values of **Indian society largely within the limit of Article 19(1)(a) and 19(2) of the Indian Constitution**, which ensure freedom of expression.
- To ensure the holistic growth of Indian cinema and **safeguard the rights of every stakeholder** in the film industry from spot boys to technicians to filmmakers.
- To expand the scope of the law from censorship to **uphold copyright principles** and preserve artistic value.

### Constitutional Provisions

**Article 19(1) (a)** All citizens shall have the right to **freedom of speech and expression**. This means that all citizens have the right to express their views and opinions freely through word of mouth, speech through writings, pictures, movies, etc.

**Article 19(2)- Reasonable restrictions** as outlined in this article in the interests of the security and **sovereignty** of India, **friendly relations** with Foreign States, public order, **decency or morality** in relation to **contempt of court**, defamation, or **incitement** to an offense.

## Salient features of the Cinematograph (Amendment) Bill 2023

- Multiple age-based Certification: **The Bill introduces three age ratings for films requiring adult supervision. Such films currently get a U/A rating, but this has been split into U/A 7+, U/A 13+, and U/A 16+.**
- Expansion of Copyright Coverage: **Earlier, Cinematograph Act of 1952 primarily focused on censorship but under the new Cinematography Bill 2023, now includes copyright protection.**
- Separate certificate for television: **Till now, films rated for adults have largely been prohibited on television. The bill formalizes the re-applying process with the film board, after establishing suitability like removal of certain obscene scenes in films.**
- Curbing film Piracy: **The bill aims to restrict piracy of films by imposing heavy penalties on individuals involved in unauthorized audio-visual recording and distribution of copyrighted content.**
- Unauthorised Exhibition: **Public exhibition of an infringing copy of the film for profit (a) at a location not licensed to exhibit films or (b) in a manner that disregards the copyright law.**
- Punishment: **It may include imprisonment from 3 months to 3 years and /or - Penalty from Rs. 3 lakhs to 5% of the audited gross production cost.**
- **Certificates:** Under the cinematography act 1952, the certificate issued by the Board has to be renewed every 10 years. The recent amendment bill seeks to erase these provisions.

## About the Cinematograph Act, 1952

- **Film Board:** Section 3 of the Act provides for the establishment of **Central Board of Film Certification**. It consists of a Chairman and twelve to twenty-five members appointed by the Central Government.
- **Certification of films under 4 different categories**
  - **Universal (U):** 'U' certificate is granted to films that are suitable for all age categories and the film can be watched by a family, including children with no age bar.
  - **Parental Guidance (UA):** This certificate is granted if, in the observation of the Board, the film has material that an advisory of the parent becomes necessary, so as to decide whether a child below the 12 should be allowed to watch the film or not.
  - **Restricted to Adults only (A):** Only individuals above the age of 18 are allowed to watch this category of films as the content of this film may affect the person below the age 18 years.
  - **Restricted to special class of persons (S):** If the theme, nature or content of the film is suitable only for a specific class of persons or profession, then board provides this certificate.

## Conclusion

The law has a high potential to address the current challenge of film making, which are highlighted by the judiciary and the civil society but its implementation will remain a challenge.



## 2.5 SUPREME COURT ON EXTENSION OF TENURE OF ED CHIEF

### Latest Context

Recently, two tenure extensions granted to the Director of the Enforcement Directorate (ED), beyond the fixed cut-off date has declared by the Supreme Court of India as "not valid in law." Moreover, the court permitted the director to continue in the **post until July 31**, which cut short his overall tenure.

### Background

- In November 2018, for a period of two years, the current director was appointed. His tenure was further **increased to three years** which was subsequently challenged through a petition in November 2020.
- The Top Court **dismissed the petition** on September 8, 2021, but issued a **specific mandamus** prohibiting further extensions.
- Later, in order to grant **itself powers for three tenure** extensions, the central government amended the Central Vigilance Commission Act, 2003, and the Delhi Special Police Establishment Act, 1946
- The amendments were challenged by arguing that they contradicted a previous directive of the Supreme Court that advocated for **fixed tenures for top officials** like the CBI chief (Vineet Narayan Case).
- As per the top court the amendments were constitutional but stated that the specific extensions given to the director of ED is invalid because they violated the earlier mandamus

**Apex court affirms 2021 amendments**

**WHAT THE TOP COURT ORDERED**  
SC quashed tenure extension given to ED chief Sanjay Kumar Mishra in 2021 and 2022.

**WHY?** It held that the extension was 'illegal' as it came after SC's September 2021 order which had specifically issued a mandamus that no further extension be granted to him as the apex court's writ cannot be nullified using a law.

**WHAT NOW:** Mishra can continue in office till July 31 to initiate a "smooth transition"

**CENTRE'S AMENDMENTS**  
Govt had said that amendments to the Central Vigilance Commission Act and the Delhi Special Police Establishment Act empowered it to give ED and CBI chiefs a max total tenure of 5 years.

**WHAT SC SAID:** While SC found no flaws with the amendments (meaning Centre's power to extend tenure of ED director or CBI chief is valid), it noted they can not be used to defend Mishra's extension in this instance.

**Note:** Under Section 25 of the CVC Act, 2003, the ED Director is appointed. On the recommendation of a selection committee, the Central Government appoints a Director of ED. The committee consists

- CVC Chairperson,
- Vigilance Commissioners,
- Secretaries to the Ministry of Home Affairs, the Ministry of Personnel, and the Ministry of Finance in the Central Government.

### Mandamus

- It is a writ or order issued by a court to a public body, tribunal, corporation or lower court in order to direct them to **perform a specific legal duty** that they are obligated to carry out. It is originated from the Latin word meaning "we command".
- In order to enforce the fundamental rights of citizens when they are violated by the state or its agencies In India, it is used by the Courts. Moreover, it is also used to prevent the abuse of power or discretion by the authorities.
- Under Article 32 and Article 226 of the Constitution, it is only issued by the Supreme Court and the High Courts in India respectively

### Enforcement Directorate (ED)

It is a multi-disciplinary organization mandated with the investigation of offences of money laundering and violations of foreign exchange laws. It functions under the jurisdiction of the Department of Revenue, Ministry of Finance, Government of India.

### Background

- In 1956, in the Department of Economic Affairs, an 'Enforcement Unit' was formed for handling Exchange Control Laws violations.
- In 1957, this Unit was **renamed 'Enforcement Directorate'**.



- In 1960, the **administrative control of the Directorate** was **transferred** from the Department of Economic Affairs to the **Department of Revenue**, Ministry of Finance, Government of India.

### Enforcement Jurisdiction

ED enforces the following laws

- Foreign Exchange Management Act, 1999 (FEMA)
- Prevention of Money Laundering Act, 2002 (PMLA)
- The Fugitive Economic Offenders Act, 2018 (FEOA): This law was enacted to deter economic offenders from evading the process of Indian law by remaining outside the jurisdiction of Indian courts.

### Structure:

It has its headquarters in New Delhi, and is headed by the Director of Enforcement. There are **five regional offices** in Mumbai, Chennai, Chandigarh, Kolkata and Delhi headed by Special Directors of Enforcement.

## 2.6 PRADHAN MANTRI SHRAM YOGI MAAN DHAAN (PM-SYM)

### Latest Context

Recently 21% of unorganised workers have exited from the PM-SYM was caused by rising inflation and a high cost of living.

### Facts about Pradhan Mantri Shram Yogi Maan Dhaan (PM-SYM)

- **Objectives:** To ensure old age protection for Unorganized Workers.
- **Eligibility:**
  - the unorganised workers (home-based employees, street sellers, mid-day meal employees, head loaders, landless labourers, and others in vocations like these) with monthly incomes of Rs 15,000 or less.
  - The subscriber must fall between the 18–40 age range for admittance.
  - The subscriber will need to have an Aadhaar number, a mobile phone, and a savings account.
  - They shouldn't be covered by the Employees' Provident Fund Organisation (EPFO), Employees' State Insurance Corporation (ESIC), or the New Pension Scheme (NPS).
  - He or she shouldn't pay income taxes.
- **Salient Features:**
  - Each subscriber would get a **minimum guaranteed pension of Rs. 3000 per month** after they reach the **age of 60**.
  - **Family Pension:** If the pension subscriber passes away while the beneficiary is receiving the pension, the beneficiary's spouse is entitled to receive 50% of the income as a family pension. Only the spouse is eligible for a family pension.
  - If a beneficiary made regular contributions and died for whatever reason (before the age of 60), his or her spouse would be eligible to join the plan and continue it going forward by making further regular contributions, or to withdraw from the plan under its exit and withdrawal rules.
  - **Contribution:** The subscriber's contributions must be made using the 'auto-debit' feature from his or her savings bank account or Jan-Dhan account.
  - The **PM-SYM operates on a 50:50 basis**, with the recipient making the required age-specific contribution and the Central Government matching it.



## 2.7 SHORT NEWS

### 2.7.1 RIGHT TO SILENCE

- Recently, the **Supreme Court said that all accused have a right to maintain silence, and investigators cannot force them to speak up or to admit guilt.**
- In India, **Right to silence comes from Article 20(3)**, which states that no one can be compelled to be a witness against himself.
- **Protection is limited only to criminal proceedings.**
- This right is not available to a person being interrogated under **Customs Act, 1962 or Foreign Exchange Management Act, 1999**, since the person is not “accused of an offence”.
- In **Nandini Satpathy v. P.L. Dani case**, SC stated that compelling a person to answer a question within the limits of the police station may result in a violation of Article 20(3).

### 2.7.2 SOPs TO CHECK USE OF FREEBIES

- Recently, the **Central Board of Indirect Taxes and Customs (CBIC) issues Standard Operating Procedures (SOPs) to restrict the usage of freebies, liquor to attract voters.**
- SOPs aims to prevent illegal cash, illicit liquor, drugs/narcotics, freebies and smuggled goods during assembly and general elections.
- Earlier, Election Commission has also expressed concerns that smuggled goods and other illicit articles may be used to attract voters.

#### Key highlights of SOPs are

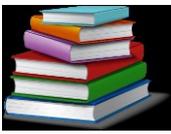
- GST and Customs officials to **monitor the distribution of coupon-based or free fuel or cash** for attracting the prospective voters.
- Setting up **flying squads and static surveillance teams for vehicles check** and verification of warehouses.
- Movement of items like saris, party flags etc., associated with candidates or political parties without an e-way bill will be confiscated.

### 2.7.3 DEMARCATION OF ROLES OF MCA AND MEITY

- Recently, the central government **demarcated the role of both ministries to remove the possibility of duplicity of regulations on digital markets.**
- India’s digital market is expected to touch \$ 1 trillion by 2025-26.
- The **Ministry of Corporate Affairs (MCA)** will be the nodal Ministry to look into **all the competition issues in the digital market.**
- The **Ministry of Information Technology (MeitY)** will look into sector-specific issues.
- The government is working towards introducing legislation, including **Digital India Act and Digital Competition Law**, for regulating various areas of the digital market in India.

### 2.7.4 DARK PATTERNS

- **Recently, the Advertising Standards Council of India (ASCI) has issued guidelines for "dark patterns".**
- It is to be implemented from **1st September 2023.**
- Basically, a **dark pattern is a user interface designed to trick or manipulate users into making choices against their interests.** E.g. buying a more expensive product or paying more than what was initially disclosed etc.

**These guidelines address 4 Online Advertising Techniques**

- **Drip Pricing:** The elements of the costs are not revealed up front, and the total price is only revealed at the end of the buying process. The new guidelines suggest that the price shall include all non-optional taxes, duties, fees etc, which applies to all or most buyers.
- **False Urgency:** A phenomenon when companies state or imply that quantities of a product or service are more limited than they actually are. Now, the advertisers will be required to demonstrate the stock position at the time of the appearance of the limited quantity message.
- **Distinguished Ads:** Advertisements selling organic products must disclose that it.
- **Bait and Switch:** Advertising one product or service but delivering another, often of lower quality.

**About Advertising Standards Council of India (ASCI)**

- ASCI is a **self-regulatory body that oversees and regulates advertising in India.**
- It was **established in 1985** as a non-profit organization with the primary goal of ensuring that advertisements are truthful, ethical, and socially responsible.
- **ASCI's main objective is to maintain high standards in advertising content** and to protect the interests of consumers, the business community, and the media.



## 3.

## INTERNATIONAL RELATIONS

## 3.1 NEIGHBOURHOOD FIRST POLICY

**Latest Context**

India's Neighbourhood First Policy was the subject of the 22nd report of the Committee on External Affairs, which was submitted to Parliament.

**India's Neighbourhood Policy**

- Neighbourhood First Policy of India, a key element of India's foreign policy, focuses on peaceful relations and **collaborative synergetic co-development with its South Asian neighbours** of the Indian subcontinent and covers a wide range of topics, including economics, technology, research, and education, connectivity (digital, surface and air transport, energy grid connectivity, logistic chains, etc.), space programme, defence security, environment, and the challenge of climate change.
- The goal of the policy is to establish **friendly and productive ties with its South Asian neighbours** in a variety of fields, including the economy, science, and technology, as well as research and education.
- The Policy establishes strong neighbourhood ties with India's neighbours through a **consultative, non-reciprocal strategy** that emphasises on outcomes.
- For improved involvement, it draws on the values of **Samman** (respect), **Samvad** (conversation), **Shanti** (peace), **Samridhhi** (prosperity), and **Sanskriti** (culture).
- This policy expands existing channels for **regional collaboration like SAARC, SASEC, BBIN, and BIMSTEC** while also opening up new ones.
- It supports **India's Look East and Look West policies**, which are both centred on the Middle East and Southeast Asia, respectively.
- Two of the most crucial pillars to propel India's Neighbourhood First policy are **vaccine diplomacy and development aid** based on mutual respect and equal participation.
- The policy is required to **handle India's external threats better**, achieve the necessary support in multilateral forums like the UN, and curtail Chinese influence in the region and other issues.

**Challenges pertaining to India's Neighbourhood**

- **Pakistan** continues to be India's **top security and diplomatic issue**. The issue for India is to manage ties with a state that openly employs terrorism as a tool of state policy and has several, splintered power centres.
- **Afghanistan** continues to be a **challenge**. India is **unlikely to be immune to the Islamist terrorism** that would result from internal fragility in Afghanistan and Pakistan's state-sponsored external menace. Indian diplomacy participates actively in global efforts to stabilise the nation.
- **China is a significant obstacle** that is encroaching on **India's sovereignty**. Regarding China's policy towards Pakistan, notably the development of the Gwadar port, there is mistrust in the relationship. Additionally, POK is part of the China-Pakistan economic corridor.
- **Anti-Indian sentiments**: Because of the perception of India as a **big brother nation** and the region's economic dependence on India, there are growing anti-Indian feelings throughout the region. For instance, numerous nations that utilise the Indian rupee as a parallel currency inside their borders, such as Nepal, Bangladesh, Bhutan, Sri Lanka, and Myanmar, were harmed by the recent move of demonetization.

**Committee Recommendations for a better neighbourhood policy**

- **More Integrated Check Posts (ICPs), Land Customs Stations (LCS), and border haats** will be constructed as part of improving the border infrastructure.
- Increasing **people-people connect** by encouraging tourism and sharing the cultural, historical bonds between people in the neighbourhood



- Keeping lines of **communication open diplomatically** with all neighbours to address any problems that may arise.
- Continue with the existing actions, such as providing **humanitarian aid**, carrying out **development projects**, opening lines of credit, etc.

### Conclusion

Since the neighbouring nations are linked by shared geography, history, culture, and languages, as well as by shared political ideologies, it is crucial to try to keep good relations with them in order to support India's development and prosperity.

## 3.2 INDIA-SRI LANKA

### Latest Context

- A statement titled "**Promoting Connectivity, Catalyzing Prosperity: India-Sri Lanka Economic Partnership Vision**" was recently released by India and Sri Lanka.
- A number of Memorandums of Understanding (MoUs) were also signed, including ones that operationalized **UPI digital payments** in Sri Lanka and designated the Indian Rupee as the currency for commerce, renewable energy, and economic development projects in Trincomalee.
- Additionally, both nations have agreed to launch passenger ferry services between **Kankasanturai in Sri Lanka and Nagapattinam in Tamil Nadu**.

### India-Sri Lanka Economic and Connectivity Ties

- India-Sri Lanka signed **Free Trade Agreement (ISFTA) in 1998**, which went into effect in 2000.
  - In 2021, **India was Sri Lanka's top trading partner**, accounting for 5.45 billion dollars in total bilateral trade in goods.
  - India is one of the countries that invest the most foreign direct money in Sri Lanka.
- To **reestablish air connectivity** between the two nations, agreements like Open Sky and Air Bubble arrangements are in place.

### Other Areas of Convergence between India-Sri Lanka

- **Trade:** The southern region of Sri Lanka serves as the transit point for half of all containerized shipping worldwide and two-thirds of all oil.
- **Geopolitical interest:** In India's "Neighborhood First" policy and **SAGAR** (Security and Growth for All in the Region) vision, Sri Lanka is a crucial partner.
- Sri Lanka's location near the **confluence of the Arabian Sea and the Bay of Bengal** places it close to the area where the Indian Navy switches its ships. Both the naval exercise "**Slinex**" and the military exercise "**Mitra Shakti**" are regularly held.
- **Buddhism is the common thread** connecting the long-standing cultural ties between the two nations. There is a **sizable Tamil population** in Sri Lanka, and they have close relations with the Tamils in India.

### Steps taken by India in Sri Lanka's 2022 Economic Crisis

- India was the first nation to deliver its **letter of support to the International Monetary Fund** for Sri Lanka's financing and debt restructuring.
- India has provided Colombo with **food and financial aid** totaling about \$4 billion dollars (including currency swaps and credit lines).
- India provided its neighbour **multiple supplies of necessities** like fuel, food, and fertiliser.
- The Sri Lankan government, the IMF, and the Paris Club participated in extensive discussions with India to settle the debt reduction and financial arrangements.



### Divergence in India-Sri Lanka Relations

- **Lack of trust:** The uneven nature of relations between India and Sri Lanka contributed significantly to the shaping of Sri Lanka's generalised anti-India stand.
- **Fishing Disputes:** Because of differences over fishing rights and the deployment of motorised trawlers, incidents in which the Sri Lankan Navy opened fire on Indian fishermen in the Palk Strait have heightened tensions between the two nations.
  - In 1974, a contract was made giving Sri Lanka the resource-rich Katchatheevu islet, which had long been the exclusive domain of Tamil fisherman.
- Sri Lanka's capacity to interact with India and put policies into place that encourage **economic cooperation and regional stability** has been hampered by recent economic and political crisis.
- **Strategic difficulties brought on by a growing Chinese presence:** China built the ports of Colombo and Hambantota as part of the Maritime Silk Route (MSR) initiative.
- **Tamil minority rights** in Sri Lanka remain a contentious subject, with India pushing for national reconciliation via a political resolution (the 13th Amendment) of the ethnic question.
  - The **13th Amendment**, which would have given the provinces more autonomy, has not been put into effect.

### Way Forward

- Continued efforts might include **India's role as the "first responder"** in the wake of the current political and financial crisis, which could strengthen ties with Sri Lanka.
- **Regional Collaboration:** Using regional platforms like **BIMSTEC and SAARC** might open up possibilities for deeper collaboration and tackling shared problems.
- Permanent solution to the **fishermen's problem:** Through bilateral discussions, both nations should endeavour to find a lasting solution to the fishermen's problem.
- **Combating terrorism:** Recent attacks in Sri Lanka that were motivated by Islamic State ideology call for increased cooperation in counterterrorism measures at the bilateral and regional levels.
- **Building trust:** India needs to be aware of Sri Lanka's limitations as a small state. India must consider ways to lessen Sri Lanka's worries and mistrust.
- **People-to-People Ties:** Promoting cultural exchanges, travel, and educational collaboration can increase mutual understanding and goodwill.

## 3.3 SHANGHAI COOPERATION ORGANISATION (SCO)

### Latest Context

- With the signing of the "New Delhi Declaration," the Shanghai Cooperation Organization's (SCO) most recent virtual summit came to an end.

### What is SCO?

- **China and Russia** founded the Shanghai Cooperation Organization (SCO) in 2001. It is a **Eurasian political, economic, international security, and defence** organisation.
- With a **population of over 40%** of the world and a geographic coverage of roughly 60% of Eurasia, it is the largest regional organisation in the world.
- It's combined GDP made up almost **20% of the world's GDP** as of 2021.
- The **Shanghai Five**—the People's Republic of China, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan—were replaced by the SCO in 1996.
- The heads of state of these countries, as well as Uzbekistan, gathered in June 2001 in Shanghai to launch a new organisation with increased political and economic cooperation.
- It included **Pakistan and India** as well as eight other states as of June 2017.
- In July 2023, **Iran** joined the alliance. A number of nations are participating as observers or dialogue partners.
- The **Heads of State Council (HSC)**, the SCO's top decision-making body, convenes once a year to oversee the organisation. Additionally, the group is home to the so-called Regional Antiterrorist Structure (RATS).



### Highlights of the Summit

- The theme of the Declaration is "Towards an **SECURE SCO**" (Security, Economic development, Connectivity, Unity, Respect for sovereignty and territorial integrity, and Environmental protection).
- The Indian prime minister created the acronym **SECURE** at the 2018 SCO meeting.
- India was holding the Presidency of the Summit.
- Iran joined the organisation as a new permanent member.
- It also mentioned the successful operations of SCO's **Regional Anti-Terrorist Structure's (RATS)**.

### Main Goals of SCO

- To enhance the **member nations' effective cooperation** in trade, politics, research, economy, technology, culture, tourism, energy, environmental protection, and education.
- To increase **mutual trust and good neighbourliness** among the member states.
- Collaborating to **uphold and preserve regional security, stability, and peace**; working to construct a new, democratic, rational, and equitable global economic and political system.
- While the organisation conducts its exterior policy in accordance with the **non-targeting and non-alignment tenets**, it bases its internal policy on the concepts of mutual trust, mutual consultations, equality, respect for cultural variety, and a desire for shared progress.

### Significance of SCO

- India's geopolitical importance is achieved through **multi-alignment and upholding strategic independence**.
- As trade is hindered by US sanctions against Iran and Russia, it enables India to be a part of a **different economic structure** in the globe.
- In order to promote the **region's overall prosperity**, India has emphasized the importance of sustaining peace and stability in the region.
- Under the aegis of the SCO, the **Afghanistan Contact Group (ACG)** was established in 2005 to uphold regional collaboration with Kabul.
- Discussing and emphasizing **peace amidst the tension between Russia and Ukraine**.
- In order to **improve communication** between India and other regional nations like China, bilateral relations should be strengthened.
- In order to **boost Indian soft power and economic cooperation**, initiatives like the Turkmenistan-Afghanistan-Pakistan-India (TAPI) Pipeline, INSTC, the Chabahar Project, etc. are being promoted on the regional connectivity front.
- **Promoting regional commerce and cultural ties**: In preparation for the summit, India established five SCO cooperation pillars and priority areas: start-ups and innovation, digital inclusion, youth empowerment, traditional medicine, and shared Buddhist heritage.
- It has been decided that **Varanasi (Kashi) will serve as the first SCO tourism and cultural capital**.
- **Fostering Counter-Terrorism Operations**: By exchanging intelligence and cooperating institutionally under RATS, India's counter-terrorism efforts can be strengthened.
- **Fighting the trade in illicit drugs**: The SCO nations can together combat the 80% of opium and heroin supply that come from the Afghanistan-Pakistan region.
- **Access to Strategic Mineral Resources**: The SCO can improve India's access to important natural resources including hydrocarbons and uranium from Kyrgyzstan.

### Challenges with SCO

- Issues between member states that are on a **bilateral basis include internal disputes** and a lack of confidence between nations like India, China, and Pakistan.
- There is an **imbalance in the group's power columns** due to China's domineering presence in the region.
- **Anti-West Grouping**: The ongoing perception of an anti-West alliance poses difficulties for more extensive international collaboration.
- The SCO's **support of China's Belt and Road Initiative (BRI)**, which infringes on India's sovereignty and territorial integrity, is one of the projects that endangers the country's national interests.



- The SCO Charter **forbids the resolution of any bilateral disputes**, which creates a trust gap at the bilateral level.
- The **Sino-Russian axis** has become stronger as a result of conflicts between Russia and the West, making India more susceptible to Chinese invasion.

#### Way Forward

- **Leveraging Multilateralism for Development:** During its SCO chairmanship, India must take a proactive stance and use the forum for the benefit of all of Eurasia.
- **India can act as a mediator between Russia and the West** to prevent the collapse of a rule-based order.
- **Promoting National Interest:** To advance its own national interests, India can use its diplomatic resources to further the SCO's agenda and progressive programme.
- **Maintaining autonomy in foreign policy** through strategic relationships with diverse regional groups like BRICS, SAARC, ASEAN, QUAD, etc.
- India should play a constructive role by promoting a **"constructivist" strategy** that may be used to turn the SCO into a platform of agreements rather than conflicts.

### 3.4 INDIA-FRANCE

#### Latest Context

- India and France recently met to celebrate their 25 years of strategic relations and launched the **Horizon 2047 framework**, which charts the course of their bilateral relations through 2047.
- The Horizon framework covers areas like **space, nuclear energy, and defence** in addition to **banning single-use plastics** and instituting a five-year Schengen visa.
- The three pillars that the two countries established to **guide their bilateral relations** for the ensuing 25 years centre on security, the environment, and people.
- The two nations also strengthened their connections in key technological areas, namely **artificial intelligence and quantum computing**.

#### Major Highlights

- Accord on the **elimination of single-use plastic pollution**, including the outlawing of single-use plastic products.
- The **Indo-Pacific Roadmap** was approved.
- **India's general consulate in Marseille** and a Bureau of France in Hyderabad have both been confirmed to open.
- France to support the 2nd phase of the Indian program on sustainable cities - **CITIIS 2.0** will be supported by France along with Germany and the EU.
- Head of Agreement (HoA) to create a **long-term LNG Sale** and Purchase Agreement between Indian Oil Corporation Limited and M/s Total Energies Gas and Power Ltd (Total Energies) (SPA).

#### Convergence: India-France Relations

- **Modernization of the defence industry:** Through technological transfers, collaborative ventures, and enabling local production capacities, France has been crucial in supporting India's modernization efforts in the defence industry.
- France has risen to become **India's second-largest supplier** of defence goods. Some notable examples include the P75 Scorpene and the Rafael aircraft.
- **Economic collaboration:** France is the eleventh-largest foreign investor in India, having invested a total of USD 10,389 million there between April 2000 and September 2022.
- A contract to **implement UPI throughout France and Europe** was signed by NPCI International Payments Limited (NIPL), an Indian company, and Lyra Collect, a French company.
- In order to **combat terrorism**, both nations have decided to collaborate in order to get the Comprehensive Convention on International Terrorism (CCIT) adopted by the UN.
- Increasing development: The **Agence Française de Développement (AFD)** has allotted 200 million euros to help India's most vulnerable citizens and welfare programmes.



- Dealing with Climate Change created the **International Solar Alliance (ISA)**, a framework for cooperation amongst nations with abundant solar resources.
- **Strategic autonomy**: The strategic partnership between France and India is based on mutual respect for one another's strategic independence.
- French backing for **India's bid for permanent membership in the UNSC** and UN reforms is an example of international collaboration.
- France helped India join the **Australia Group, Wassenaar Arrangement, and Missile Technology Control Regime (MTCR) (AG)**.
- Geostrategic: Both parties are devoted to securing an Indo-Pacific area that is free and governed by laws.
- A "**Joint Strategic Vision of India-France Cooperation in the Indian Ocean Region**" was adopted by India and France in 2018.
- The two parties agreed to focus on completing an **Indo-French development fund** for third countries as part of this agenda.
- To guarantee security from the **east coast of Africa to the Pacific**, a trilateral alliance with the United Arab Emirates has been formed.

#### Challenges between India and France relation

- **India has consistently opposed the Belt and Road Initiative (BRI)** of China since it infringes on India's territorial integrity and sovereignty. France, however, has joined the BRI.
- The **Rafale plane's delivery was postponed** as the middleman was accused of wrongdoing.
- **Bilateral trade still falls well short** of its potential. Commerce with France accounts for just 1.41 percent of India's overall international trade.
- There are **technical, financial, and civil nuclear liability difficulties** regarding **Jaitapur nuclear power reactors** that both sides need to overcome.

#### Way Forward

- The **stalled projects should be completed** by addressing the issues preventing their completion. A collaborative working group can be formed.
- India can take advantage of its excellent connections with France to advance the **India-EU Broad Based Trade and Investment Pact**. India-EU Broad Based Trade and Investment Pact shall help India to sign FTA with EU.
- **Interconnecting civil societies**: India and France also require strong civil society links in order to maintain their alliance over the long term.
- Strengthening the **people-to-people relationship**: Since language is one of the major obstacles to mobility, it is essential to promote French in educational institutions.
- Building relationships between individuals and businesses is essential for a successful partnership.

### 3.5 G20 GROUP REPORT ON MULTILATERAL DEVELOPMENT BANKS (MDBs)

#### Latest Context:

Recently, a report titled "Strengthening Multilateral Development Banks- The Triple Agenda" was released by the G20 group.

#### What are Multilateral Development Banks (MDBs)?

- MDBs are **financial institutions** which are **international in nature, involving multiple member countries working together to support projects and initiatives** in various regions around the world.
- They also **provide financial and technical assistance to developing countries** with the goal of promoting economic and social development.



- MDBs offer various financial instruments to support the development goals like **loans, grants, equity investments and guarantees**, depending on the specific needs of the projects and the borrowing countries.
- In addition to financial support, MDBs **also provide technical expertise and knowledge-sharing** to help countries in implementing projects effectively. They offer advice on policy reforms, project design, and capacity building.
- MDBs often **collaborate with each other, as well as with other international organizations and institutions**, to maximize the impact of their efforts and avoid duplication of projects.
- Some of the well-known MDBs include the **World Bank, Asian Development Bank (ADB), Asian Infrastructure and Investment Bank (AIIB)** etc.

## Global Financial Institutions Compared

WORLD BANK	IMF	ADB	AIIB
1944	1944	1966	2015
188 MEMBER COUNTRIES	188 MEMBER COUNTRIES	67 MEMBERS	57 FOUNDING MEMBERS
US LARGEST SHAREHOLDER	US LARGEST SHAREHOLDER	JAPAN LARGEST SHAREHOLDER	CHINA LARGEST SHAREHOLDER
REDUCE POVERTY & SUSTAINABLE DEVELOPMENT GOAL	PROMOTE MONETARY STABILITY GOAL	REDUCE POVERTY GOAL	ADDRESS ASIA'S INFRASTRUCTURE GAP GOAL
12,000 STAFF 130 NATIONS	2,600 STAFF 147 NATIONS	3,000 STAFF 60 NATIONS	IN PLANNING
\$223 BILLION SUBSCRIBED CAPITAL	\$370 BILLION SUBSCRIBED CAPITAL	\$165 BILLION SUBSCRIBED CAPITAL	\$100 BILLION AND RISING SUBSCRIBED CAPITAL
US VETO POWER	US VETO POWER	NO VETO POWER	CHINA TO FORGO VETO
WASHINGTON	WASHINGTON	MANILA	BEIJING

### Key recommendations of the report

- As per report, an **additional spending of almost \$3 trillion per year** (for climate action and SDGs) is needed till 2030 in developing countries.
- **Triple agenda given for MDBs are:**
  - To adopt the triple goal of eliminating extreme poverty, boosting shared prosperity and contributing to global public goods.
  - Tripling lending capacity by 2030.
  - To increase engagement with the private sector.
- To **develop new ways of working**, that can handle increased work.
- MDBs should work like agents in all developing countries for integrating the developmental activities and the climate agendas.
- **Timelines for the project preparation should be reduced** and procedures should be minimised.



### Issues with MDBs

- **Governance and Decision-Making:** MDBs are typically governed by their member countries, and decision-making processes can sometimes be slow and cumbersome. Power dynamics and voting structures might not always reflect the changing global economic landscape, leading to concerns about fairness and representation.
- **Conditionality and Policy Impositions:** MDBs often attach conditions to their loans and grants, requiring recipient countries to implement specific policies or reforms. While these conditions are meant to ensure project success and financial sustainability, they can sometimes lead to policy impositions that do not align with the recipient country's priorities or social needs.
- **Debt Sustainability:** Some developing countries have raised concerns about the accumulation of debt resulting from loans provided by MDBs. If not managed carefully, this debt burden can become unsustainable and hinder a country's long-term development prospects.
- **Environmental and Social Impact:** Despite efforts to promote sustainable development, certain projects funded by MDBs have faced criticism for their negative environmental and social impacts. Infrastructure projects, such as dams and highways, can lead to displacement of communities, deforestation, and other adverse consequences if not managed properly.
- **Transparency and Accountability:** Transparency in project selection, implementation, and funding allocation can sometimes be lacking. This can lead to suspicions of corruption, mismanagement, and a lack of accountability in the use of funds.
- **Effectiveness and Impact:** The effectiveness of MDB projects in achieving their intended outcomes can vary. Some projects may not deliver the planned impact due to factors such as poor project design, implementation challenges, or changing circumstances on the ground.
- **Focus on Economic Growth vs. Human Development:** Critics argue that MDBs have historically focused more on promoting economic growth rather than addressing broader human development issues, such as education, healthcare, and social inclusion.
- **Lack of Local Ownership:** Some critics argue that MDB projects may not always adequately involve local communities and stakeholders in the planning and decision-making processes, leading to projects that do not fully align with local needs and priorities.

### Conclusion:

While MDBs face these challenges, they also make efforts to address them and improve their operations. Many MDBs have implemented reforms, increased transparency, and engaged with civil society to enhance their impact and effectiveness in promoting sustainable development.

### Additional Information:

#### About the G20 Group

- It's an **international forum comprising 19 individual countries and the European Union.**
- It was established in **1999** and its **first meeting took place in Berlin (Germany) in 1999** only.
- It brings together major advanced and emerging economies to discuss and address global economic issues.
- The group **represents around 80% of the world's economic output and two-thirds of its population.**
- **Its members are:** Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom and the United States.
- Additionally, the European Union is represented by the European Commission and the European Central Bank in the G20 meetings.
- The G20 **organises annual summits** where leaders from member countries, as well as representatives from international organizations such as the International Monetary Fund (IMF) and the World Bank, gather to discuss and coordinate on various global economic issues, including financial stability, trade, climate change, and the development.
- One of the **main strengths of the G20 is its inclusiveness**, as it includes both developed and developing economies, making it a significant platform for dialogue and cooperation. However,



the G20's decisions are not legally binding and its effectiveness depends on the willingness of its member countries to implement agreed-upon measures.

### 3.6 INDIA'S ENERGY DIPLOMACY

#### Latest Context:

India is considering trading power with Southeast Asian countries through Myanmar and Thailand as part of the energy diplomacy.

#### What is energy diplomacy?

- It refers to the **strategic use of diplomatic efforts and negotiations to manage and influence international energy-related matters.**
- It involves the use of diplomatic tools and techniques to promote a country's energy interests, ensure energy security, and promote cooperation on energy-related issues with other nations.

#### How is India pursuing energy diplomacy?

- **Diversification of Energy Sources:** India has been working to diversify its energy sources to reduce dependence on fossil fuels. India is engaged in energy diplomacy to secure access to various energy resources, including oil, natural gas, and renewables, through bilateral agreements, trade negotiations, and collaborations with energy-rich countries.
- **International Solar Alliance (ISA):** India played an important role in launching the International Solar Alliance, a coalition of solar-rich countries, to promote solar energy deployment globally. The alliance aims to facilitate cooperation in solar technology development, capacity building, and investment in solar projects.
- **Bilateral Energy Agreements:** India has signed numerous bilateral agreements with energy-producing countries to secure energy supplies and promote cooperation in the energy sector. For example, India has energy agreements with countries like Russia, the United Arab Emirates, and Iran for oil and gas supplies.
- **LNG and Gas Pipelines:** India has been exploring the development of liquefied natural gas infrastructure and gas pipelines to diversify its energy mix. Projects like the Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline and the India-Iran-Afghanistan gas pipeline have strategic importance in enhancing energy security.
- **Nuclear Cooperation:** India has engaged in nuclear energy cooperation with various countries, including the United States, Russia, France, and Canada. These agreements focus on nuclear energy development, technology transfer, and collaboration in research and development.
- **Strengthening Regional Energy Cooperation:** India has been involved in regional energy cooperation initiatives. For instance, the South Asian Association for Regional Cooperation (SAARC) countries have discussed energy sharing and connectivity to enhance regional energy security.
- **Africa Engagement:** India's energy diplomacy extends to Africa, where it seeks to secure energy resources and foster energy partnerships. India has participated in events like the India-Africa Forum Summit to explore collaboration opportunities.
- **Climate Change and Sustainable Development:** India has been actively participating in international climate negotiations and agreements, including the Paris Agreement. The country has committed to enhancing its share of non-fossil fuel capacity and adopting sustainable practices.
- **Technology and Research Collaboration:** India engages in technology exchange and research collaboration with various countries to advance energy technologies, enhance energy efficiency, and promote innovation.

#### Challenges in front of India's energy diplomacy

- **Energy Security:** India's rapid economic growth and increasing population have led to a growing demand for energy resources. Ensuring a stable and diverse energy supply to meet



these demands while reducing dependence on a single source or country poses a significant challenge.

- **Geopolitical Tensions:** Geopolitical tensions and conflicts in energy-rich regions, such as the Middle East, can disrupt energy supplies and impact India's energy security. Strained diplomatic relations with certain countries can also complicate energy trade and cooperation.
- **Global Energy Prices:** Fluctuations in global energy prices, particularly oil and gas prices, can have economic implications for India. Rapid price changes can affect inflation rates, trade balances, and overall economic stability.
- **Infrastructure Development:** India's energy infrastructure, including transportation, distribution, and storage facilities, needs significant investment and modernization to accommodate its energy demands. Developing and maintaining this infrastructure requires both domestic and international collaboration.
- **Environmental Concerns:** Balancing energy security with environmental sustainability is a challenge. India's efforts to reduce greenhouse gas emissions and promote renewable energy are important for global climate goals but can also impact traditional energy sectors.
- **Technological Innovation:** Adapting and adopting new energy technologies can be challenging, requiring investments in research, development, and deployment. Collaborations with other countries can help accelerate technological advancements.
- **Competing Priorities:** India faces a complex set of priorities, including economic development, poverty reduction, and environmental protection. Balancing these priorities in energy policy and diplomacy is challenging.
- **Diversification Challenges:** While India is making efforts to diversify its energy mix, its heavy reliance on coal for power generation remains a challenge. Transitioning to cleaner sources of energy while ensuring energy security requires careful planning.
- **Diplomatic Complexities:** India's energy diplomacy involves engaging with a diverse set of countries with varying interests and priorities. Maintaining diplomatic relationships, negotiations, and agreements while safeguarding its energy interests can be complex.

### Conclusion:

These challenges are interconnected and can evolve over time. India's energy diplomacy efforts should continue to adapt to changing global energy dynamics, technological advancements, and diplomatic relations.

## 3.7 INDIA AND BLACK SEA GRAIN DEAL

### Latest Context

Recently, India supported the UN's efforts in continuing the **Black Sea Grain initiative** and expressed hope for an early resolution to the present impasse. India issued this statement when Russia announced that it will terminate the implementation of the UN's brokered deal between Russia and Ukraine.

### Significance of the Grain Deal

- At the Global level, Ukraine is one of the largest exporters of wheat, maize, rapeseed, sunflower seeds and sunflower oil.
  - Ukraine's access to the deep-sea ports in the Black Sea enables it to directly approach Russia and Europe along with grain importers from the Middle East and North Africa.
- The initiative will significantly make a huge difference to the global cost of living crisis by enhancing the supply of grains and fertilizers. Since the initiative commenced, approximately 9.8 million tonnes of grains have been shipped.

### Black Sea Grain Initiative

It is an initiative that is also known as the '**Grain Deal**' to allow ships to **safely export grain, other foodstuffs and fertilizers, including ammonia, from Ukraine** via a maritime humanitarian corridor. This initiative was brokered by the UN and Turkey in



- Due to the commencing of this deal, people who were hoarding the grains by keeping the hope in mind that by selling it they will earn a sizable profit owing to the supply crunch were now obligated to sell.
- Though, this initiative alone will not address global hunger but it can lower the chances of the global food crisis and spiralling it further.

**Impact on India:** India is compelled to support this deal because India is facing a threat of imported inflation due to the rise in prices of edible oils and food grains. Presently, India imports approximately **70% of its sunflower oil** from Ukraine.

### 3.8 INDIA AND UAE SIGNED PACT TO TRADE IN LOCAL CURRENCY

#### Latest Context

Recently, a pact to establish a Local Currency Settlement System (LCSS) to promote the use of the Indian rupee (INR) and UAE Dirham (AED) for cross-border transactions was signed by India and the United Arab Emirates (UAE). During the Prime Minister's recent visit to Abu Dhabi, UAE, the deal was signed.

#### Key Note

In 2022, the Central Bank developed a framework for settling **Global Trade in Rupees**, primarily targeting trade with Russia. But, in a substantive manner, it is yet to take off.

**Local Currency Settlement System (LCSS):** It is a mechanism that promotes **cross-border transactions between two countries** to be conducted in their respective currencies. It enables exporters and importers to invoice and make payments in their local currencies which reduces reliance on a third-party currency like the US dollar.

#### Key Highlights of the Agreement:

##### 1. LCSS

- All current account and permitted capital account transactions come under this scope.
- By enabling exporters and importers to pay in their respective domestic currencies, it will contribute to the development of an **INR-AED forex market**.
- It will lead to a reduction in **transaction costs and settlement time**, including **remittances by Indians** in the UAE.
- It will enable India to use this mechanism to pay for imports of oil and other commodities from the UAE which is **the 4<sup>th</sup> largest energy supplier** in Financial Year 22-23.

##### 2. UPI-IPP Linkage

- Both countries' central banks signed to cooperate on linking **India's Unified Payments Interface (UPI)** with the **UAE's Instant Payment Platform (IPP)** and **RuPay switch with UAESWITCH**.
- It will enable users in both countries to **make fast, safe and cost-effective cross-border transfers**.
- The linkage of UPI-PPI will facilitate the **mutual acceptance of domestic cards** and the processing of card transactions.
- This kind of mechanism will also explore the linking of **India's Structured Financial Messaging System (SFMS)** with the **payments messaging system of the UAE**.



### Structured Financial Messaging System (SFMS)

1. It is an application developed by Institute for Development and Research in Banking Technology (IDRBT) and Tata Consultancy Services (TCS). They entered into an agreement on 15th February 2001 for deploying a messaging system for Indian Banking and Financial Sector.
2. Its objective is to ensure to ensure greater security in the process of electronic funds transfers. It provides security in the various electronic funds transfers services introduced by RBI such as Credit Clearing and Debit Clearing and the retail Electronic Funds Transfer (EFT) system and prevents unauthorized usage

### 3. IIT Delhi campus in Abu Dhabi:

- Under this agreement, a MoU was signed for the establishment of the **IIT Delhi campus in Abu Dhabi**. It is a new addition to the 'IITs Go Global' campaign.
- It will be the **second international IIT campus** after IIT Madras opened its campus in **Zanzibar, Tanzania**.
- The offering of the degree will be started in 2024. It will cover courses covering many areas such as Healthcare, Mathematics and Computing and other disciplines of engineering, sciences and humanities, Energy and Sustainability, AI, Computer Science and Engineering.

### Significance of Rupee Based Cross Border Transaction

- It will reduce the **exchange rate risks** in the rupee-based trade to **limit losses for Indian exporters**.
- Rupee-based will promote the efforts of India to internationalize the Rupee to bring down the dollar demand.
- In addition to Russia, countries in Africa, the Gulf region, Sri Lanka and Bangladesh had also expressed interest in trading in rupee terms.
- It will also increase its trade and enhancement opportunities.
- It will also optimize the remittances. Indians residing in the UAE can send remittances in Indian Rupee and will be benefitted from the lower costs and faster settlement time.

### India- UAE Bilateral Relations

#### 1. Diplomatic Ties:

- In 1972, India and the UAE established **diplomatic relations**. Bilateral relations between the two countries became more advance when the Prime Minister of India visited the UAE in **August 2015** which marked the beginning of a new strategic partnership between the two countries.
- Further, when the Crown Prince of Abu Dhabi visited India in January 2017 as the chief guest at India's Republic Day celebrations, it was agreed that bilateral relations were to be upgraded to a comprehensive strategic partnership.





## 2. Bilateral Trade:

- In 2022-23, bilateral trade between India and the UAE was approximately **USD 85 billion** which makes the **UAE India's 3rd-largest trading partner for 2022-23** and **India's 2nd-largest export destination**.
- India is the **3rd largest oil importer** in the world. Currently, the UAE was **its 4th biggest supplier of crude in 2022**. In 2022, India has become the **first country** with which the UAE signed a **Comprehensive Economic Partnership Agreement**.
- The UAE, which imports most of its food requirements has invested **USD 2 billion** to develop a **series of food parks** in India. In the UAE, many manufacturing branches have been established by Indian companies either as joint ventures or in Special Economic Zones for cement, building materials, textiles, engineering products, and consumer electronics.
- In addition, Indian companies have also invested in the tourism, hospitality, catering, health, retail, and education sectors.

## 3. Defence Exercises:

- **Bilateral**
  - In-UAE BILAT (bilateral naval exercise)
  - Desert Eagle-II (bilateral air force exercise).
  - Exercise Desert Flag-VI: UAE
- **Multilateral**
  - Pitch Black: Biennial, multilateral air combat training exercise of Australia.
  - Red Flag: Multilateral air exercise of the USA.

### Way Forward

- It will provide **guidelines for other bilateral currency accords** as an important first step for the internationalization of the rupee. But its actual success will depend upon the extent of adoption by businesses in both nations.
- The bilateral relationship between India and the UAE will be strengthened by increasing **collaboration in areas such as technology, renewable energy, infrastructure development, tourism, and healthcare**.

## 3.9 INDO-US SCEP MINISTERIAL MEETING IN NEW DELHI

### Latest Context

Recently, the Ministerial meeting of the US-India **Strategic Clean Energy Partnership (SCEP)** was held in New Delhi.

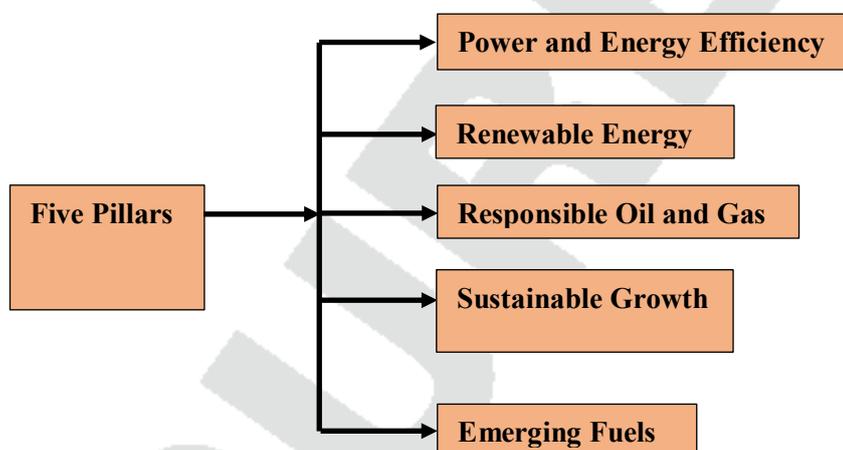
### Key Points of the Meeting

- To accelerate the **development of key technologies** for advancing common ambitious clean energy goals, the **U.S.-India New and Emerging Renewable Energy Technologies Action Platform (RETAP)** was launched.
- To support the **large-scale integration of renewable energy** required for supporting the clean energy transition, emphasis was laid on the establishment of a **public-private Energy Storage Task Force** and related efforts.
- To deepen the engagement between Indian agencies and U.S. national laboratories, the **South Asia Group for Energy (SAGE)** was launched.
- To **support the clean energy transition**, both sides agreed to **work toward developing net zero villages** in India.
- **Addition of Carbon Capture, Utilization and Storage** as a workstream under the Emerging Fuels and Technology Pillar.



### Strategic Clean Energy Partnership (SCEP)

- **Historical Background:** In April 2021, the SCEP was launched by the US and India as a part of the U.S.-India Climate and Clean Energy Agenda 2030 Partnership at the Leaders' Summit on Climate.
  - **In Sep 2021**, it was revamped in order to lay more emphasis on electrification and decarbonization of processes and end uses, scaling up and accelerating the deployment of emerging clean energy technologies, and finding solutions for hard-to-decarbonize sectors
  - **Note:** SCEP was earlier established as **Strategic Energy Partnership** in 2018.
  - **Objective**
    - ✓ To mobilize finance and speed up clean energy deployment
    - ✓ To demonstrate and scale innovative clean technologies needed to decarbonize sectors including industry, transportation, power, and buildings;
    - ✓ To build capacity to measure, manage, and adapt to the risks of climate-related impacts.
  - The Partnership will proceed along two main tracks: the **Strategic Clean Energy Partnership** and the **Climate Action and Finance Mobilization Dialogue**
  - It organises inter-governmental engagement across **five pillars** of Cooperation that are as follows



**U.S.-India Climate and Clean Energy Agenda 2030 Partnership:** Under this partnership, India and the US have set up ambitious 2030 targets for climate action and climate energy that are as follows

- United States has set an economy-wide target of reducing its net greenhouse gas emissions by 50–52 per cent below 2005 levels in 2030
- India has set a target of installing 450 GW of renewable energy by 2030

## 3.10 BIMSTEC FOREIGN MINISTERS' MEET CONCLUDED IN THAILAND

### Latest Context

Recently, India participated in the **first-ever meeting of foreign ministers of BIMSTEC** that was concluded in Thailand.

### Main Points of the Meeting

- Focus on strengthening resilience and coordination among members reflecting the challenges that the world confronts today.
- Laid emphasis on cooperation in new areas such as food, health, and energy security.

### Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)

- It came into existence on **6th June 1997** through the **Bangkok Declaration**.



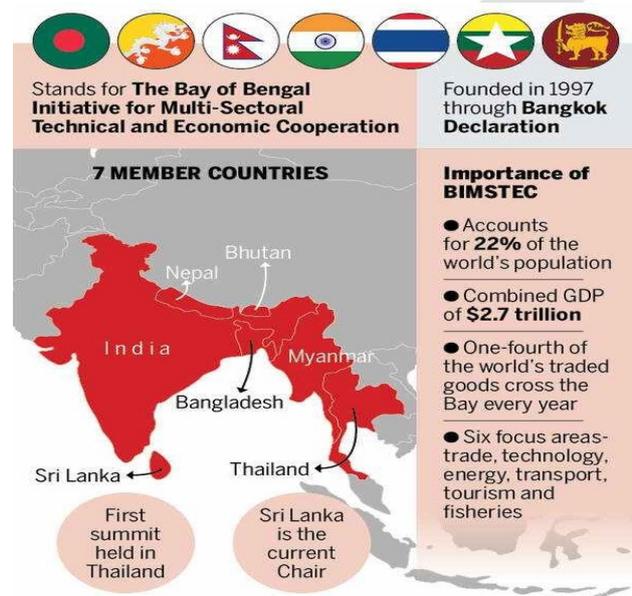
- It is a regional cooperation consisting of **seven members** namely, **Bangladesh, Bhutan, India, Nepal, Sri Lanka, Myanmar, and Thailand.**
- Its Secretariat is located in **Dhaka, Bangladesh.**

#### Institutional Mechanism

- BIMSTEC Summit
- Ministerial Meeting
- Senior Officials' Meeting
- BIMSTEC Working Group
- Business Forum & Economic Forum

#### Cooperation:

- Initially in **1997**, the **cooperation in the BIMSTEC** was on **six sectors** namely, trade, technology, energy, transport, tourism, and fisheries.
- In 2008, it was **expanded** to other areas.
- In 2021, a **reorganization of BIMSTEC** led to each of the Member States leading certain sectors.
- The focus of India is on **security** counterterrorism, transnational crime, disaster management, and energy.



### 3.12 SIGNIFICANCE OF BIMSTEC

#### Significant Global Weightage:

- Approximately **22% of the world's population** lives in the **seven countries** around the Bay of Bengal, with a **combined GDP close to USD 2.7 trillion.**
- From **2012 to 2016**, all seven countries of this group **sustained average annual rates** of growth between **3.4% and 7.5%.**
- **One-fourth of the world's traded goods** pass across the bay every year.

#### Importance for India:

- BIMSTEC connects **South and Southeast Asia** and contains the **ecologies of the Great Himalayas and the Bay of Bengal.**
- According to India, BIMSTEC is a strategic platform to prioritize its foreign policy objectives of "**Neighborhood First**" and "**Act East.**"
- The importance of BIMSTEC was highlighted by the fact that some member countries supported **India's call for a boycott of the South Asian Association for Regional Cooperation (SAARC) summit in Islamabad.**
- India claimed victory in isolating Pakistan through this move.

#### China Factor:

- The region of the Bay of Bengal is very strategically significant **for an increasingly assertive China** in maintaining its access route to the Indian Ocean.
- China is moving on its agenda to build its **massive drive to finance and build infrastructure in South and Southeast Asia through the Belt and Road Initiative (BRI)** in almost all BIMSTEC countries, except Bhutan and India. BIMSTEC has become a **new battleground** in the Indo-China battle for hegemony.
- It can provide strategic ground for India to **push a constructive agenda to counter Chinese investments** and follow best practices for connectivity projects based on internationally recognized norms. Presently, Chinese projects are not considered the best fit according to internationally recognized norms



Way Forward

- Member countries of this group should **focus on deepening cooperation** in various sectors such as trade, technology, energy, transport, tourism, fisheries, security, counterterrorism, disaster management, and energy.
- It must speedily work **towards implementing existing agreements** and **exploring new avenues** for collaboration.
- It must work towards **enhancing trade facilitation, reducing barriers**, and promoting economic integration among member countries.
- It must **explore opportunities** for a **free trade agreement (FTA)** to boost regional trade and investment.

**3.12 UK SIGNS TREATY TO JOIN CPTPP**

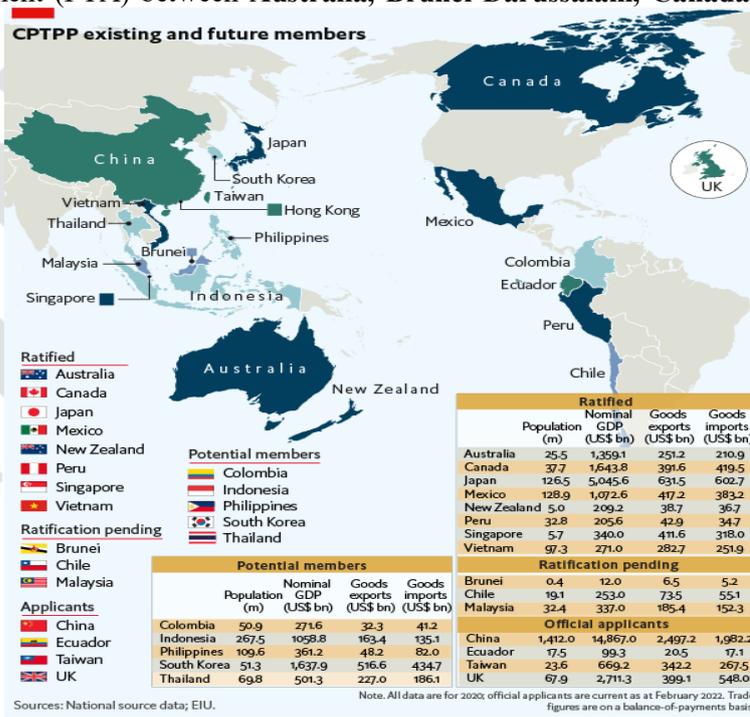
Latest Context

Recently, Britain formally signed a treaty to join a major Indo-Pacific bloc through the Comprehensive and Progressive Agreement for Trans-Pacific Agreement (CPTPP) with an objective to **grow the country’s economy** and provide access for **British businesses to a market** of over 500 million people.

Comprehensive and Progressive Agreement for Trans-Pacific Agreement (CPTPP)

1. Introduction

- CPTPP is Free Trade Agreement (FTA) between **Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, Peru, New Zealand, Singapore and Vietnam.**
- It was signed by 11 countries on 8 March 2018, in Santiago, Chile.



2. Background

- In **2005**, a small group of Pacific Rim countries comprising **Brunei, Chile, New Zealand, and Singapore** signed a trade agreement that led to the formation of the Trans-Pacific Partnership (TPP) consisting of 12 nation-states.
- After the withdrawal of the US, the remaining eleven signatories, known as the TPP-11, continued talks and their efforts led to the formation of CPTPP.

3. Significance

- It removes **99% of tariffs on goods and services** in the same way as the **original TPP** did. Moreover, all the member countries made a consensus to **cut down on wildlife trafficking** which helps elephants, rhinoceroses, and marine species the most.
- It also helps in preventing **environmental abuses**, like unsustainable logging and fishing. Those countries that do not follow the rules will face trade penalties.

Benefits of the CPTPP for the U.K

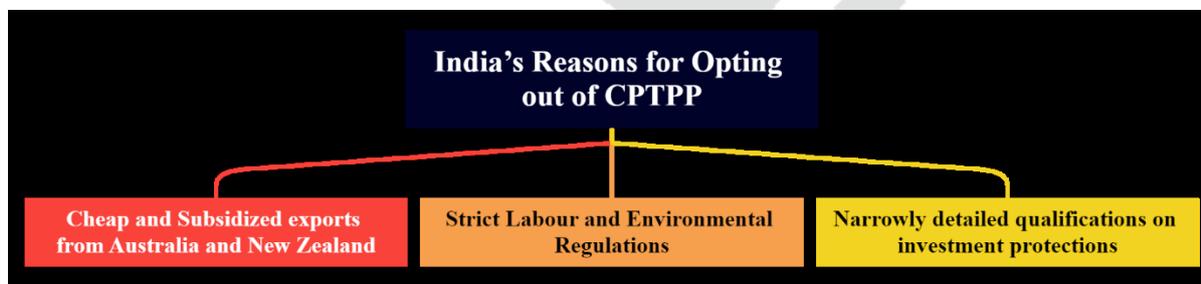
- It will lead to **zero tariffs on more than 99% of British exports**, including key markets such as cheese, cars, chocolate, machinery, gin, and whisky.



- It is expected that this deal will add **GBP 1.8 billion (USD 2.2 billion) annually to the U.K. economy** in the long run which will be a modest **boost of 0.08% to GDP**.
- It will be a **"gateway" for the UK to the Indo-Pacific region**, which is expected to account for a **majority (54%)** of global economic growth in the future.
- The U.K. will have a **veto on whether China joins the treaty** as a CPTPP member. U.K. firms will not be required to set up a local office to provide services and will be able to operate on a par with firms in host countries.

### India's Stand on CPTPP

- In the agricultural sector, farmers will **continuously face growing risks because of subsidised and cheap agricultural exports**, particularly from Australia and New Zealand. Therefore, **India kept itself away from CPTPP**.
- India has chosen to keep itself out of CPTPP because it wants to impose strict labour and environmental regulations on its partners. In addition, India's manufacturing sector may **not be able to face import competition** in a duty-free regime.
- It comprises **narrowly detailed qualifications on standards for investment protection**, provisions to protect the host state's right to regulate, and the imposition of detailed transparency requirements.



## 3.13 SHORTS NEWS

### 3.13.1 CLEAN ENERGY MINISTERIAL AND MISSION INNOVATION

- Recently, India hosted the 14th Clean Energy Ministerial (CEM14) and 8th Mission Innovation (MI-8) meeting.
- The **theme** for CEM-14 / MI-8 was **"Advancing Clean Energy Together"**.

#### About Clean Energy Ministerial

- CEM is a high-level global forum focused on **advancing clean energy technologies, policies, and practices**.
- It was **established in 2010** to bring together energy ministers and leaders from various countries to collaborate on the transition to a cleaner and more sustainable energy future.
- The primary goal of the CEM is to **promote the sharing of best practices, policies, and experiences among its member countries** to accelerate the deployment of clean energy solutions.
- It has a total of **29 members including India**.

#### About Mission Innovation (MI)

- Mission Innovation is a global initiative that **aims to increase research, development, and deployment of clean energy technologies** in order to address climate change and reduce greenhouse gas emissions.
- It was **launched in parallel with the Paris Agreement on climate change in 2015**.
- The primary goal of Mission Innovation is to increase public and private investments in clean energy research and innovation.
- **It consists of 23 countries and EU. India is a founding member.**



### 3.13.2 EUROPEAN SKY SHIELD INITIATIVE (ESSI)

- Recently, **Austria and Switzerland** joined ESSI.
- ESSI aims to create a **European air and missile defence system through European nations' common acquisition of air defence equipment and missiles** to strengthen NATO's Integrated Air and Missile Defence.
- This initiative was **conceptualized last year by Germany** after Russia invaded Ukraine.
- **ESSI members have increased to 19**, including the countries like Belgium, Bulgaria, the Czech Republic, Norway, Slovakia, and the UK.

### 3.14.3 ORKNEY ISLANDS

- Recently, **Orkney Islands has proposed its desire to split from the U.K.** and to become a **self-governing territory of Norway.**
- Basically, Orkney Islands are **situated on the North-Eastern coast of Scotland.**
- It is an archipelago of nearly 70 islands, of which only 20 are inhabited.
- They were under Norwegian and Danish rule until the late 15th century, after which it came under Scotland.
- **They have 4 UNESCO world heritage sites: Skara Brae, Ring of Brodgar, Standing Stones of Stenness, and Maeshowe chambered tomb.**

### 3.14.4 SMART POWER

- Recently, the Parliamentary Committee of External Affairs shared its observations on Smart Power.
- Basically, American political scientist **Joseph Nye** distinguished between 2 types of power: **hard power and soft power.**
- **Hard power** denotes the **capacity to coerce an entity** to behave specifically using military capabilities and economic might.
- While, **Soft Power** is the country's ability to **influence others without coercive pressure.**
- However, in addition to hard and soft power, there is another type of power: **Smart power.**
- **Smart power is the ability of a country to combine elements of both hard and soft power in a way that they can effectively and efficiently contribute to achieving the country's goals.** For instance, Norway joined NATO for defence but developed forward-leaning policies on overseas development assistance and peace mediation to increase its soft power.
- According to **Ministry of External Affairs (MEA)**, Smart power is the most representative of India's current interaction with the world.
- It involves the strategic use of **diplomacy, persuasion, capacity building, and the projection of power and influence** in cost-effective ways.

### 3.14.5 GROUP OF GLOBAL CRISIS RESPONSE GROUP (GCRG)

- Recently, India has joined United Nations GCRG.
- It was **set up by the UN Secretary-General (UNSG) in 2022** to address urgent and critical global issues about interlinked crises in the areas of **food security, energy and finance and to coordinate on these.**
- Basically, the **GCRG is overseen by the "Champions Group"** comprising the Head of State/Head of Government of countries like **Bangladesh, Barbados, Denmark, Germany, Indonesia and Senegal.**
- GCRG helps decision-makers to **find solutions and develop strategies** to help vulnerable countries.



## 4.

## SECURITY

## 4.1 CYBER SECURITY

## Latest Context

Recently, a report on cyber security and the rising incidence of cyber/white-collar crimes has been released by the Standing Committee on Finance.

## Cyber Security

- Cyber security is the **practice of defending computers, servers, mobile devices, electronic systems, networks, and data** from malicious attacks. It's also known as information technology security or electronic information security.
- The prediction is that **\$8 trillion will be lost to cyber-crimes** by the end of 2023 throughout the World. These numbers help us to measure the depth of the impact of cybercrime on the global economy.

## Key Highlights

- The committee noted that there have been **challenges in exerting sufficient control over third-party service providers** on cyber security matters.
  - It recommended **enhancing regulatory powers** to oversee and control such service providers including big tech and telecom companies.
  - It also noted that **big tech companies should not disregard inputs from regulators** such as the Reserve Bank of India (RBI) to make their systems more secure
- **Downtime in critical payment systems** can disrupt customer services. However, they are not currently regulated.
  - The Committee recommended that such payment **systems should work closely with financial institutions** to improve uptime and address issues in critical payment systems.
- The Committee observed that it is important to **secure critical financial infrastructure against cyber threats**.
  - It emphasized on the need for a **comprehensive legal framework involving robust policies, regular risk assessments**, and an incident response plan.
- The Committee noted that the **current regulatory landscape for cyber security involves multiple agencies and bodies**. This requires a **high level of inter-ministerial coordination**. There is **no central authority or agency** solely dedicated to cyber security.
  - The Committee recommended establishing a centralized **Cyber Protection Authority (CPA)**. The authority would develop and **implement robust cyber security policies, guidelines**, and best practices in collaboration with states and private sector entities
- Institutions such as **cooperative banks, non-banking financial companies (NBFCs)**, and other smaller participants have a **higher number of cyber security incidents** as compared to commercial banks. There is a significant disparity in conducting cyber security audits between cooperative banks and commercial banks
  - The Committee recommended that such **entities should prioritize investments in cyber security infrastructure, advanced threat detection systems**, and secure data storage practices. They should also conduct regular audits and assessments to identify vulnerabilities
- The Committee recommended the creation of a **Central Negative Registry** which would be maintained by the CPA.
- The existing **compensation mechanism for cybercrime victims** in the financial sector has limited scope and coverage. The process for filing compensation claims is complex and it places the burden of proof on the victims.



- The Committee recommended that it should be the **financial institution's responsibility to compensate the customer in cases of fraud.**
- The Committee noted that due to **inadequate enforcement** and the bailable nature of most offences under the Information Technology Act, 2000, **fraudulent activity has persisted.**
  - It recommended **implementing stricter penal provisions**, imposing stricter bail conditions, and considering provisions for local surety.

### Importance of Cyber Security

- **Protecting personal information:** Cybersecurity is important for protecting personal information from theft, fraud, and misuse. For example, if a hacker gains access to an individual's personal information, they may be able to steal their identity, open credit accounts in their name, or gain access to their financial accounts.
- **Securing financial transactions:** Cybersecurity is essential for securing financial transactions and preventing fraud. For example, if an online retailer's website is not secure, hackers may be able to intercept and steal customers' credit card information.
- **Safeguarding intellectual property:** Cybersecurity is crucial for safeguarding intellectual property, such as trade secrets, patents, and proprietary information. For example, if a competitor gains access to a company's trade secrets, they may be able to copy their products or services, resulting in lost revenue and market share.
- **Protecting critical infrastructure:** Cybersecurity is important for protecting critical infrastructure, such as power grids, transportation systems, and water treatment facilities. For example, if a hacker gains access to a power grid, they may be able to cause a widespread blackout, resulting in significant economic damage and public safety concerns.
- **Ensuring national security:** Cybersecurity is essential for ensuring national security and protecting against cyber-attacks on government systems and critical infrastructure. For example, the WannaCry ransomware attack in 2017 targeted government systems and critical infrastructure in multiple countries, causing significant disruption and economic damage.

### Need for Cyber Security

- **Digital Transformation:** India is rapidly embracing digital technologies in various sectors, such as finance, healthcare, education, and governance. This digital transformation brings efficiency and convenience, but it also exposes critical systems to cyber threats.
- **Cyber Attacks:** The frequency and sophistication of cyber-attacks are increasing globally. India is not immune to this trend, and its government agencies, critical infrastructure, businesses, and individuals are potential targets for cybercriminals, hackers, and state-sponsored actors.
- **Data Privacy:** As digital services expand, personal and sensitive data are being collected and processed on a larger scale. Protecting this data from breaches and unauthorized access is crucial to maintaining individuals' privacy and preventing identity theft and fraud.
- **Financial Loss:** Cyber-attacks can result in substantial financial losses for individuals, businesses, and the government. Incidents like ransomware attacks, data breaches, and financial fraud can lead to direct financial losses, legal liabilities, and reputational damage.
- **Critical Infrastructure Protection:** Disruption to critical infrastructure, such as power grids, transportation systems, and communication networks, due to cyber-attacks can have severe consequences on public safety, economy, and national security.
- **E-Governance and Digital Services:** The Indian government is actively promoting e-governance and digital services to improve citizen services and streamline administrative processes. Ensuring the security of these services is essential to maintain trust in the government and prevent unauthorized access to sensitive information.
- **Growing Cyber Threat Landscape:** The evolving nature of cyber threats, including new malware variants, phishing tactics, and social engineering techniques, requires continuous adaptation of cybersecurity measures to stay ahead of potential attackers.
- **Cyber Espionage and Geopolitical Concerns:** India's geopolitical position makes it a target for cyber espionage and attacks by state-sponsored actors. Protecting sensitive government and defence information is critical for national security.



## Challenges in Cyber Security

- **Imported IT cyber-infrastructure:** Most equipment and technology for setting up cybersecurity infrastructure in India are currently procured from global sources. These systems are vulnerable to cyber threats just like any other connected system.
- **Lack of Awareness:** According to a survey by Norton LifeLock, 98% of Indian adults have engaged in risky online behaviour, such as using weak passwords and not updating software, due to a lack of awareness about cybersecurity risks. This lack of awareness can lead to cyber-attacks and data breaches.
- **Insufficient Infrastructure:** According to a report by PwC, India has a shortage of over one million cybersecurity professionals. This shortage of skilled cybersecurity professionals can lead to vulnerabilities in the cybersecurity infrastructure of Indian organizations.
- **Cybercrime:** With over 2328 attacks per day, an average of 8,00,000 occur in a year and on average, there is a hacker attack every 39 seconds. It is estimated that 2023 will face around 33 billion account breaches. Cybercriminals in India use a range of techniques, such as phishing, malware, and ransomware, to target individuals and organizations.
- **Cyber Espionage:** According to a report by cybersecurity firm FireEye, India was the seventh most targeted country for cyber espionage attacks in 2020. Foreign actors targeted government agencies, defense establishments, and private companies for sensitive information.
- **Data Privacy:** India has yet to pass comprehensive data privacy laws, leaving individuals and organizations vulnerable to data breaches and unauthorized access to personal and sensitive information.

According to a report by the Internet and Mobile Association of India, India saw a 37% increase in data breaches in 2020.

- **Cyber Warfare:** India is also vulnerable to cyber warfare, which could be used to disrupt critical infrastructure and cause significant damage. In 2019, India's power grid suffered a cyber-attack that caused widespread outages, highlighting the vulnerabilities of critical infrastructure to cyber-attacks.

## Steps Taken by the Government for Cyber Security

- **Legal Measure:** The Information Act, 2000 was enacted as the primary law in India for dealing with cybercrime and digital commerce is the Information Act, 2000, which was amended in 2008.
- **Policy measures:** National Cybersecurity Policy, 2013: The policy gives the national cyberspace protection vision and strategic direction.
- **Institutional measures:** Establishment of Cyber Emergency Response Team of India (CERT-In): Since 2004, CERT-In has been in operation. It is the national agency with the responsibility for responding to computer security incidents as they arise.
- **Cyber Crime Coordination Centre (I4C):** The Union Government has decided to establish the Indian Cyber Crime Coordination Centre (I4C), which will serve as the highest coordination center for cybercrime prevention.
- **Cyber Swachhta Kendra Platforms:** The Cyber Swachhta Kendra, which debuted at the beginning of 2017, provides a platform for users to analyze and remove various viruses, bots/malware, Trojans, and other malware from their systems.
- **Cyber Surakshit Bharat initiative:** The Cyber Surakshit Bharat initiative was launched by the Ministry of Electronics and Information Technology to educate Chief Information Security Officers (CISOs) and frontline IT staff from all government departments about cybercrime and build capacity for safety measures.
- **The Cyber Warrior Security Team:** The government announced its intention to implement CWPF in 2018. It is proposed to be raised on lines of the Focal Furnished Police Power (CAPF).
- **The Cyber-Crime Prevention for Women and Children Program:** The plan, which is put into action by the Ministry of Home Affairs, aims to reduce and prevent cybercrimes against children and women.

## Way Forward

- **Developing skills:** Capabilities and capacity for application, equipment, and infrastructure testing must be built immediately.



- **Human Resource Development:** Human resource development needs to be prioritized right away because doing so would result in an increase in the number of specialists who are capable of effectively managing the nation's cyber security.
- **More R&D in the cybersecurity field:** To address the growing threats to cybersecurity, more innovative technologies should be developed through R&D investments.
- **Improved Governance and policy:** It is essential to establish a solid policy and effectively implement it. In addition, duties and responsibilities ought to be clearly defined for efficient operation and improved coordination among departments and stakeholders. In addition to this, National Cybersecurity Policy, 2013 needs to be updated
- **Creating Awareness about cybersecurity:** In order to raise people's awareness of threats to cybersecurity, the government and large private organizations ought to carry out periodic awareness campaigns.
- **Building on Private Partnerships:** The public-private partnership in cyber security must be strengthened to improve R&D in this sector and hence develop domestic IT hardware and software market.

#### International Initiatives

- **Paris Call for Trust and Security in Cyberspace:** "The Paris Call for Trust and Security in Cyberspace," which aimed to develop common principles for securing cyberspace, was launched at the UNESCO Internet Governance Forum (IGF) meeting held in Paris.
- **2001 Budapest Convention Against Cybercrime:** It addresses issues like copyright infringements, computer-related fraud, child pornography, and network security breaches. By enacting appropriate legislation and encouraging international police and judicial cooperation, it aims to implement a common criminal policy. A computer-implemented "**Protocol on Xenophobia and Racism**" serves as an addition. India has not joined the convention yet.
- **Cyberspace conference worldwide:** The conference's theme is "cooperation in cyberspace" and "enhancing cyber capacity building." Participants from the private sector, civil society, and the government are all present. The Meeting is held starting around 2011 biennially

## 4.2 SHORT NEWS

### JIMEX 23

- It is the **7th edition of the bilateral Japan-India Maritime Exercise 2023** which is being conducted at/ off Visakhapatnam by the Indian Navy.

### SALVEX

- Recently, the **seventh edition of the Indian Navy – US Navy, Salvage and Explosive Ordnance Disposal (EOD) exercise, SALVEX**, was conducted in Kochi.

### OPERATION SOUTHERN READINESS, 2023

- It is an international maritime security exercise in which **India, the USA, Italy, the UK, and Seychelles** participated. It was conducted by the **Combined Maritime Forces**.

### NOMADIC ELEPHANT

- It is a joint military exercise conducted between **India and Magnolia**.



## 5.

## SCIENCE AND TECHNOLOGY

5.1 ISRO SUCCESSFULLY LAUNCHED 3<sup>RD</sup> LUNAR MISSION**Latest Context:**

Recently, ISRO successfully launched Chandrayaan-3 mission from the Satish Dhawan Space Center (SDSC) in Sriharikota.

**About Chandrayaan-3 Mission**

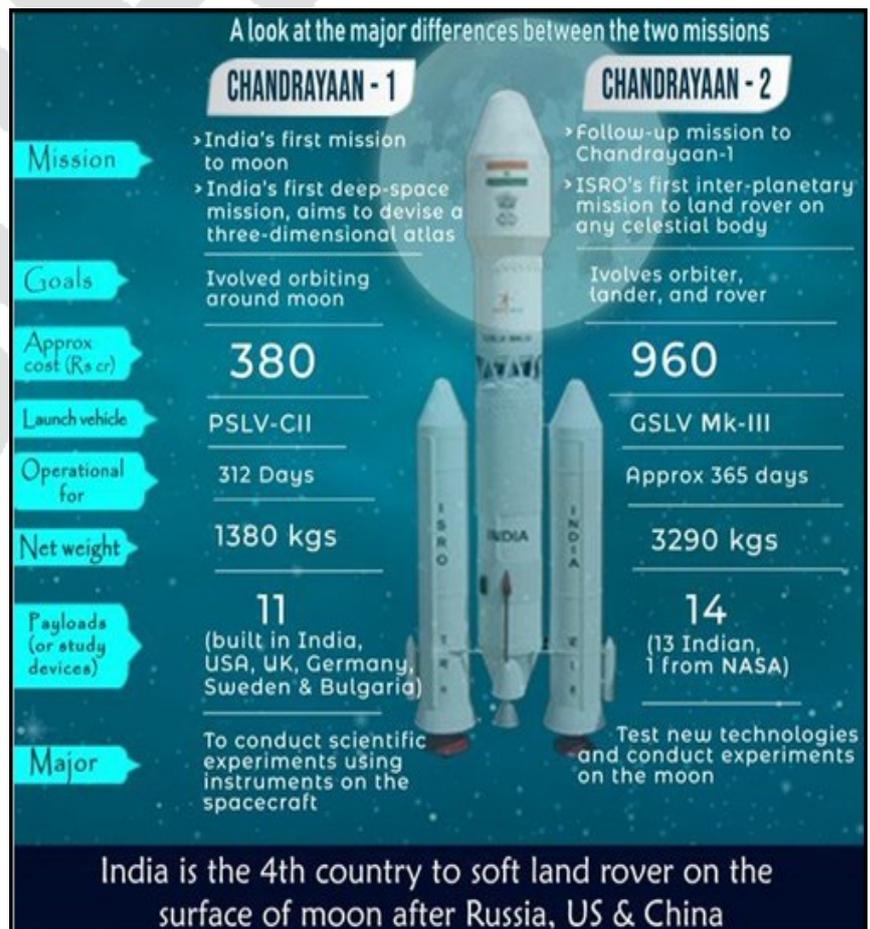
- Chandrayaan-3 is **India's 3<sup>rd</sup> lunar mission** and is a follow-up of Chandrayaan-2 mission of July 2019, which **aimed to land a rover on the south pole of the moon.**
- The mission was launched by **Launch Vehicle Mark 3 (LVM3).**
- The landing failure in 2019 mission led to the pursuit of another mission to **demonstrate the landing capabilities** of India.
- Chandrayaan-3 will have 3 major modules- **the Propulsion module, Lander module and Rover.**
- The propulsion module will carry the lander and rover to 100 km of the moon orbit. Then, the Lander will make a soft landing at the specified lunar site and will deploy the Rover which will carry out in-situ chemical analysis of the moon surface.
- If successful, then it will be the **world's first mission to make a soft-land near the south pole of the moon.**

**Importance of Exploring the Moon for Scientists**

- The Moon is the closest celestial body to the earth to **test our space technologies for extensive or far away space missions.**
- Moon acts as a promising celestial to explore and achieve a **solid understanding of extra-terrestrial territories.**
- Moon is important to **understand the history of the solar system** and especially the earth.

**What is the reason to target Moon's south pole with Chandrayaan-3 space mission?**

- The biggest reason to target the Moon's southern pole with Chandrayaan-3 is that it **contains a lot of shadow areas** than the northern pole. Space scientists believe that these areas on the moon's surface **can have a permanent source of water.**
- Scientists also have a deep curiosity in the **craters present** in the southern pole. They believe that these cold traps may contain mysterious fossil records of the early planetary system.
- Moon has **traces of hydrogen, ammonia, methane, sodium, mercury, and silver,** which makes it even more important.





All previous spacecrafts have landed on the equatorial region of the moon because:

- It is **easier and safer** to land near equator.
- **The terrain and temperature near the equator are more hospitable**, which led for a long and sustained operation of technical instruments.
- At equator, **the Sunlight** is present in abundance.

## 5.2 NEUTRINO PARTICLES

**Latest Context:**

Recently, scientists have seen neutrinos originating from the central disk of the Milky Way galaxy.

**Details of the discovery are:**

- Basically, the data collected by the **‘Ice-Cube Neutrino Observatory’** has released the first view of the Milky Way galaxy through the lens of neutrino particles.
- **This view differs fundamentally from what one can see with eyes or with instruments** that measure other electromagnetic sources like radio waves, microwaves, infrared, ultraviolet, X-rays etc.

 <p><b>FUNDAMENTAL</b></p> <p>Neutrinos are fundamental particles, which means that—like quarks and photons and electrons—they cannot be broken down into any smaller bits.</p>	 <p><b>ABUNDANT</b></p> <p>Of all particles with mass, neutrinos are the most abundant in nature. They're also some of the least interactive. Roughly a thousand trillion of them pass harmlessly through your body every second.</p>	 <p><b>ELUSIVE</b></p> <p>Neutrinos are difficult but not impossible to catch. Scientists have developed many different types of particle detectors to study them.</p>
 <p><b>OSCILLATING</b></p> <p>Neutrinos come in three types, called flavors. There are electron neutrinos, muon neutrinos and tau neutrinos. One of the strangest aspects of neutrinos is that they don't pick just one flavor and stick to it. They oscillate between all three.</p>	 <p><b>NEUTRINOS ARE...</b></p>	 <p><b>LIGHTWEIGHT</b></p> <p>Neutrinos weigh almost nothing, and they travel close to the speed of light. Neutrino masses are so small that so far no experiment has succeeded in measuring them. The masses of other fundamental particles come from the Higgs field, but neutrinos might get their masses another way.</p>
 <p><b>DIVERSE</b></p> <p>Neutrinos are created in many processes in nature. They are produced in the nuclear reactions in the sun, particle decays in the Earth, and the explosions of stars. They are also produced by particle accelerators and in nuclear power plants.</p>	 <p><b>MYSTERIOUS</b></p> <p>Neutrinos are mysterious. Experiments seem to hint at the possible existence of a fourth type of neutrino: a sterile neutrino, which would interact even more rarely than the others.</p>	 <p><b>VERY MYSTERIOUS</b></p> <p>Scientists also wonder if neutrinos are their own antiparticles. If they are, they could have played a role in the early universe, right after the big bang, when matter came to outnumber antimatter just enough to allow us to exist.</p>

**What are Neutrinos?**

- Neutrinos are **subatomic particles that belong to the family of elementary particles**, along with electrons, protons, and neutrons.
- Neutrinos are **fundamental building blocks of the universe** and play a crucial role in various astrophysical and particle physics phenomena.

**Some key features of neutrinos are:**

- **Charge and Mass:** Neutrinos have a very small mass compared to other particles like electrons. They are also electrically neutral, meaning they carry no positive or negative charge.
- **Flavors:** Three known types, or "flavours," of neutrinos are electron neutrinos ( $\nu_e$ ), muon neutrinos ( $\nu_\mu$ ), and tau neutrinos ( $\nu_\tau$ ). Each flavour is associated with a corresponding charged lepton: electron, muon, and tau particles, respectively.



- **Interactions:** Neutrinos are known for their weak interactions, which are mediated by the weak force. This interaction is much weaker than electromagnetic or strong interactions, which is why neutrinos can pass through matter with minimal interference. However, their weak interactions make them extremely challenging to detect.
- **Oscillations:** Neutrinos are known to undergo a phenomenon called neutrino oscillation or neutrino flavour oscillation. This means that a neutrino of one flavour can spontaneously transform into a neutrino of another flavour as it travels through space. This discovery led to the realization that neutrinos have mass, something that was not initially included in the standard model of particle physics.
- **Sources:** Neutrinos are produced in various natural processes, such as nuclear reactions in the Sun, nuclear reactors, and cosmic-ray interactions in Earth's atmosphere. They are also produced in high-energy particle accelerators and are often used in experimental particle physics studies.
- **Detection:** Due to their weak interactions, detecting neutrinos is a challenging task. Various methods have been developed to detect neutrinos indirectly, such as observing the products of their interactions with matter. Techniques include using large underground detectors to minimize interference from other particles.

### About Milky Way Galaxy

- The Milky Way is the galaxy that **contains our Solar System**.
- It was **formed billions of years ago from the gravitational collapse of a cloud of gas and dust**. Over time, this gas and dust condensed to form stars, and the galaxy evolved through various processes of star formation, interactions with other galaxies, and the influence of dark matter.
- It is a **barred spiral galaxy**, meaning it has a central bar-shaped structure surrounded by spiral arms.
- The Milky Way is a **flattened, disk-like structure with a central bulge and spiral arms** extending from the center. The central bulge contains a high concentration of stars, while the spiral arms are regions of active star formation.
- It has a diameter of about 100,000 light-years and is estimated to be around 1,000 light-years thick at its center. It is **composed of stars, gas, dust, and dark matter**.
- It has several spiral arms, including the Perseus Arm, the Sagittarius Arm, and the Orion Arm. Our Sun resides within the Orion Arm, which is also known as the Local Arm.
- The center of the Milky Way is home to a supermassive black hole called **Sagittarius A**. This black hole has a mass of around 4 million times that of the Sun and is surrounded by a region of intense activity.
- **It contains billions of stars of various ages and sizes**. It has both young, hot stars that are still actively forming, and older, cooler stars. The distribution of stars is not uniform; it is denser towards the center and becomes more diffuse as one moves towards the outer regions.
- Observations suggest that the Milky Way, like most galaxies, **contains a significant amount of dark matter—an unseen form of matter that does not emit or interact with electromagnetic radiation but exerts gravitational effects on visible matter**,



## 5.3 “THE PATH THAT ENDS AIDS” REPORT

### Latest Context:

Recently, the UNAIDS released “The Path that Ends AIDS” report.



# UPSC Prelims Facts: UNAIDS

Name: Joint United Nations  
Programme on HIV/AIDS (UNAIDS)  
The only co-sponsored Joint  
Programme in the UN system  
Year of formation: 1994  
HQ: Geneva, Switzerland  
Sector: HIV/AIDS

### Some Key Highlights of the Report

- **Reduction in the number of new HIV infections and AIDS (Acquired Immuno-deficiency Syndrome) related deaths** is helping to achieve SDG 3.3 of ‘ending AIDS as a public health threat by 2030’.
- **Deaths related to AIDS reduced by around 69%**, since the peak in 2004.
- Almost **76%** of people living with HIV globally receive life-saving treatment Kit.

### HIV (Human Immunodeficiency Virus)

HIV is a **virus that attacks the immune system, specifically the CD4 cells** (also known as T cells), which help the body fight off infections. If left untreated, HIV can lead to AIDS.

### Ways of Transmission

- **Unprotected Sexual Contact:** Sexual intercourse without the use of contraception with an infected partner.
- **Contaminated Blood:** Sharing needles or syringes with an infected person, or receiving contaminated blood or blood products.
- **From Mother to Child:** An infected mother can transmit the virus to her child during childbirth or breastfeeding.

### HIV infection progresses in stages:

- **Acute Infection:** The initial stage, often accompanied by flu-like symptoms such as fever, fatigue, and swollen lymph nodes. During this stage, the virus replicates rapidly in the body.
- **Clinical Latency (Chronic) Stage:** Also known as the asymptomatic stage, this phase can last for several years. While the virus is still active, it reproduces at a much lower rate. People may not experience any significant symptoms during this stage.

### About AIDS (Acquired Immunodeficiency Syndrome)

- AIDS is the advanced stage of HIV infection.
- It occurs when the immune system has been severely damaged, and the body becomes more susceptible to opportunistic infections and certain cancers.
- AIDS is diagnosed based on specific criteria, including the presence of certain infections or cancers and a decrease in the number of CD4 cells in the blood.



### Initiatives taken by India to tackle HIV AIDS

- **National AIDS Control Program (NACP):** The NACP is a comprehensive program launched in 1992 that focuses on preventing the spread of HIV/AIDS and providing care and support to those affected by the disease. It has been implemented in several phases, each with specific goals and strategies.
- **Prevention Programs:** The government and NGOs run targeted prevention programs for high-risk populations, including sex workers, men who have sex with men, transgender individuals, and people who inject drugs. These programs include distributing condoms, promoting safe sex practices, and providing education about HIV transmission.
- **Antiretroviral Treatment (ART) Program:** India has expanded access to ART through various initiatives. The "Test and Treat" policy aims to provide immediate ART to all diagnosed HIV-positive individuals, regardless of their CD4 count.
- **PMTCT (Prevention of Mother-to-Child Transmission) Program:** India has made significant growth in reducing mother-to-child transmission of HIV. Pregnant women are offered HIV testing, and those who test positive are provided with antiretroviral medications to reduce the risk of transmission to their infants.
- **HIV Counselling and Testing Centres (ICTCs):** These centres provide confidential HIV testing, counselling, and referrals for treatment and care. They play a crucial role in early detection and prevention efforts.
- **Community Engagement:** Civil society organizations, NGOs, and community-based groups play a significant role in HIV/AIDS awareness and support. They help reach underserved populations and provide a range of services, including counselling and peer support.
- **Legal and Policy Reforms:** India has taken steps to address legal barriers and stigma related to HIV/AIDS. The HIV/AIDS Act of 2017 prohibits discrimination against people living with HIV/AIDS and ensures their right to access healthcare and treatment.
- **Global Fund and International Partnerships:** India collaborates with international organizations like the Global Fund to Fight AIDS, Tuberculosis, and Malaria to secure funding and technical assistance for its HIV/AIDS programs.
- **Research and Innovation:** India is involved in research and innovation related to HIV/AIDS, including vaccine development and new treatment strategies.

### Conclusion

Despite these efforts, **challenges such as stigma, unequal access to healthcare, and varying prevalence rates across regions persist.** Continued commitment, coordination, and a focus on evidence-based strategies are essential to further progress in combating HIV/AIDS in India.

## 5.4 NON-SUGAR SWEETENERS (NSS)

### Latest Context:

Recently, WHO's International Agency for Research on Cancer (IARC) declared the commonly used non-sugar sweetener "Aspartame" as 'possibly carcinogenic to humans'. Carcinogenic means having the potential to cause cancer.

### What are Non-Sugar Sweeteners (NSS)?

- Non-Sugar Sweeteners (NSS), also known as **sugar substitutes or artificial sweeteners, are substances used to sweeten foods and beverages without adding calories from sugars.**
- They are often used by people who are looking to reduce their sugar intake, manage their weight, or control their blood sugar levels, as well as by individuals with certain health conditions, such as diabetes.
- **NSS are many times sweeter than sugar,** so only small amounts are needed to achieve the desired level of sweetness. This makes them a popular choice for people who want to enjoy sweet-tasting foods and drinks without the caloric impact of sugar.
- **NSS are used in a wide range of products, including diet sodas, sugar-free desserts, and low-calorie snacks.**



### Some common examples of non-sugar sweeteners

- **Aspartame:** This is a low-calorie sweetener that is commonly used in diet sodas, sugar-free gums, and other low-calorie or sugar-free products. It's about 200 times sweeter than sugar.
- **Saccharin:** Saccharin was one of the first artificial sweeteners to be discovered. It is used in a variety of foods and beverages and is about 300 to 400 times sweeter than sugar.
- **Sucralose:** Sucralose is derived from sugar but is not metabolized by the body, so it contributes virtually no calories. It's about 600 times sweeter than sugar and is used in a wide range of products.
- **Stevia:** Stevia is a sweetener derived from the leaves of the stevia plant. It is considered a natural sweetener and has gained popularity as a sugar substitute in recent years. Stevia extracts can be several hundred times sweeter than sugar.
- **Monk Fruit Extract:** This sweetener is derived from the monk fruit and is considered another natural sweetener option. It's much sweeter than sugar, so only small amounts are needed.
- **Acesulfame Potassium (Ace-K):** Acesulfame potassium is often used in combination with other sweeteners to enhance sweetness. It's stable under heat, making it suitable for use in cooking and baking.

### About International Agency for Research on Cancer (IARC)

- IARC is an **intergovernmental agency that operates under the auspices of the World Health Organization (WHO)**.
- Its primary mission is to conduct and coordinate research into the causes of cancer and to assess the carcinogenicity (cancer-causing potential) of various substances and agents.
- **IARC was established in 1965 by the World Health Assembly**, the decision-making body of the World Health Organization.
- **It is headquartered in Lyon, France.**
- **IARC classifies agents into several categories based on their carcinogenicity:**

**Group 1:** Carcinogenic to humans

**Group 2A:** Probably carcinogenic to humans

**Group 2B:** Possibly carcinogenic to humans

**Group 3:** Not classifiable as to its carcinogenicity to humans

**Group 4:** Probably not carcinogenic to humans

## 5.5 SHORT NEWS

### 5.5.1 MALARIA VACCINE

- Till now, **almost 18 million doses of the first-ever malaria vaccine RTS-S/AS01** were given to **12 African countries** by WHO, GAVI and UNICEF.
- Basically, RTS-S/AS01 malaria vaccine **can be used for prevention of P. falciparum malaria**. This vaccine is also known with the name “Mosquirix”.
- It is a **Recombinant Protein Vaccine (RPV)**.
- A RPV is a type of vaccine that is **designed to stimulate an immune response in the body by introducing specific proteins from a pathogen** (such as a virus or bacterium) without actually using the live pathogen itself.
- These vaccines are **created through genetic engineering techniques**, where genes that encode for the target protein(s) of the pathogen are inserted into a different organism (often a type of bacteria or yeast) that can then produce the desired protein in large quantities

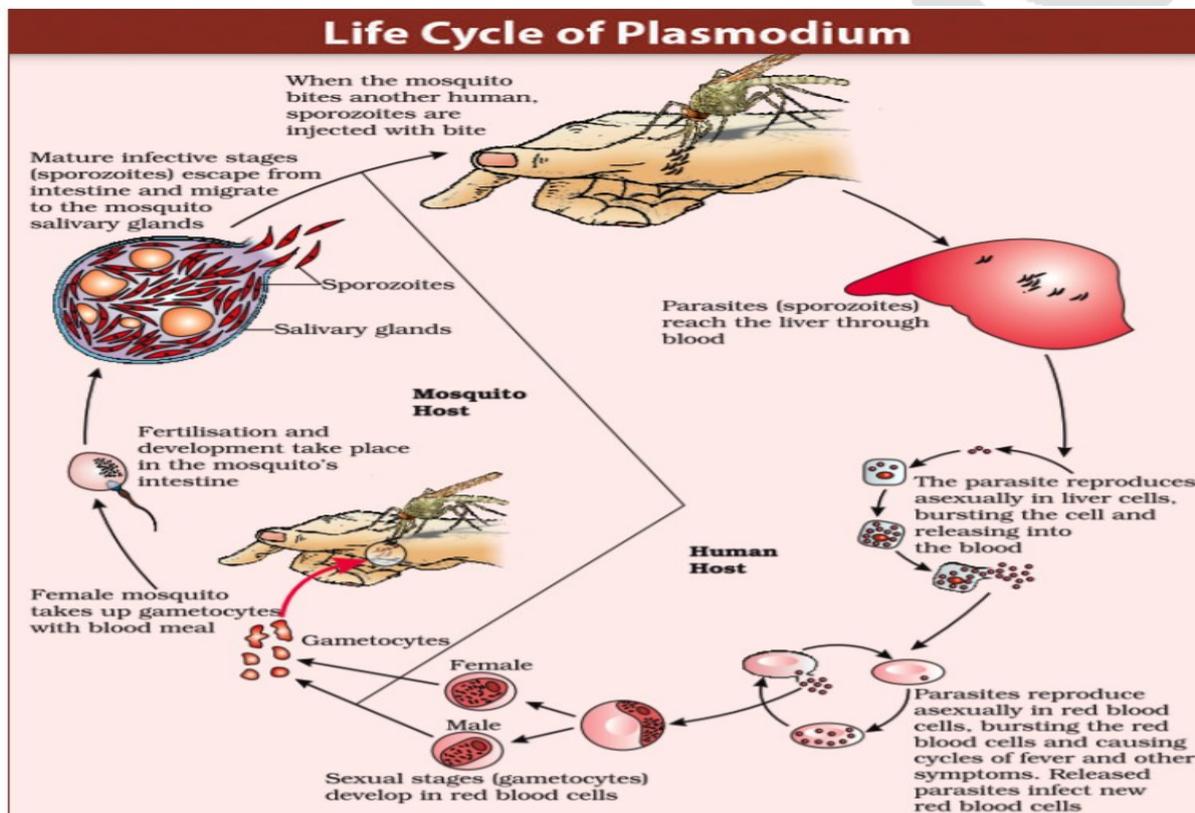
#### About Malaria

- It is a **mosquito-borne infectious disease caused by parasites of the Plasmodium genus**.
- It is a significant global health concern, especially in tropical and subtropical regions. The disease is **transmitted to humans through the bites of infected female Anopheles**



**mosquitoes.** Once infected, the parasites multiply in the liver and then invade red blood cells, causing a variety of symptoms.

- Malaria can present with a wide range of symptoms, including **fever, chills, headache, muscle aches, and fatigue.** In severe cases, it can lead to organ damage, anaemia, and even death.
- There are **several species of Plasmodium that can infect humans, with P. falciparum being the most deadly** and responsible for the majority of malaria-related deaths. Other species like **P. vivax, P. malariae, and P. ovale** can also cause malaria but are generally less severe.



### 5.5.2 DE-ORBITING OF SATELLITES

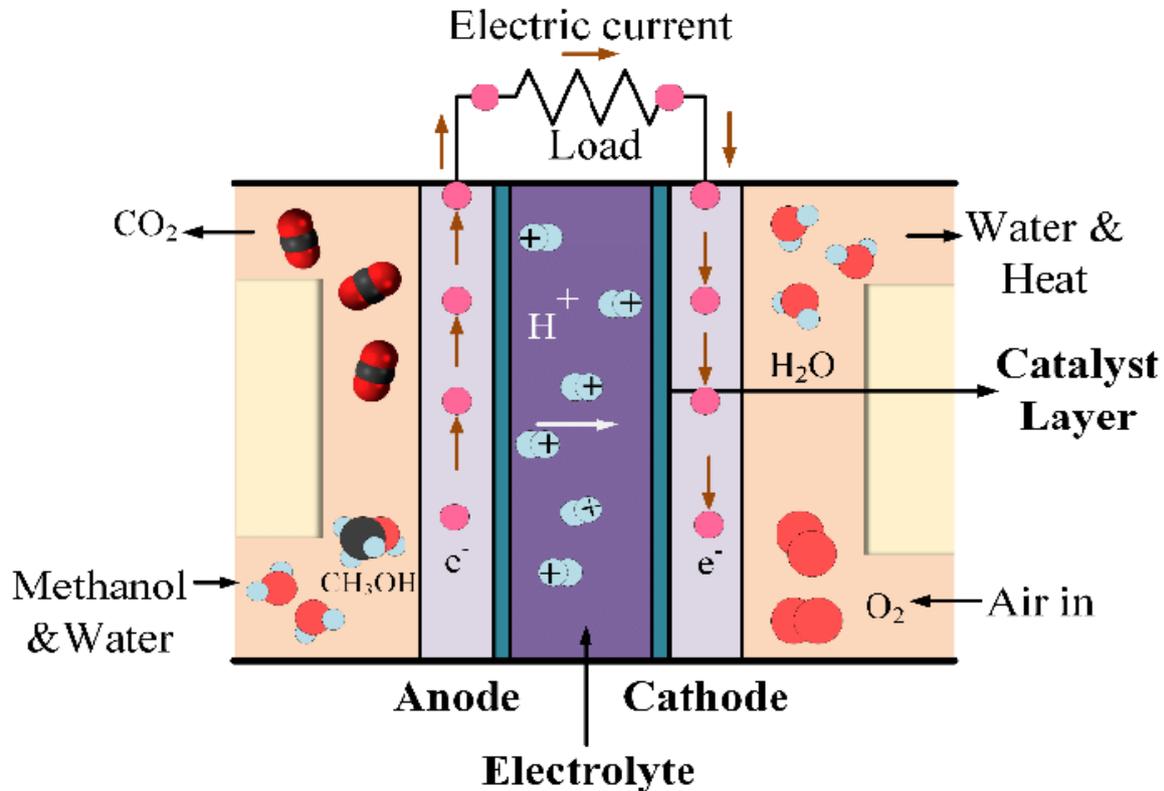
- Recently, the ISRO conducted the de-orbiting experiment of some satellites.
- De-orbiting of satellites **refers to the intentional process of bringing a satellite back from its operational orbit to a trajectory that will eventually lead to its re-entry into Earth's atmosphere** and its subsequent burning up or disposal in a controlled manner.
- This is typically **done at the end of a satellite's operational life** to prevent it from becoming space debris that could pose a risk to other operational satellites or spacecraft.
- Satellites in orbit experience a slight amount of drag due to the thin atmosphere present at their altitudes. Over time, this drag causes their orbits to decay, gradually bringing them closer to Earth. However, the process of natural orbital decay can take a long time, especially for satellites in higher orbits.
- To do the de-orbiting process and ensure a controlled re-entry, **satellites can be equipped with propulsion systems that allow them to lower their orbits on command.** This is often done by firing onboard thrusters to reduce the satellite's velocity, causing it to gradually lose altitude.
- By adjusting the timing and duration of these thruster burns, satellite operators can carefully guide the satellite's trajectory to ensure a safe re-entry over a predetermined area, such as a remote part of the ocean.

### 5.5.3 DIRECT METHANOL FUEL CELLS (DMFCs)

- Recently, it has been found that an **alloy of Cobalt and Platinum mixed with Manganese is an effective catalyst in DMFCs.**



- **Direct Methanol Fuel Cells (DMFCs)** are a type of fuel cell technology that directly convert methanol fuel into electricity through an electrochemical process.
- Like other fuel cells, DMFCs generate electricity without combustion, resulting in cleaner and more efficient energy conversion compared to traditional internal combustion engines.



#### DMFCs have several advantages:

- **Efficiency:** DMFCs are more efficient than traditional combustion-based generators and engines because they directly convert chemical energy to electrical energy.
- **Low Emissions:** They produce fewer harmful emissions compared to fossil fuel combustion, as the primary byproducts are water and carbon dioxide.
- **Quiet Operation:** DMFCs operate quietly due to the absence of moving parts, making them suitable for applications where noise is a concern.
- **Portable Power:** DMFCs can be used in portable electronic devices, backup power systems, and even small vehicles.

#### 5.5.4 BLUE SKY PROJECT

- Recently, the **Government of India** has released a draft R&D roadmap for the **green hydrogen ecosystem in India**, which focuses on developing fuel cells for long-range travel, particularly for the road transport sector.
- Basically, Green hydrogen refers to hydrogen gas that is produced using renewable energy sources through a process called **electrolysis**. This process involves splitting water (H<sub>2</sub>O) into hydrogen (H<sub>2</sub>) and oxygen (O<sub>2</sub>) using an electrical current.
- The **electricity used for electrolysis comes from renewable sources like solar, wind, or hydropower**, which ensures that the hydrogen production process is carbon-free and environmentally friendly.



### The main steps in producing green hydrogen are as follows:

- **Electrolysis:** Water is subjected to electrolysis, which involves passing an electric current through the water. This electric current causes the water molecules to break apart into hydrogen and oxygen gases. The hydrogen gas is collected and stored.
- **Renewable Energy Source:** To ensure the "green" aspect of green hydrogen, the electricity used for electrolysis must come from renewable sources. These sources generate electricity without emitting greenhouse gases, making the entire process carbon-neutral.
- **Hydrogen Storage and Distribution:** The produced hydrogen gas needs to be stored and transported to where it's needed. This can be done through various methods such as compression, liquefaction, or chemical storage.

### 5.5.5 GLOBAL FOOD REGULATORS SUMMIT 2023

- **Recently, the Global Food Regulators Summit 2023 was held in New Delhi.**
- This summit was organized by the **FSSAI (Food Safety and Standards Authority of India).**
- Main aim of the summit is to create a global platform for food regulators to exchange perspectives on strengthening food safety systems and regulatory frameworks.
- At the summit, '**SaNGRAH**' platform was launched, which is a database of food regulatory authorities of 76 countries worldwide.

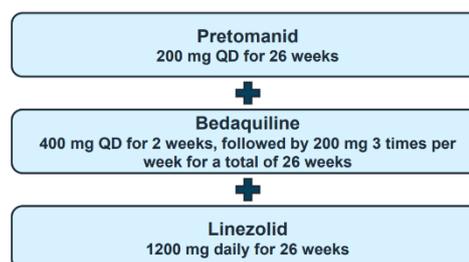
#### About the FSSAI (Food Safety and Standards Authority of India)

- FSSAI is an **autonomous regulatory body established in 2008** under the **Ministry of Health & Family Welfare, Government of India.**
- It was **created to ensure the safety and quality of food products** and to regulate their manufacturing, processing, distribution, sale, and import in order to protect the health and interests of consumers.
- FSSAI is **responsible for setting scientific and technical standards for food products** and regulating their production, distribution, and sale to ensure they are safe for consumption.

### 5.5.6 BPAL REGIMEN TRIAL

- Recently, it has been found that there is an over **85% cure rate in the BPAL regimen trial in case of Tuberculosis (TB).**
- **BPAL is a 6 month, all-oral and three-drug course that is used to treat people with highly drug-resistant forms of TB (i.e., XDR TB).**
- This course includes drugs like **Pretomanid** and 2 other antibiotics: **Bedaquiline** and **Linezolid.**
- TB is an highly infectious disease, which is caused by the bacterium "**Mycobacterium tuberculosis**".
- It primarily affects the lungs but can also impact other parts of the body such as the brain, kidneys, or spine.
- **TB spreads through the air**, when an infected person coughs, sneezes, speaks, or sings, releasing tiny infectious particles called aerosols into the air. When someone else breathes in these aerosols, they can become infected with TB.
- **XDR TB is a rare type of multidrug-resistant tuberculosis (MDR TB) that is resistant to isoniazid, rifampin, fluoroquinolone, and a second-line injectable (amikacin, capreomycin, and kanamycin) tb drugs.**

#### Nix-TB Dosing of BPAL Regimen





### 5.5.7 100 MICROSITES PROJECT

- Recently, the National Health Authority (NHA) launched the 100 Microsites Project under the Ayushman Bharat Digital Mission (ABDM).
- This project was launched to increase digital health adoption across the country.
- These microsites aim to establish a small ecosystem within a particular geographic area, where there is complete ABDM adoption and the entire patient journey is digitised.
- Basically, Microsite is a cluster of healthcare stakeholders (all healthcare providers, pharmacies etc.) interconnected with each other.
- Microsites will be established to counter challenges encountered in ABDM adoption and increase private sector participation in healthcare penetration.
- NHA will provide funds and guidance.
- Earlier, ABDM implemented Microsite in Mumbai (2022), Ahmedabad and Surat (2023).

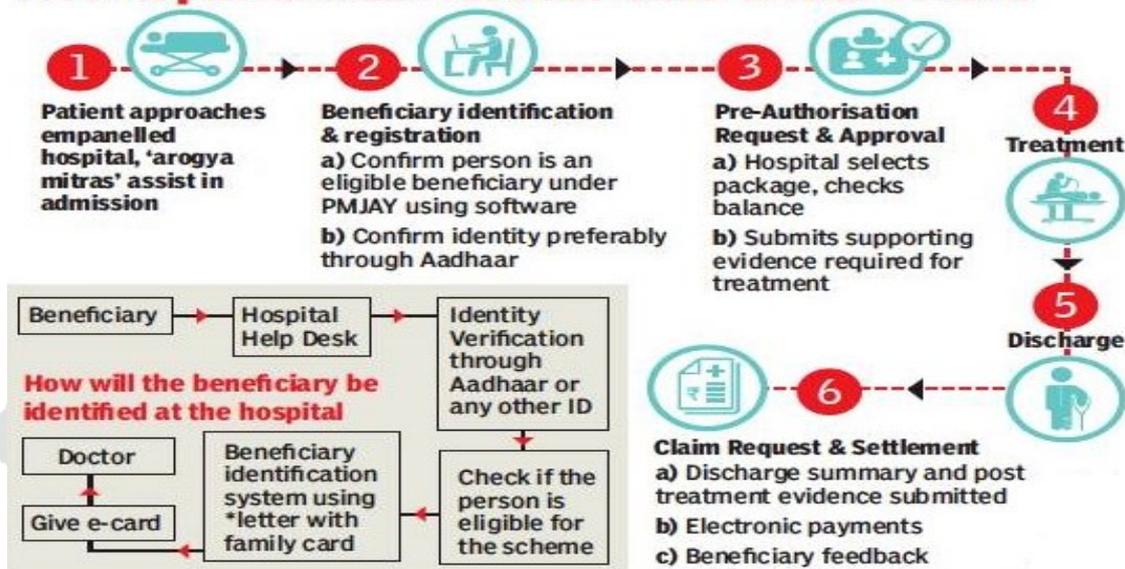
#### About National Health Authority (NHA)

- NHA is the highest body responsible for implementing Ayushman Bharat Pradhan Mantri Jan Arogya Yojana and ABDM.
- NHA is governed by a Governing Board chaired by Union Minister for Health and Family Welfare (MoH&FW).
- ABDM aims to create a seamless online platform to enable interoperability within the digital healthcare ecosystem.

#### About Ayushman Bharat - PM Jan Arogya Yojna (PMJAY)

- It is a **flagship healthcare scheme** launched by the central government in September 2018.
- It is a **part of the broader Ayushman Bharat program**, which aims to provide accessible and affordable healthcare to millions of Indian citizens.
- The scheme primarily **targets poor and vulnerable families in India**.

### How a patient can access care under PMJAY



### 5.5.8 AURORAS ON MERCURY

- Recently during a close Mercury flyby, the “**BepiColombo**” spacecraft collected data showing how electrons raining down on the planet's surface trigger X-ray auroras.
- Basically, the **BepiColombo** is a joint mission of the European Space Agency (ESA) and the Japanese Aerospace Exploration Agency (JAXA) to Mercury.
- Auroras on Earth are triggered when a stream of charged particles emitted by the Sun interact with the ionosphere but Mercury has a very thin atmosphere (called an exosphere).



- Auroras on the planet are created when solar wind, the stream of particles, interacts directly with the planet's surface.

### 5.5.9 EUCLID MISSION

- **Recently, ESA (European Space Agency) launched Euclid mission.**
- This mission **aims to investigate** cosmic mysteries of **dark matter and dark energy.**
- It will make a **3D map of the Universe** by observing billions of galaxies.
- Basically, Euclid has a reflecting telescope that feeds the two instruments: a **Visible-wavelength camera (VIS) and Near-Infrared Spectrometer and Photometer (NISP).**

### 5.5.10 ONE HEALTH PRIORITY RESEARCH AGENDA FOR AMR

- Recently, One Health Priority Research Agenda for Antimicrobial Resistance (AMR) was released.
- **It was released by Food and Agriculture Organisation (FAO), UN Environment Programme (UNEP), WHO and World Organisation for Animal Health (WOAH) to promote research and investment in AMR.**

#### Major focus areas of the research agenda

- Major objective of the research will be to find out the ways of **AMR transmission** across different sectors and environment.
- To **analyze the impact of AMR on various aspects** like health, economy and society.
- To promote **innovation and development of new and improved ways of diagnostics**, vaccines to fight infections caused by these resistant microorganisms.

#### What is Antimicrobial Resistance (AMR)?

- It refers to the **ability of microorganisms such as bacteria, viruses, fungi, and parasites, to evolve and develop resistance to antimicrobial drugs** that were previously effective against them. This means that the medications, such as antibiotics, antivirals, and antifungals, which are designed to kill or inhibit the growth of these microorganisms, become less effective in treating infections.
- AMR is a global health concern because it **can lead to increased illness, prolonged hospital stays, higher healthcare costs, and in some cases, death.** It poses a significant threat to modern medicine, as it undermines the effectiveness of many standard treatment options for various infectious diseases.

#### Some key factors that contribute to the development and spread of AMR

- **Inappropriate Use of Antimicrobials:** Overuse and misuse of antimicrobial drugs, particularly antibiotics, are significant contributors to AMR. This includes unnecessary prescription of antibiotics for viral infections (such as colds and flu) where antibiotics have no effect, improper dosage or duration of treatment.
- **Agricultural Use of Antimicrobials:** Antibiotics are commonly used in agriculture for promoting growth and preventing diseases in livestock. The use of antimicrobials in food-producing animals contributes to the development of resistant bacteria, which can then spread to humans through the food chain.
- **Poor Infection Prevention and Control:** Inadequate infection prevention and control practices in healthcare settings and communities can lead to the spread of drug-resistant infections. This includes poor hand hygiene, lack of proper sanitation and waste management, inadequate sterilization of medical equipment, and insufficient infection control protocols.
- **Lack of Access to Clean Water and Sanitation:** Limited access to clean water, sanitation facilities, and proper hygiene practices can facilitate the transmission of infections and increase the need for antimicrobial treatment, thus contributing to the development of resistance.



- **Global Travel and Trade:** The ease of international travel and global trade can facilitate the rapid spread of drug-resistant microorganisms across geographical boundaries. Resistant strains can be carried by travellers or transmitted through imported food, animals, or products.
- **Insufficient New Antibiotic Development:** There has been a decline in the discovery and development of new antimicrobial drugs, particularly antibiotics. The limited pipeline of new drugs means that there are fewer treatment options available, increasing the likelihood of resistance.

#### 5.5.11 ROBOMAPPER

- **Recently, RoboMapper has identified materials used in solar cells that have more stability and efficiency.**
- Basically, **RoboMapper is a robot** (created by the researchers in US) that conducts experiments more efficiently and more sustainably.
- It makes the conduct of materials testing more **quickly**.
- It performs each step of the data collection process but does so for multiple materials in parallel, saving time and energy.



## 6.

## ENVIRONMENT

## 6.1 BIOLOGICAL DIVERSITY (AMENDMENT) BILL, 2023

## Latest Context

The **Biological Diversity (Amendment) Bill, 2023**, revising the Biological Diversity Act of 2002, was just passed by both houses of Parliament.

## Biological Diversity Act 2002

- The Act was put into effect to assist India in achieving the goals of the 1992 Convention on Biological Diversity (CBD) of the United Nations.
- **Law was enacted with the aim to:**
  - Enhance the sustainable utilisation of its elements.
  - Provide just and fair distribution of the advantages arising from the use of biological resources.
  - Conserve biodiversity.
- **Act provides for a decentralised three-tiered mechanism for regulation:**
  - National Biodiversity Authority (NBA) at the national level.
  - State Biodiversity Boards (SBB) at the state level.
  - Biodiversity Management Committees (BMC) at the local body level.
- Benefits will be distributed to those who protect biodiversity as well as holders of related information.
- Benefits may be distributed in a variety of ways, including through monetary compensation, the exchange of intellectual property rights, or the transfer of technology.



## Changes made in the Biodiversity Amendment bill

Provision	Biological Diversity Act 2002	Biological Diversity (Amendment) Bill 2023
Extension of Exemptions	<ul style="list-style-type: none"> <li>• Act requires <b>prior approval or intimation</b> to the regulatory authority for accessing <b>biological resources</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• It exempts <b>AYUSH registered practitioners, local people and communities</b> of the area, including growers and cultivators of biodiversity, from <b>giving prior intimation to SBB</b> for accessing biological resources for <b>commercial utilization</b>.</li> </ul>
Approval for Intellectual	<ul style="list-style-type: none"> <li>• Act specifies that approval of NBA is required <b>before applying for IPR</b> involving biological resources obtained from India.</li> </ul>	<ul style="list-style-type: none"> <li>• Amendment changes the requirement and now the <b>approval will be required before the actual grant of the IPR</b> and not before the application.</li> </ul>



Property Rights (IPR)		
Benefit Sharing	<ul style="list-style-type: none"> <li>Act requires users of <b>biological resources and associated knowledge</b> to share benefits with <b>local communities</b>.</li> </ul>	<ul style="list-style-type: none"> <li>Bill exempts users of "<b>codified traditional knowledge</b>" from this requirement.</li> </ul>
Offences and Penalties	<ul style="list-style-type: none"> <li>Offences like <b>failure to take approvals</b> from the authorities for various activities which were <b>punishable up to 5 years or a fine or both</b>.</li> </ul>	<ul style="list-style-type: none"> <li>Bill <b>decriminalises the offences</b> and makes offences punishable with a penalty between <b>Rs 1 lakh and Rs 50 lakh</b>.</li> <li><b>Continuing contravention</b> may attract an additional penalty of up to <b>1 crore rupees</b> (Here, the adjudicating officer should not be below the rank of <b>Joint Secretary</b>).</li> </ul>
Expansion of NBA	<ul style="list-style-type: none"> <li>Act requires NBA to have <b>10 ex-officio members</b> apart from the Chairman.</li> <li><b>5 non-official members</b> to be appointed from amongst specialists (including legal) and scientists.</li> </ul>	<ul style="list-style-type: none"> <li><b>16 ex officio members</b> representing the Ministries like Tribal Affairs, Biotechnology etc.</li> <li><b>4 representatives from SSB</b>.</li> <li><b>5 non-official members</b> amongst specialists (including legal) and scientists.</li> <li><b>1 Member-Secretary</b> (must have experience in biodiversity conservation), who will be the <b>chief coordinating officer of the NBA</b>.</li> </ul>

### Key Challenges with the Bill

- Codified traditional knowledge is not clearly defined in the **Nagoya and Cartagena protocols** of the CBD.
- Almost all conventional knowledge may be excluded from benefit-sharing rules if this word is given a broad meaning.
- Local communities may not have much influence in benefit sharing since the bill removes their direct involvement in negotiating mutually acceptable parameters.
- Challenges in offences and penalties:** Penalties that ranging from one lakh to one crore rupees can be imposed. The adjudicating officer requires legislative direction on how to determine the punishment within this range.
- Big companies may evade the requirement for prior approval or sharing the benefits:**
  - Since the majority of AYUSH businesses are registered in the names of AYUSH practitioners, omitting them may also exclude their businesses.
  - The NBA would not require approval for a firm with foreign management that is registered in India to exploit a certain resource and create a product from it. Any financial gains from the product's sale might not assist the nearby communities without the NBA's knowledge.

#### Convention on Biological Diversity (CBD)

- The Convention on Biological Diversity (CBD) was negotiated and signed by nations at the Earth Summit at Rio de Janeiro in Brazil on June 5, 1992.
- The convention came into force on December 29, 1993.
- India** became a party to the convention on February 18, 1994.
- At the present, there are 196 Parties to this Convention.
- CBD is a legally binding treaty and has 3 main objectives:
  - Conservation of biodiversity.
  - Sustainable use of the components of biodiversity.
  - Fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.
- The Secretariat of the CBD is based in Montreal, Canada.

### Conclusion

To guarantee that India's great biological variety and associated ancient and modern knowledge systems are preserved without sacrificing the goals and impeding their development and usage, it is necessary to address the aforementioned challenges.



## 6.2 PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS (PPVFR)

### Latest Context

A recent appeal by **PepsiCo India Holdings (PIH)** against a 2021 ruling revocation of PIH's registration of a potato variety FL-2027 was denied by the Delhi High Court.

### Background of the Issue

- Pepsi launched the **FL-2027 potato cultivar (also known as FC-5)** in 2009 through a contract farming agreement.
- Under the 2016 Protection of Plant Varieties and Farmers' Rights Act (PPV&FR), the FL-2027 variety was authorised.
- In 2019, **Pepsico filed a lawsuit** against a few **farmers in Gujarat** for cultivating its registered potato variety unlawfully and infringing against its IPR as per the Act.
- The registration of FL2027 was cancelled in 2021 on the basis that it provided false information and violated farmers' rights.

### Facts about the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act 2001

- **Enacted:** In accordance with **paragraph (b) of Article 27(3)** of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, in 2001.
- The **legislation complies with UPOV's 1978** guidelines for the international protection of new plant varieties.
- The only IPR law in the world protects farmers' new, existing, and existing varieties while also granting intellectual property rights to plant breeders.
- In contrast to UPOV, the Act makes it easier to safeguard both new and old types.
- **Objective:**
  - The rights of farmers with relation to plant genetic resources for the creation of new plant varieties should be acknowledged and protected.
  - Protecting plant breeders' rights would hasten the country's agricultural growth.
  - Assist the nation's seed sector in expanding.
- **Protection period:**
  - Trees and vines: 18 years.
  - For other crops, 15 years.
  - For extant varieties: 15 years.
- **Institutions/Authorities:**
  - **Plant Varieties Protection Appellate Tribunal (PVPAT):** The High Court will hear appeals of PVPAT rulings. The appeal must be resolved by the Tribunal within a year.
  - **The Authority for the Protection of Plant Varieties and Farmers' Rights (PPV&FR Authority):** The Department of Agriculture and Cooperation, Ministry of Agriculture, was created to carry out the Act's requirements.
  - Its duties include facilitating the research and commercialization of new kinds, registering new plant types, etc.

Rights under the Act	
<b>Breeders' Rights</b> <ul style="list-style-type: none"> <li>• Breeders have <b>exclusive rights</b> to produce, sell, market, distribute, import, or export the protected variety.</li> </ul>	<b>Researchers' Rights</b> <ul style="list-style-type: none"> <li>• Researchers can use any of the <b>registered varieties</b> under the Act for <b>conducting experiments or research</b>.</li> <li>• <b>Can also use a variety as an initial source of variety</b> for the purpose of developing another variety.</li> </ul>
<b>Farmers' Rights</b> <ul style="list-style-type: none"> <li>• A farmer is <b>entitled to register and protect</b> a new variety.</li> <li>• A farmer can <b>save, use, sow, re-sow, exchange, share or sell his farm produce</b> including seeds of a variety protected under the PPV&amp;FR Act, 2001. <ul style="list-style-type: none"> <li>○ The <b>farmer shall not be entitled to sell branded seed of a variety protected</b> under the PPV&amp;FR Act, 2001.</li> </ul> </li> <li>• In the case of <b>non-performance of variety</b>, the farmer shall be <b>compensated</b>.</li> </ul>	



### Challenges with PPV&FR

- **Limited Access to Seeds:** Because patented seeds are expensive, breeders' rights may prevent small-scale farmers from accessing seeds.
- **Preference for GM and hybrid seeds:** contradicts the goal of PPV&FR to protect plant genetic resources.
- Effective enforcement is hampered by implementation issues such a lack of resources, infrastructure, and knowledge.
- **Biopiracy worries:** Local people are exploited for their traditional knowledge and resources without receiving just remuneration.

### Conclusion

Breeders', Researchers', and Farmers' interests are promoted through the PPV&FR Act of 2001. The Act must be fully implemented, and this must be ensured.

Difference Between Patent And PPV&FR Act	
Patent	PPV&FR Act
<ul style="list-style-type: none"> <li>• Deals with IPR over <b>devices of Industrial applications.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Confers IPR to plant breeders <b>who have bred or developed plant varieties.</b></li> </ul>
<ul style="list-style-type: none"> <li>• Set of <b>exclusive rights granted by a state</b> (national government) to an inventor or their assignee for a limited period of time in exchange for the public disclosure of an invention.</li> </ul>	<ul style="list-style-type: none"> <li>• Gives rights to <b>farmers, breeders and researchers</b> besides giving protection to varieties of all crop species notified under the Act.</li> </ul>
<ul style="list-style-type: none"> <li>• No provision for <b>benefit sharing.</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Provision for benefits sharing, compensation to the farmers, etc.</b></li> </ul>

### INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS (UPOV)

- The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland).
- UPOV was established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991.
- UPOV's mission is to provide and promote an effective system of plant variety protection, with the aim

## 6.3 TIGER CONVERSATION IN INDIA

### 6.3.1 STATUS OF TIGER REPORT

#### Latest Context

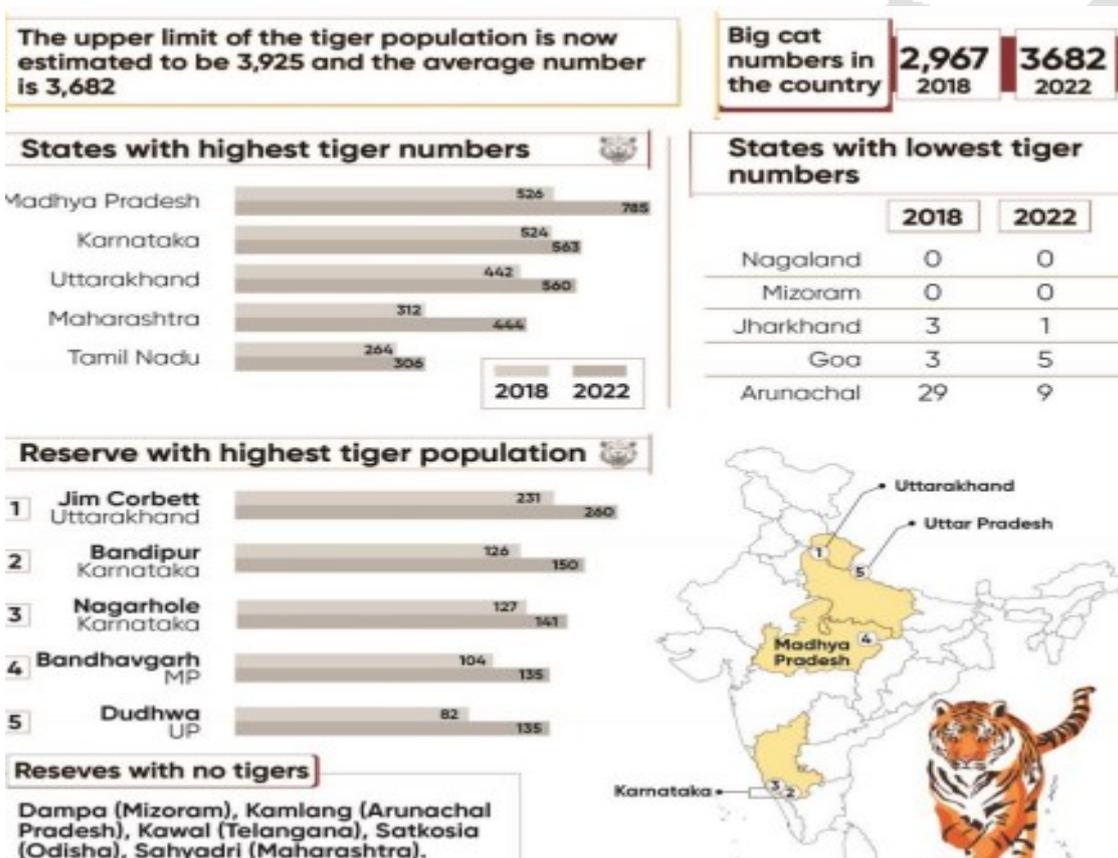
**The Status of Tigers, Co-Predators, and Prey in India-2022 study** was just published by the National Tiger Conservation Authority (NTCA).

#### Key observation from the Status of Tiger report

- 53 tiger reserves make up 2.3% of all of India's territory.
- **Population:** Almost 75% of the wild tigers in the world are presently found in India.
- There was a noticeable rise in the number of tigers in Central India, the Shivalik Hills, and the Gangetic Plains.
- Strengthening is necessary since about 35% of tiger reserves urgently need better security measures, a tiger reintroduction, etc.
- **Technique used:**
  - M-STrIPES (Monitoring System For Tigers-Intensive Protection and Ecological Status): uses a Global Positioning System and remote sensing to collect information from the field.



- Camera trap-based Capture-Mark-Recapture: An established technique for estimating tiger density and abundance is camera trap studies.
- In regions where camera trapping was not an option, tigers' presence was detected using molecular methods that extracted DNA from scats.



### 6.3.2 MANAGEMENT EFFECTIVENESS EVALUATION (MEE) OF TIGER RESERVES

#### Latest Context

Recently, the **Management Effectiveness Evaluation (MEE) of Tiger Reserves in India (5th cycle)** - Final report was made public by the National Tiger Conservation Authority (NTCA).

#### Facts about MEE

- Since its introduction in 2006, the government has used the MEE to evaluate tiger reserves around the country.
- The National Tiger Conservation Authority (NTCA) and the Wildlife Institute of India (WII) are jointly running it.
- It was the fifth cycle of the government's Management Effectiveness Evaluation (MEE).
- The World Commission on Protected Areas of the International Union for Conservation of Nature and Natural Resources provided the framework for evaluating the management efficiency of protected areas.

#### What is MEE?

- It is described as the evaluation of how successfully **Protected Areas (PAs)** are managed, specifically if they are safeguarding their values and accomplishing the predetermined aims and objectives.
- **Three main themes of PA management are reflected in the phrase "management effectiveness."**
  - Design problems with both specific venues and PA systems
  - the sufficiency and suitability of the management system and procedure.



- achieving PA goals, including asset preservation goals.

### Facts about the 5th cycle of MEE

- Due to **Ramgarh Visdhari and Ranipur**, two recently established tiger reserves, not being included in the current MEE cycle, 51 tiger reserves were assessed.
- The best-maintained tiger reserve in India is the **Periyar Tiger Reserve in Kerala**.
- Indicating continual growth in management effectiveness, the total mean MEE score climbed from 65% in the second cycle in 2010 to 78% in the current evaluation.
- **12 tiger reserves received an "Excellent" ranking, followed by 21 "Very Good" rankings, 13 "Good" rankings, and 5 "Fair" rankings.**
- None of the nation's tiger reserves received a **"Poor"** rating in the MEE study.
- Due to the fact that there is no requirement for it in Tiger Conservation Plans, the headline indicator **"carbon capture and climate change"** obtained the lowest score in the most recent cycle.



Figure 1: The WCPA Framework for Assessing Management Effectiveness.

### Significance of MEE

- It has become a vital instrument that is being used more frequently by national and international organisations to evaluate the strengths and shortcomings of PA management systems.
- On numerous facets of wildlife and PA, it offers insightful advice.

### Related News: Centre merged Project Tiger and Project Elephant

- After the merger, a new division named 'Project Tiger and Elephant Division' (PT&E) has been created under the Ministry of Environment, Forest, and Climate Change (MoEF&CC).
  - The staff and divisional heads of Project Elephant (PE) will now report to the additional director general of forests (ADGF), Project Tiger (PT), who has now been designated as ADGF (PT&E).
  - Reason for the merger is to rationalize funding for both conservation projects.
- **Significance of the merger**
  - It would help in streamlining the efforts to conserve both species.
  - Makes the administration of the projects efficient and linear.
  - Since both species share the same habitat, an integrated approach can benefit both.
- **Challenge:**
  - The inclusion of multiple species under one project may dwindle the actual fund allocation to the tigers.
  - Both the programs required separate units and heads, given the different nature of challenges in their conservation

## 6.4 FOREST CONSERVATION (AMENDMENT) BILL, 2023

### Latest Context

The Lok Sabha has approved the Forest (Conservation) Amendment Bill 2023, which seeks to significantly amend the Forest (Conservation) Act of 1980, a key core legislation for the preservation of India's forests.

### Background

- Large tracts of forest land were set aside as reserved and protected forests after the Independence.



- Many wooded areas, however, were omitted, and regions without any active woods were deemed to be part of the **"forest"** lands.
- The FC Act would apply to all property parcels that were either recorded as "forest" or closely approximated the dictionary definition of forest, according to the **Supreme Court's 1996 decision in the Godavarman case, which also ordered the suspension of tree cutting across the nation.**
- The government revised the Forest Conservation Rules in June 2022 to include a system that would let plantations be grown **"over land on which the (FC) Act is not applicable"** and to exchange such parcels for later demands of compensatory afforestation.

### Key Provisions of the Forest (Conservation) Amendment Bill 2023

- **Scope of the Act:** By adding a Preamble, the Bill increases the Act's sphere of influence. To better represent the potential of its provisions, the Act's name was modified to Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.
- **Applicability on Various Lands:** The Act was previously only applicable to notified forest land, but it has since been expanded to include revenue forest land and properties that have been designated as forests in official records. The changes aim to simplify how the Act is applied to plantations, documented forest areas, and private forest holdings.
- **Exemptions:**
  - To promote reforestation and plantation outside of forests, the Bill suggests a few exclusions.
  - Up to 10 ha of land have been proposed for security-related infrastructure, up to 5 ha of forest land in Left Wing Extremism Affected Districts for public utility projects, and 0.10 ha of forest land to provide connectivity for homes and businesses situated alongside roads and railroads.
  - Strategic national security-related projects that are 100 km or less from international borders, the Line of Actual Control (LAC), the Line of Control (LoC), etc. are excluded from this rule.
- **Provisions for Development:** The Bill expands the provisions of the Principal Act that already apply to government corporations when it comes to leasing forest property to private parties. This will make development projects easier to complete and guarantee that the Act is applied consistently.
- **New Forestry Activities:** The modifications expand the range of forestry activities for the conservation of forests by including additional ones including infrastructure for frontline forest employees, ecotourism, zoos, and safaris. Investigations and surveys conducted in forested areas shall not be regarded as non-forestry activity.
- **Climate Change Mitigation and Conservation:** By being acknowledged as a component of India's efforts to conserve its forests and support the country's international obligations, such as Net Zero Emission by 2070, it intends to guarantee that such places support India's efforts to battle climate change.
- **Empowering Local Communities:** The Bill promotes ventures including the construction of zoos, safaris, and ecotourism, which will be carried out by authorised plans outside Protected Areas and held by the government. These initiatives not only increase public awareness of forest conservation and animal preservation, but they also give local populations new livelihood choices as part of overall development.

### Concerns Related to the Bill

- **Objection on Hindi Name:** Because it was "non-inclusive" and excluded many among the "(non-Hindi speaking) population both in South India and also in the North-East," there were complaints over the Act's new name (which is now in Hindi).
- **Impact on Ecologically Sensitive Areas:**
  - Concerns have been expressed concerning the possible clearing of forests in environmentally vulnerable areas, such as the Himalayan, trans-Himalayan, and



northeastern regions, as a result of the proposed exclusions in the Bill, particularly those connected to critical projects close to international borders.

- The rights of indigenous groups residing along India's borders would be eliminated by Bill, 2023 (FCA).
- Such removals might endanger biodiversity and bring about extreme weather events if the proper "assessment and mitigation plans" are not in place.
- **Limited Applicability:** Only places that were recorded as woods on or after October 1980 are covered by the Act, according to the bill. This restriction might result in the removal of substantial portions of forest land and biodiversity hotspots from the Act's coverage, opening them up to the possibility of sale, diversion, clearing, and exploitation for non-forestry uses.
- **Concurrent List and Center-State Balance:**
  - According to several State administrations, forest conservation is on the Concurrent List, which indicates that the Centre and States are both involved in the issue.
  - According to them, the proposed revisions could tip the scales in favour of the Centre and have an influence on the State governments' rights and authority in areas of forest protection.

### Way Forward

- A rigorous and complete analysis of the proposed modifications' possible effects on forests, biodiversity, and nearby communities is necessary.
- Input from a variety of stakeholders, including specialists, NGOs, indigenous people, and State governments, should be included in this evaluation, which should take ecological, social, and environmental concerns into consideration.
- Continue meaningful discussion and collaboration with all parties involved to comprehend their viewpoints and handle their issues. This will encourage openness, diversity, and better judgement.

## 6.5 GRADED RESPONSE ACTION PLAN (GRAP)

### Latest Context

- Recently, a change to the current **Graded Response Action Plan (GRAP)** to address air pollution in the area was announced by the **Commission for Air Quality Management in NCR & Adjoining Areas (CAQM)**.
- When **Delhi's AQI (Air Quality Index)** exceeds a certain level, the agencies responsible/implementing agencies are required to take specific steps, which are outlined in the amended GRAP.
- In a previous study titled "**Machine learning-based country-level annual air pollutants exploration using Sentinel-5P and Google Earth Engine**", it was shown that India experienced the highest levels of human-induced air pollution from 2018 to 2021.

### Facts about the Graded Response Action Plan (GRAP)

- As soon as the air quality in the Delhi-NCR region crosses a specific level, a set of emergency procedures known as **GRAP** is activated to stop further deterioration.
- After the Supreme Court's ruling in the case of **M. C. Mehta v. Union of India (2016)**, it was authorised by the court in 2016 and announced in 2017.
- **Implementation:**
  - The CAQM will begin implementing the GRAP in 2021.
  - The Environment Pollution (Prevention & Control) Authority (EPCA), which was constituted by the Supreme Court, has the authority to require States to carry out GRAP measures until 2020.
  - In 2020, the Commission for Air Quality Management (CAQM) took the position of the EPCA.



- The Indian Institute of Tropical Meteorology (IITM) and the India Meteorological Department (IMD) provide weather and air quality predictions that are used by CAQM.
- **Revision:**
  - **Stage I (Poor Air Quality - AQI 201-300):** Enforce NGT / Hon'ble SC's order on over-aged diesel/petrol vehicles.
  - **Stage II (Very Poor- AQI 301-400):** Targeted actions to combat air pollution at identified hotspots in the region. Regulated operations of DG (Diesel Generators) have been set across all sectors in the NCR.
  - **Stage III ('Severe'- AQI 401-450):** Impose strict restrictions on BS III petrol and BS IV diesel four-wheelers in certain areas and may suspend physical classes in schools for primary grade children up to Class 5.
  - **Stage IV (Severe Plus- AQI greater than 450):** When the AQI exceeds 450, four-wheelers registered outside Delhi, except for electric vehicles, CNG vehicles, and BS-VI diesel vehicles and vehicles carrying essential commodity, will not be allowed to enter the city.
- **Note:** Governmental organisations use an AQI value to gauge the population's exposure to air pollution levels. A significant portion of the population will likely face serious negative health impacts when the AQI rises.

### Government Initiatives to Tackle Air Pollution

- Polluter Pay principle.
- Graded Response Action Plan (Delhi).
- Smog Tower.
- Tallest Air Purifier.
- National Clean Air Programme (NCAP).
- BS-VI vehicles.
- New Commission for Air Quality Management.
- Turbo Happy Seeder (THS).
- Air Quality and Weather Forecasting and Research (SAFAR).
- Dashboard for Monitoring Air Quality.
- National Air Quality Index (AQI).
- Air (Prevention and Control of Pollution) Act, 1981.
- Pradhan Mantri Ujjwala Yojana (PMUY).

## 6.6 PLASTIC POLLUTION

### Latest Context

The Prime Minister has urged the G-20 to work cooperatively to create a strong, legally enforceable international tool to stop plastic pollution.

### More about News

- According to the 2023 Plastic Overshoot Day Report published by the research firm Earth Action (EA), located in Switzerland:
  - The Earth had its first Plastic Overshoot Day on July 28, 2023.
  - India's Plastic Overshoot Day was observed on January 6, 2023.
  - India is one of the 12 nations that account for 52% of the world's improperly disposed-of plastic garbage.
- **On Overshoot Day**, environmental damage results from the production of plastic garbage exceeding the capacity of waste management.
- It is based on the nation's **Mismanaged Waste Index (MWI)**, or the ratio of total to mismanaged waste.

### Data Bank

**3.4 Million tonnes** of plastic waste per year (as per Central Pollution Control Board).

**12.3%** plastic waste recycled in India (as per Centre for Science and Environment).

**98.55%** of generated waste being mismanaged in India (as per Earth Action).



Impact of Plastic pollution	Challenges in Curbing plastic pollution
<ul style="list-style-type: none"> <li>• <b>Bisphenols and phthalates</b> releasing into air from burning of plastics.</li> <li>• <b>Micro plastics</b> entering the marine &amp; human leading to serious ailments.</li> <li>• <b>Plastic nets entangles</b> with the marine lives.</li> <li>• <b>Degradation of the earth's land surfaces</b> due to dangerous chemicals from plastic.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Weak waste management systems:</b> Lagging to meet the growing needs.</li> <li>• <b>Insufficient data and reporting:</b> as the products are scattered into diverse sectors.</li> <li>• <b>Use of Single-Use Plastics</b> which has short lifespan and widespread use.</li> <li>• <b>Poor implementation of policies:</b> Like <b>Plastic Waste Management Amendment Rules, 2021.</b></li> <li>• <b>Consumer's behaviour:</b> which are currently aligned with the usage of plastic disposables.</li> <li>• <b>Lack of a suitable alternative:</b> which are either too costly or difficult to produce in mass.</li> </ul>

### Steps to curb Plastic Pollution

- **Plastic Waste Management (Amendment) Rules, 2021:**
  - The production, importation, storing, distribution, sale, and use of single-use plastics were all forbidden.
  - Plastic carry bags' thickness increased from 50 to 75 microns on September 30, 2021, and to 120 microns on December 31, 2022.
  - Guidelines for Extended Producer Responsibility made applicable to plastics manufacturers.
- **Plastic Waste Management (Amendment) Rules, 2022:** to improve the infrastructure for recycling plastic packaging waste and the circular economy of plastic packaging waste.
- **Private sector collaborations:** India Plastics Pact (IPP), Un-Plastic Collective (UPC) etc.
- **UNEA's Resolution to "End Plastic Pollution":**
  - The UN Environment Assembly (UNEA-5) resolution in Nairobi to stop plastic pollution and create a globally enforceable pact by 2024 has received support from 175 nations.
  - National action plans must be created, carried out, and updated by each nation.

### Conclusion

There are several initiatives that must be taken, such as encouraging recycling, raising awareness, enforcing the law more strictly, bolstering the Pollution Control Board, etc., to combat the nation's rising plastic pollution problem. Implementing the circular economy can also result in materials continually flowing around a "closed loop" system rather than being utilised once and then discarded since it places a priority on resource efficiency and recovery.

## 6.7 BLUE ECONOMY

### Latest Context

A recent G20 meeting ended with the adoption of many "**Chennai High-level Principles**" for a resilient and sustainable blue economy.

### More about news

- **Chennai High-Level Principles are a set of principles which majorly call for:**
  - Create and Implement the Blue Economy Mechanisms for Monitoring and Evaluation.
  - Improve Ocean Financing.
  - Encourage the use of marine spatial planning.
  - Deal with marine pollution and stop the loss of biodiversity.
  - Indigenous and traditional knowledge must be acknowledged and protected.

### Facts about Blue Economy

- **According to the World Bank,** it refers to the sustainable use of ocean resources for job creation, improved living conditions, and the health of the ocean environment.
- **SDG 14:** Maritime resources should be conserved and used sustainably.



- **Importance of Blue Economy to India:**

- The blue economy is thought to account for around 4% of India's GDP.
- 7517 km of coastline, 12 major ports, and 187 minor ports make up this unusual maritime position.
- Over two million square kilometres make up India's Exclusive Economic Zone.
- Offer value-adding services to already-existing industries, such as trading, shipping, deep-sea mineral exploration, aquaculture, fisheries, and marine technology.
- Other advantages include the development of jobs, food security, livelihood assurance, renewable energy, etc.

### Challenges to Achieve a Blue Economy

- Regarding giving licences, leasing, reviewing, and monitoring offshore activities, India lacks a clear organisational structure.
- Lack of comprehensive laws for the blue economy (the Ministry of earth sciences created a draft policy framework for India's blue economy in 2021).
- **Measurement difficulties:** Due to restrictions in the **System of National Accounts (NAS)**, existing economic categories find it difficult to separate activities that take place on the ocean.
- Overfishing, marine plastic pollution, and climate change are among additional difficulties.

### Way Forward

- **To establish a Nodal Agency**, which would be in charge of achieving synergy amongst different Blue Economy sectors.
- To properly investigate the minerals, a periodic investigation of the ocean floor on numerous characteristics has to be started.
- **Create a new national policy for maps and data:** strike a compromise between the heightened demand for data security and openness about offshore areas, the EEZ, and the continental shelf.
- **The utilisation of technology:** to lessen resource waste and marine pollution.
- **Encourage private investment in sectors** including ocean energy, marine biotechnology, and aquaculture, among others.

## 6.8 RESOURCE EFFICIENCY CIRCULAR ECONOMY INDUSTRY COALITION (RECEIC)

### Latest Context

Recently, **RECEIC** was launched at the G20 4th Environment and Climate Sustainability Working Group (ECSWG) meeting.

### Facts about RECEIC

- It is an effort driven by the industry.
- The coalition's initial members include about 39 companies with headquarters in 11 nations.
- **The goal is to accelerate the implementation of:**
  - The Sustainable Development Goals of the 2030 Agenda for Sustainable Development.
  - The Paris Agreement's climate goals.
  - The Kunming Montreal Global Biodiversity Framework's objectives and ambitions.
  - Other pertinent international objectives are the Resource Efficiency Dialogue Roadmap and the Kigali Amendments.
- **The coalition is structured around the three guiding pillars:**
  1. **Partnerships for Impact:**
    - Showcasing real-world examples of achievement.
    - The use of waste products produced by one industry as a source of raw materials in another.

### Data Bank

**Tripling** of global resource consumption since 1970.

**Only 7.2%** of the global economy is circular.

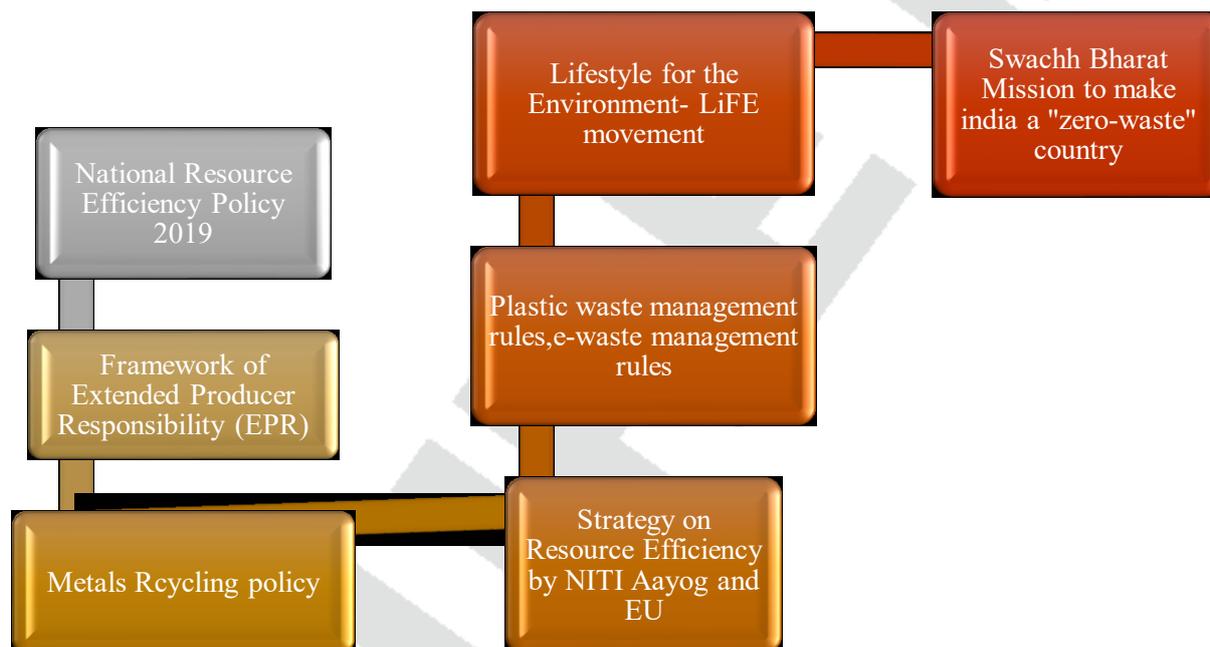
**Only 20%** of goods are recycled in India.

**India is 3<sup>rd</sup> highest emitter of greenhouse gases** and accounts for 9.2% of total world emissions.



- Facilitating cross-value chain collaboration. For instance, initiatives to include MSMEs and unorganised sector companies.
2. **Enhancing Capabilities and Technology Collaborations:**
    - Discussions to pinpoint innovation and technological bottlenecks.
    - Find technical innovation application cases with a big effect, like the plastics industry.
    - Using technology to improve sustainability across the **6 Rs of circularity—redesign, reduce, reuse, remanufacture, repair, and recycle—is known as "circularity enhancement."**
  3. **Investments for Scale:** Mobilising concessional finance for circular economy projects by sharing investment best practices.

### Various Steps to promote RE (Resource Efficiency) and Circular Economy



## 6.9 2023 IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

### Latest Context

At the conclusion of the **United Nations International Maritime Organisation (IMO)** summit in London on 7 July 2023, maritime nations upgraded their Greenhouse Gas (GHG) emissions strategy to reach net zero "by or around" 2050 without mentioning a specific year and taking into account different national circumstances.

The **80th session of the Marine Environment Protection Committee (MEPC)** took place from July 3–7 at the IMO headquarters in London.

### IMO Greenhouse Gas Strategy 2023

- The international shipping sector must **"reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008,"** according to the 2023 IMO GHG Strategy.
- The member countries' drafted agreement calls for international shipping GHG emissions to peak "as soon as possible."
- This is to comply with the 2015 Paris Agreement's goal of keeping the rise in global temperature far below 2 degrees Celsius.
- Furthermore, it asked the sector "to reduce the total annual GHG emissions from international shipping by at least 70%, striving for 80%, by 2040, compared to 2008."



- By 2030, international shipping should be using "at least 5%, aiming for 10%, of the energy from near-zero emission technologies, fuels, and energy sources."
- **Biofuels:**
  - The maritime sector may utilise biofuel and bio blends that have received international certification, according to interim advice published by the IMO. India actively supported this resolution during the conference.
  - International shipping should become less carbon intensive in order to reduce CO2 emissions "per transport work" by at least 40% on average by 2030 compared to baseline levels in 2008.
- **Carbon emission from maritime shipping sector:**
  - Three percent of all anthropogenic GHG emissions are attributed to maritime shipping, and these emissions are still increasing quickly.
  - If the shipping sector does not take action today, a business-as-usual scenario will see shipping emissions grow by more than five times by 2050.

### Facts about International Maritime Organisation (IMO)

- It is a specialised agency of the UN and the body responsible for international shipping standards' safety, security, and environmental performance.
- With its main office in London, it was created under the UN Convention in Geneva in 1948.
- As of right now, 174 Member States make up its Assembly, which convenes every two years.
- The Council, which serves as the governing body, is composed of the 40 Member States chosen by the Assembly.
- **Roles:**
  - Its primary duty is to provide a just and efficient regulatory framework for the shipping sector that is widely embraced and put into action.
  - There is no mechanism for putting it into action.
  - It is also concerned in legal concerns, such as questions of compensation and culpability, as well as the promotion of international marine trade.
  - The Energy Efficiency Design Index, which is required for new ships, and the requirement for a Ship Energy Efficiency Management Plan, which is required for all ships, are among the energy efficiency measures that the IMO has established.
- **Key IMO Conventions:**
  - **MARPOL (1973)** - International Convention for the Prevention of Pollution from Ships.
  - **SOLAS (1974)** - International Convention for the Safety of Life at Sea.
  - **STCW-** International Convention on Standards of Training, Certification and Watchkeeping for Seafarers.

### Marine Environment Protection Committee (MEPC)

- Under the authority of IMO, the Marine Environment Protection Committee (MEPC) handles environmental concerns.
- This involves the management and prevention of ship-source pollution, which is governed by the MARPOL Treaty. Examples of such pollution include oil, chemicals transported in bulk, sewage, rubbish, and emissions from ships, such as greenhouse gases and air pollutants.
- Ballast water management, anti-fouling systems, ship recycling, readiness for and reaction to pollution, identification of special regions, and particularly sensitive marine areas are some of the other topics discussed.



## 6.10 INDIA'S WIND ENERGY POTENTIAL

### Latest Context

**India's potential for wind energy** was recently highlighted by the **Ministry of New and Renewable Energy**. This information highlights the nation's commitment to **sustainable energy practises** and highlights the main states with the greatest potential for wind power.

The Ministry also provided a list of creative tactics intended to increase the use of wind power and guarantee environmentally sustainable practises in the industry.

### Facts about the Wind Energy

- As of April 2023, India had 42.8 GW (onshore wind) of installed wind energy capacity, placing it **fourth** in the world behind China, the United States, and Germany.
- According to the National Institute of Wind Energy's evaluation of the nation's wind resources, there is a potential for wind energy of around 695.5 GW at 120 metres and 1,164 GW at 150 metres above ground.
- **Wind Power Potential (in GW) at 120 m above Ground Level:** Gujrat (142.56), Rajasthan (127.75), Karnataka (124.15), Maharashtra (98.21), and Andhra Pradesh (74.90).
- **Wind Power Potential (in GW) at 150 m above Ground Level:** Rajasthan (284.25), Gujarat (180.79), Maharashtra (173.86), Karnataka (169.25), and Andhra Pradesh (123.33).
- **Onshore wind energy:** Wind turbines are placed in farmland, coastal areas near the ocean's edge, or at high altitudes.
- **Offshore wind energy:** Wind turbines are situated out to sea or in large bodies of water.
- **Advantages of Wind Energy:**
  - **Source of clean, renewable energy:** Assist in meeting the COP's Panchamrit Commitments.
  - low maintenance costs
  - **Effective development of hybrid systems:** Jaisalmer, Rajasthan, is home to the biggest wind-solar hybrid power plant in the world.
  - **Cost-effective:** One of the most affordable energy sources currently accessible is generated by utility-scale, land-based wind turbines.
  - **Employment creation:** The Global Wind Energy Council (GWEC) estimates that by putting more of an emphasis on wind energy, India may generate over a million jobs.
  - Other advantages include setting up in distant locations (coastal regions, islands, etc.) and energy independence.

### Challenges in the growth of Wind Energy in India

- **Geographic Concentration:** The majority of wind-rich places (Gujarat, AP, MP, etc.) have previously been heavily explored. Wind resources are very site-specific.
- Repowering of the Wind Power Projects, Pending Approval of Draught Policy, 2022: The policy is currently awaiting final government approval following stakeholder response.
- **High tariff:** Wind energy has higher rates as compared to other renewable sources, particularly solar energy.
- **Impact on wildlife:** Wild animals are impacted by wind farms both directly, through collisions, and indirectly, through habitat loss, noise pollution, and decreased survival or reproduction.
- **Offshore wind energy potential that has not yet been used:** The nation has no offshore wind projects in place. Despite having a focused national offshore wind energy policy, this continues.
- Defending against damage from anchors, fishing gear, dredging, and other factors to the export cables.
- **Offshore wind farm design, production, and operation:** Problems with corrosion, fatigue, erosion, lightning strikes, etc.
- Locals may not like offshore wind farms erected within sight of the coast, especially in fishing villages, which might hurt tourism.

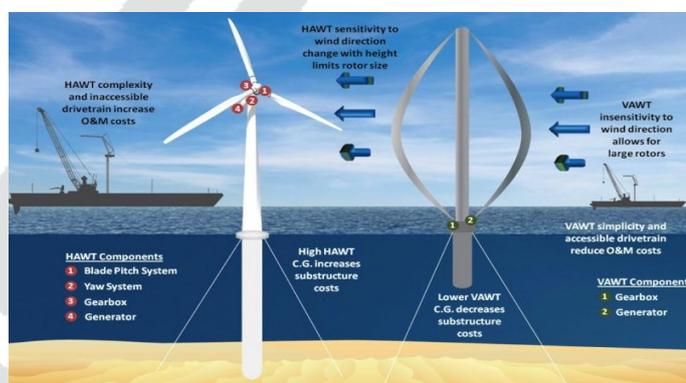


## Government Initiatives for Wind Energy Development

- **Policy for Repowering of the Wind Power Projects, 2016:** By offering an extra interest rate refund of 0.25% over existing rebates for new wind projects financed by the Indian Renewable Energy Development Agency (IREDA), this policy encourages the repowering of wind power facilities.
- **Guidelines for Disposal of Fiber Reinforced Plastic (FRP):** Specific rules for the correct disposal of FRP, including Sheet Moulding Compound (SMC), used in wind turbine blades, were published by the Central Pollution Control Board (CPCB). Waste management that respects the environment is ensured by these standards.
- **National Wind-Solar Hybrid Policy, 2018:** The major goal is to provide a framework for the promotion of massive grid-connected wind-solar hybrid systems for the best and most effective use of wind and solar resources, as well as of land and transmission infrastructure.
- **National Offshore Wind Energy Policy:** The goal is to expand offshore wind energy on India's 7600 km of coastline, or Exclusive Economic Zone (EEZ).

## Way Forward

- **New and Efficient Turbines:** It is recommended to replace outdated and inefficient wind turbines with newer, more modern models.
- **The viability gap funding (VGF) plan** for offshore wind energy projects has to be finalised. Repowering of Wind Power Projects: Draught Policy, 2022: To accomplish the goals in this respect, the ministry should adopt the amended policy as soon as possible and guarantee that it is implemented on time.
- **Offshore wind:** It is necessary to disseminate information on the bidding trajectory for building 37 GW of offshore wind energy by 2030.
- Introducing tax benefits Industry-friendly breaks on the selling of power must be implemented.
- **Strong policy framework:** to increase the market's demand for wind turbines and provide manufacturers with incentives to replenish their supply.



## 6.11 SHORT NEWS

### 6.11.1 CROP RESIDUE MANAGEMENT GUIDELINES

#### Key Points

- Crop residue management guidelines were changed by the Ministry of Agriculture and Farmers Welfare.
- Guidelines would make it possible to handle paddy straw produced in **Punjab, Haryana, UP, and Delhi** ex situ effectively.
- Burning agricultural wastes causes the release of gases such **CH<sub>4</sub>, CO, N<sub>2</sub>O and NO<sub>x</sub>, particulate matter, and a loss of plant nutrients**, all of which have a negative impact on the environment and the condition of the soil.
- **Key features of guidelines:**
  - Beneficiary/Aggregator (Farmers, rural entrepreneurs, FPOs, etc.) and Industries will build technologically-commercial pilot projects for the paddy straw supply chain.
  - The government must finance the capital expense of machinery and equipment.



- 65% of the project's cost will be covered by financial support from the federal and state governments working together.
- Farmers, rural business owners, FPOs, etc. will contribute 10%, while the industry will contribute 25%.
- These projects must receive state government approval via a project sanctioning committee.
- Higher HP Tractors, Cutters, Tedders, and other machinery and equipment will all receive financial support.

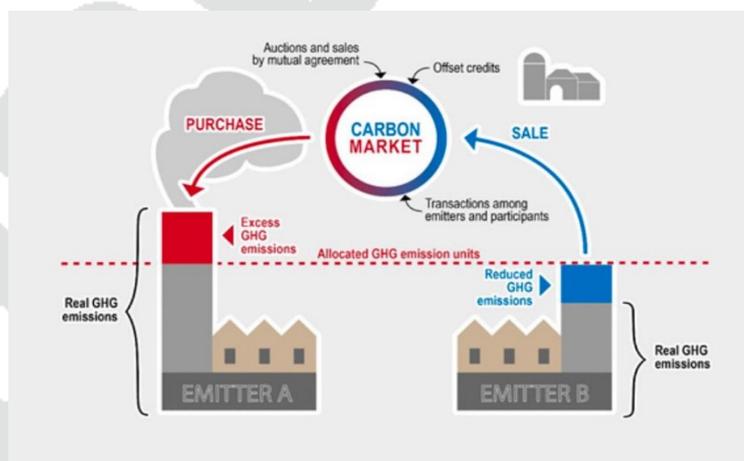
### 6.11.2 CARBON CREDIT TRADING SCHEME (CCTS)

#### Key Points

- A carbon credit trading market will be established under CCTS 2023 as the nation works to decarbonize its economy and pledges to reduce emissions by 45 percent from 2005 levels by 2030.
- The Energy Conservation (Amendment) Bill 2022 revised the Energy Conservation Act 2001, which was the law under which CCTS was initially introduced.

#### Key highlights of CCTS

- Establish a National Steering Committee (NSC), also known as the Indian Carbon Market Governing Board (ICMGB), under the direction of the secretaries of electricity and the environment, to monitor and manage the operations of the Indian Carbon Market (ICM).
- As the market's administrator, the Bureau of Energy Efficiency (BEE) would set emission reduction goals, issue carbon credit certificates, and accredit organisations that verify carbon emissions.
- All trading activity will be regulated by the Central Electricity Regulatory Commission (CERC).
- India's Grid Controller will serve as the ICM registry.



#### What is Carbon Credit?

A carbon credit is a tradable permit that certifies a certain quantity of carbon dioxide emissions, or the equivalent amount of another greenhouse gas. It represents the atmospheric removal, reduction, or sequestration of one tonne of carbon dioxide.

#### What is Carbon Credit Trading Scheme (CCTS)?

The central government's programme to reduce or eliminate greenhouse gas (GHG) emissions is referred to as the "CCTS."

#### Background of CCTS

The Energy Conservation (Amendment) Bill, 2022, was approved by the parliament. This amendment introduced a clause that gave the federal government the authority to "specify carbon trading scheme" after consulting with the Bureau of Energy Efficiency (BEE).

#### Features of CCTS

- 'Accredited carbon verifier': It is an organisation that has received BEE accreditation to do validation or verification tasks related to the CCTS.



- **Setting up of the Indian Carbon Market Governing Board (ICMGB):**
  - for regulating, enforcing laws for the Indian carbon market, prescribing policies for the sale of carbon credit certificates outside of India, and doing other supervision tasks.
  - The ex-officio co-chairmen of ICMGB would be the secretaries of the environment.
  - Per year, the ICMGB must convene at least once per quarter.
- The Bureau of Energy Efficiency will serve as both the ICMGB's secretariat and the administrator of the Indian carbon market.
- The register for the Indian Carbon Market will be The Grid Controller of India Ltd.
- **The Indian carbon market's trading operations would be regulated by the Central Electricity Regulatory Commission (CERC).**

#### Types of carbon markets

- **Voluntary markets:** Issuance, buying and selling of carbon credits, on a voluntary basis.
- **Compliance markets:** created to comply with a law.

#### Features of the Energy Conservation (Amendment) Bill 2022

- Creates guidelines for the **creation of carbon markets** in order to promote carbon trading and lower carbon emissions.
- Requires **the use of non-fossil fuels for energy** and feedstock, including ethanol, biomass, green hydrogen, and green ammonia.
- Creates an Indian domestic carbon market.
- Ensures energy efficiency by bringing big residential structures under the Energy Conservation regime.
- Broadens the application of the **Energy Conservation Building Code** in order to encourage energy efficiency in buildings.
- Penalties are changed to guarantee that energy saving practises are strictly enforced.
- Increases the number of people on the Bureau of Energy Efficiency (BEE)'s governing council to improve the agency's capabilities.
- Enables the **State Electricity Regulatory Commissions** to establish rules for the efficient performance of its energy conservation-related duties.
- Enables the use of clean energy to be mandated in order to support sustainable energy practises, including the **usage of green hydrogen**.

### 6.11.3 INDIA CLIMATE ENERGY DASHBOARD (ICED) 3.0

#### Key Points

- ICED 3.0 released by the NITI Aayog.
- **Facts about ICED:**
  - Centralised resource for nearly real-time data on the energy industry, the environment, and associated economic datasets based on publicly available sources.
  - It was created as a user-friendly platform that allows users to freely access and use an analytical engine to evaluate datasets.
  - Identifies the main difficulties while facilitating insights and improving understanding of the energy and climate industries.
  - Really helpful in tracking India's shift to sustainable energy's progress.

### 6.11.4 WMO OZONE AND ULTRAVIOLET (UV) BULLETIN

#### Key Points

- The World Meteorological Organisation (WMO) finally released the report emphasising the Ozone layer's gradual recovery after a gap of seven-year.
- **Key highlights:**



- Up to 99% of ozone depleting substances (ODS) were effectively eradicated by the Montreal Protocol and its revisions.
- The Hunga Tonga-Hunga Ha'apai volcanic eruption (placed beneath the ocean surface in the western Pacific) in January 2022 boosted the water vapour level of the stratosphere by 5% to 10%.
- ODS are long-lived man-made chemicals that degrade the protective ozone layer.
- Ozone on Earth is found in the stratosphere in around 90% of cases.

### 6.11.5 CLIMATE CHANGE IMPACT ON ANIMAL COMMUNICATION

#### Key Points

- Marine, freshwater, and land-based organisms' chemical communication is altering as a result of climate change.
- Ecological interactions rely heavily on chemical communication via infochemicals, which enables organisms to perceive their surroundings and find predators, food, shelter, or partners.
  - Chemicals such as pheromones, hormones, and allelochemicals are classified as infochemicals.
  - These substances are used by sharks to detect their prey at great distances.
  - Some plant species produce compounds that draw pollinators but repel potentially harmful ones.
- Climate change is causing temperatures to rise, which has an impact on infochemical production and effectiveness.
  - Since their essential pheromones break down at hotter temperatures, ant species find it difficult to follow trails.
  - Damselfish are unable to recognise predators due to changes to coral reefs.

### 6.11.6 FLORA AND FAUNA DATABASE

#### Key Points

- India added 339 taxa to its flora and 664 animal species to its database of fauna.
- The list provided by the Ministry for Environment, Forests, and Climate Change also includes new distributional records for flora as well as new records for animals (species discovered for the first time in India).
- The Zoological Survey of India (ZSI) and the Botanical Survey of India (BSI) collate information on faunal finds.
- Kerala has seen the most plant and wildlife discoveries.
- **Key Fauna discovered:**
  - Long-fingered bat *Miniopterus phillipsi* and Meghalaya's *Glischropus meghalayanus*, which lives in bamboo.
  - In honour of Sela Pass, Arunachal Pradesh (AP) gave the Sela macaque (*Macaca selai*) its name.
  - The first recorded sighting of *Macaca leucogenys*, a white-cheeked monkey (found in Modog, Tibet), was in AP.
  - A yellow-rumped flycatcher called *Ficedula zanthopygia*, which is also known from Mongolia, China, Korea, and Japan, may be seen in India on Narcondam Island of the Andaman Sea.
- **Key flora discovered:**
  - An orchid species known as *Calanthe lamellosa* that was formerly located in China and Myanmar may be discovered in India near Kohima, Nagaland, in the Japfu mountain range.

#### About ZSI and BSI

- ZSI was established in 1916 and traces its origin to Zoological Section of the Indian Museum at Calcutta in 1875. It undertakes exploring, naming, describing, classifying and documenting animals from all over India.
- BSI was established in 1890 with the objectives of exploring the plant resources of the country and identifying plant species with economic virtue.



- In the pleasant outlying valleys and foothills of the Himalayas in Uttarakhand is Nandadevia Pusalkar.
- The endemic Nilgiriella Pusalkar is found in Karnataka, Kerala, and Tamil Nadu and is only found in the southern Western Ghats.

### 6.11.7 GAMBUSIA AFFINIS (G AFFINIS)

#### Key Points

- Gambusia fish were introduced into the waterways of Andhra Pradesh to fight mosquito-borne illnesses including malaria and dengue.
- The Southeast of the United States is home to the species Gambusia affinis.
- Fish, commonly referred to as mosquitofish, is a popular biological control method for mosquito larvae.
- India is one of the nations that have Gambusia on their list of invasive species.
- Fish have a large breeding potential.
- They have been seen to consume the tadpoles and eggs of rival fish species.

### 6.11.8. CRYPTOBIOSIS

#### Key Points

- By establishing a state known as cryptobiosis, scientists were able to revive tiny worms that had been frozen in the Siberian permafrost for 46,000 years.
- **Facts about Cryptobiosis:**
  - An organism is said to be in cryptobiosis when it exhibits no outward evidence of life and when its metabolic activity either stops completely or becomes scarcely detectable.
  - In this state, organisms can tolerate harsh temperatures including the complete lack of oxygen and water.
  - Cryptobiosis can be thought of as a brief death of an organism as metabolism is a distinguishing feature of life.

### 6.11.9 BAHU BALLI CATTLE FENCE (BAMBOO FENCE)

#### Key Points

- Indian roadways will soon have the Bahu Balli Cattle Fence installed by the Ministry of Road Transport & roadways.
- Cattle crossing the road and resulting in hazardous incidents will be avoided.
- **Facts about Bahu Balli Cattle Fence:**
  - Bamboo is made into a more durable substitute for steel by being coated with recycled High-Density Poly Ethylene (HDPE), which is then treated with creosote oil.
  - Fence has a Class 1 fire rating, assuring safety and taking environmental issues into account.

### 6.11.10 SALSOLA OPPOSITIFOLIA DESFONTANIA

#### Key Points

- It is a brand-new species from the Amaranthaceae family that was just found.
- It is a perennial plant that thrives in the Khadir Bet and Bela area of Gujarat's Kutch district, which has salty, dry, and semi-arid climates.
- Unlike other Salsola species, it is prostrate (a woody plant), and it lacks hairs.
- Salsola kali, Salsola hatmanii, Salsola monoptera, Caroxylon imbricatum (Salsola baryosma), and Halogeton glomeratus (Salsola glomerata) are additional Salsola species that have been found in India.



- Plants belonging to the Salsola genus contain salty fluid in their leaves, are used to make soap, and have a variety of medicinal uses.

### 6.11.11 HOLOBIONTS

#### Key Points

- Animals and plants are now referred to as "holobionts," which are biomolecular networks made up of the host and any accompanying bacteria. They are no longer celebrated as autonomous entities.
- In essence, it serves as a host for all of the bacteria that live there in symbiosis.
- For instance, bacteria found in the roots of legume plants profit from the sugars the plant produces and promote plant development by giving nitrogen.
- As a result, a "hologenome" is created by their combined genomes.

### 6.11.12 UNDRR RELEASED GLOBAL ASSESSMENT REPORT ON DRR 2023

#### Key Points

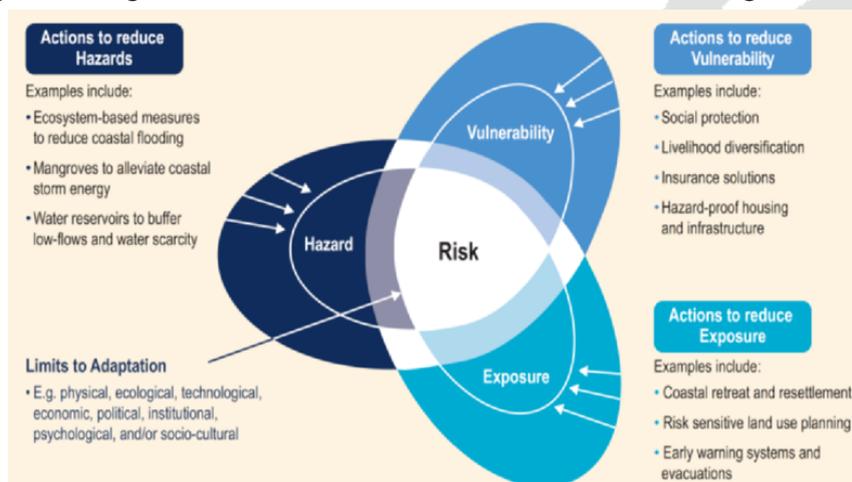
- The theme of the report:** "Mapping Resilience for Sustainable Development Goals".
- Key highlights of the report:**
  - Over the previous 50 years, there have been five times as many disasters reported.
  - Drought has increased the likelihood of crop failure and famine in South East Asia and sub-Saharan Africa by 80%.
  - The Sahel's Great Green Wall to combat desertification, India's Heat action plans in towns to deal with heatwaves, etc. are examples of global best practices for resilience.
- A system, community, or society that is exposed to risks is said to be **resilient** if it can resist, absorb, accommodate, adapt to, change, and recover from the consequences of a hazard quickly and effectively.
- Resilience** is promoted by a combination of societal well-being (people), ecological or biophysical well-being (planet), and economic well-being (prosperity).
- Through a prevention-focused attitude, **DRR** aims to reduce the harm caused by natural disasters including earthquakes, floods, droughts, and cyclones.
- Recommendations:**
  - Early investments in resilience and adaptation can reduce costs associated with hazard consequences.
  - Both the public and commercial sectors will need to invest in and adapt to resilience building.
  - The Sendai Framework for DRR 2015–2030 is being looked after by the UNDRR, which has its headquarters in Geneva.

#### Facts about the UN Office for Disaster Risk Reduction (UNDRR/UNISDR)

- Previously known as the UN's International Strategy for Disaster Reduction (**UNISDR**).
- A worldwide framework developed inside the United Nations for advocating action to reduce societal vulnerability and natural hazard risks, as well as linked technical and environmental catastrophes, is known as the **United Nations International Strategy for Disaster Reduction (UNISDR)**.
- The **International Strategy for Disaster Reduction (ISDR)** was made more easily implementable in 1999 with the establishment of the UNISDR as a specialised secretariat.
- Headquartered** is in Geneva, Switzerland.
- Its mandate is to operate as the focal point for the coordination of disaster reduction throughout the UN system and to guarantee cross-pollination of disaster reduction efforts.
- The UN Special Representative of the **Secretary-General for Disaster Risk Reduction (SRSG)** oversees this organisational division of the UN Secretariat.



- With the responsibility of serving as the Sendai Framework's custodian and assisting nations and societies in its implementation, monitoring, and assessment of progress, the aim of the UNISDR Strategic Framework 2016–2021 is to significantly decrease catastrophe risk and losses for a sustainable future.



- The **Sendai Framework for Disaster Risk Reduction (2015–2030)** is monitored and implemented through the Global Platform for Disaster Risk Reduction (GP), a biannual multi-stakeholder meeting.

### Sendai Framework for Disaster Risk Reduction 2015–2030

- **Sendai Framework: 4 Priorities**
  - Investing in disaster reduction for resilience.
  - Understanding disaster risk.
  - Strengthening disaster risk governance to manage disaster risk.
  - Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction.
- **Sendai framework: 7 targets**
  - **2016 – Target (a):** By 2030, much lower global catastrophe mortality is desired, to achieve a per 100,000 worldwide fatality rate that is lower in the decade 2020–2030 than it was from 2005–2015.
  - **2017 – Target (b):** By 2030, much fewer individuals will be impacted internationally, to achieve a lower average global figure per 100,000 persons in the decade 2020–2030 compared to the decade 2005–2015.
  - **2018 – Target (c):** By 2030, cut the direct economic damage from disasters in ratio to the world's GDP.
  - **2019 – Target (d):** through 2030, significantly lessen the interruption of vital services, such as healthcare and education, and damage to key infrastructure as a result of disasters, in part through enhancing their resilience.
  - **2020 – Target (e):** By 2020, significantly more nations will have local and national catastrophe risk reduction policies in place.
  - **2021 – Target (f):** Significantly increase international collaboration with developing nations by providing them with appropriate and long-lasting support to complement their national efforts to implement the current Framework by 2030.
  - **2022 – Target (g):** By 2030, greatly expand public access to catastrophe risk information and assessments as well as multi-hazard early warning systems.

### 6.11.13 SCHEME FOR EXPANSION AND MODERNIZATION OF FIRE SERVICES

#### Facts about the Scheme for Expansion and Modernization of Fire Services in the States

- The **Fifteenth Finance Commission's (XV-FC) proposal**, which permits an allocation of 12.5% of each of the NDRF and State Disaster Response Funds (SDRF) for the Funding Window of Preparedness and Capacity Building, is where the Scheme got its start.
- **Objective:** In order to ensure that actions for improving fire services at the State-level through readiness and capacity-building components of the NDRF would be ensured, the project aims to expand and modernise fire services in the States.



- **Fund Allocation:**
  - A sum of Rs. 5,000 Crore from the overall NDRF budget was set aside for the priority "Expanding and Modernization of Fire Services".
  - Out of the overall budget, Rs. 500 crores have been set aside to reward the States for changes to the judicial system and infrastructure.
- **Funding Pattern:** The involved State Governments must set aside 25% of the entire cost of the projects or plans under the Scheme from their budgetary resources in order to apply for funding (with the exception of the North-Eastern and Himalayan (NEH) States, which must contribute 10%).

#### What is the National Disaster Response Fund (NDRF)?

- **Formation:**
  - With the passage of the **Disaster Management Act in 2005**, the **National Calamity Contingency Fund (NCCF) was renamed as the National Disaster Response Fund (NDRF)**.
  - **Section 46** of the Disaster Management Act of 2005 (DM Act) defines it.
  - It is included under "**reserve funds not bearing interest**" in the "Public Account" of the Government of India.
  - **Public Accounts:** According to **Article 266(2)** of the Constitution, it was established. For transactions when the government is only serving as a banker, such as provident funds, minor deposits, etc., it accounts for flows.
- **Role:**
  - It is administered by the Central Government to cover the costs of emergency response, relief efforts, and rehabilitation following any disaster or potentially dangerous scenario.
  - If sufficient money is not present in the SDRF, it complements the SDRF in the event of a major calamity.
  - The SDRF is the main fund that State governments have access to in order to respond to declared disasters and cover costs for delivering urgent relief.
- **Financing:** Financing is provided through the imposition of a cess on specific goods that are subject to excise and customs tax and is yearly approved through the Finance Bill.

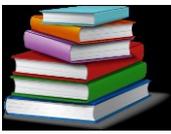
#### 6.11.14 SHELF CLOUDS FORMATION

##### Facts about Shelf Clouds

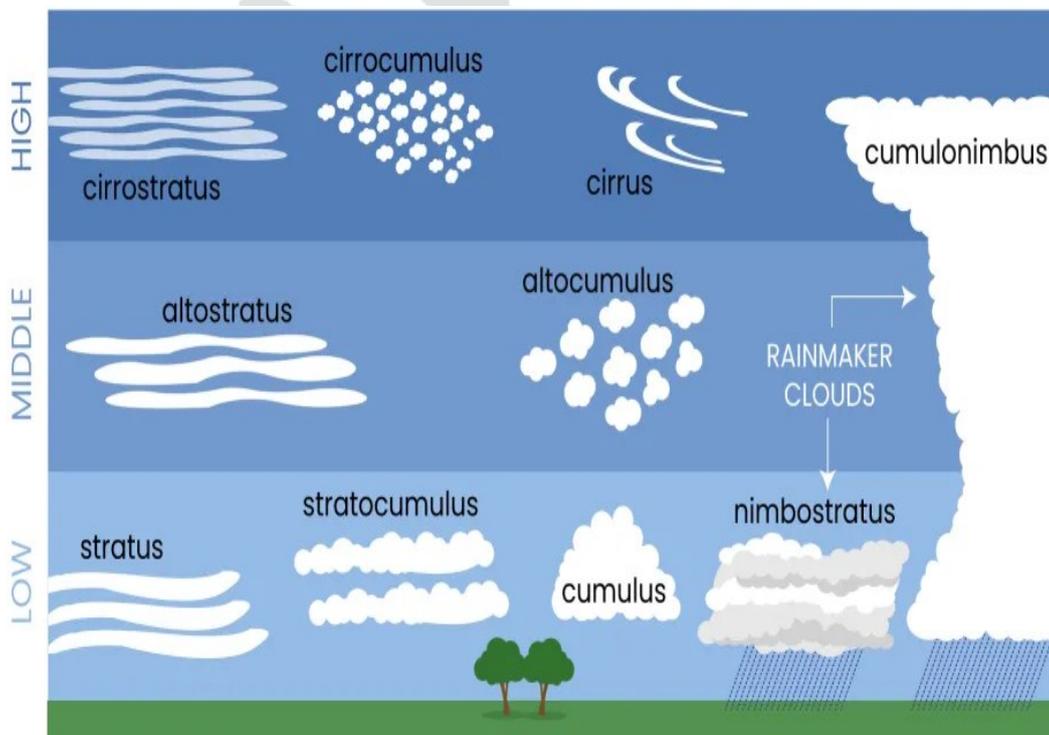
- **Shelf clouds** - also known as Arcus clouds - are often associated with powerful storm systems, and many times they are reported as wall clouds, funnel clouds, or rotation.
- Sometimes these clouds may be observed behind cumulonimbus clouds, which are dense, vertical, and produce heavy rain.
- They frequently occur before large thunderstorms that produce hail, tornadoes, torrential rain, high winds, and other severe weather.
- **Formation:**
  - When a cumulonimbus cloud's frigid downdraft hits the ground, it may spread quickly and push already-existing warm, moist air upward.
  - When a cumulonimbus cloud's frigid downdraft hits the ground, the cold air may spread quickly and push already-existing warm, moist air upward.
  - Warm air is forced upward while the cold air falls, resulting in condensation and cloud formation. This procedure gives a shelf cloud its distinctive horizontal form and look.

##### Types of Clouds

- **High Clouds:**
  - **Cirrus Clouds:** High-altitude clouds called cirrus have a wispy, feathery, and white appearance. They are made of ice crystals and are frequently related to pleasant weather. A ring around the sun or moon called a halo can be caused by cirrus clouds.



- **Cirrocumulus Clouds:** clouds at high altitude that resemble white, fluffy, small cloud patches. They frequently have an irregular or honeycomb-like appearance.
- **Cirrostratus Clouds:** High-altitude clouds that form a thin, whitish veil covering the sky. Around the sun or moon, they can create halos.
- **Middle Clouds:**
  - **Alto cumulus Clouds:** clouds in mid-levels that appear as white or grey layers or patches. They frequently seem wavy or lumpy.
  - **Altostratus Clouds:** mid-level clouds that create the sky in a consistent coating of grey or bluish-gray. They can produce light precipitation because they are denser and thicker than cirrostratus clouds.
- **Low Clouds:**
  - **Cumulus Clouds:** White, fluffy clouds with a flat base and circular tops are known as cumulus clouds. On bright days, you may frequently observe them. They are generally generated by rising warm air currents. When cumulus clouds grow, they might become cumulonimbus clouds, which are connected to thunderstorms.
  - **Stratus Clouds:** Low-level stratus clouds give the sky a uniform coating of greyish colour. They frequently bring drizzle or light precipitation and can give the sky a dull, overcast appearance.
  - **Stratocumulus Clouds:** Low-level clouds that have a patchy appearance and frequently take the form of spherical masses. They might be white or grey and cover a sizable area of the sky.
  - **Nimbostratus Clouds:** clouds that cover the sky and are thick, dark, and featureless. Continuous precipitation that frequently lasts for a long time is brought on by them.
- **Clouds that exhibit Significant Vertical Development:**
  - **Cumulonimbus Clouds:** Thunderstorms are often linked with huge, towering clouds. They have a dark base and may ascend to great heights, bringing with them torrential rain, lightning, and powerful winds.





## 6.11.15 ANTHROPOCENE EPOCH

### Key Points

- **Crawford Lake (Canada)** sediment research has shown evidence of the Anthropocene epoch's inception.
- Crawford Lake was selected because it is **meromictic** (water does not mix there) and the layers of sediment it contains have retained the yearly effects of human activity on the climate.
- The term "**Anthropocene Epoch**" refers to the current geological period during which the Earth's environment has undergone significant changes as a result of human involvement, particularly since the start of the Industrial Revolution.
- This age is characterised by a wide range of events, including lethal heat waves, ocean acidification, sea level rise, global warming, and mass-scale soil erosion.
- The term was originally used in **2000** by **biology professor Eugene Stoermer and Nobel Prize-winning chemist Paul Crutzen**.
- There is debate regarding whether there is sufficient evidence to demonstrate its invention.
- **Aeons, epochs, eras, periods, and ages** are the five main divisions of the Earth's geological time scale.
- Officially speaking, we are in the **Phanerozoic, Cenozoic, Quaternary, Holocene, and Meghalayan ages**.
- The start of the **Meghalayan period (4200 years ago)** was marked by a sudden mega-drought that led to the dissolution of several civilizations.
- This event's evidence was discovered by geologists in **Meghalaya's Mawmluh Cave system**. Crawford Lake, which is close to Toronto, offers a special reference point for pinpointing the beginning of the Anthropocene.
- The lake's sediments reveal an increase in **plutonium particle** concentration about 1950.
- **Plutonium** is a definite sign of human impact and lends credence to the idea that we are living in the Anthropocene period.
- Additionally, they suggest that it ushers in a new era known as Crawfordian after the lake that was selected as its beginning point.

### Anthropocene Working Group (AWG)

- An interdisciplinary research team devoted to the study of the Anthropocene as a geological time period is called the **Anthropocene Working Group (AWG)**.
- The International Commission on Stratigraphy (ICS)'s Subcommittee on Quaternary Stratigraphy (SQS), which is a constituent body of the organisation, formed it in 2009.
- In 2016, the team came to the conclusion that the Anthropocene epoch started about 1950, marking the beginning of a period marked by nuclear weapon testing, the geochemical remnants of which can be found all across the planet.
- Since then, 12 locations have been taken into consideration by the researchers as potential sources of the crucial data required to prove their hypothesis.
- **The Holocene**, which has been linked to the present warm period, is characterised by the fast spread, expansion, and global impacts of the human species.

### Earth's Geologic Time Scale

- The formal foundation for studying **Earth's 4.5-billion-year** history is provided by the geologic time scale.
- Geologists divide the history of our planet into aeons, eras, periods, epochs, and ages, where an aeon is the longest unit of time and an age is the smallest.
- For example, we are presently in the Meghalayan Age. It belongs to the Holocene Epoch, which started 11,700 years ago with the beginning of the glacial and ice age's retreat.
- The Holocene runs from 539 million years ago to the present. It is a component of the Quaternary Period, the most recent division of the Cenozoic Era, which itself is a part of the Phanerozoic Aeon.



### Geological Time Scale

Eons	Era	Period	Epoch	Age/ Years Before Present	Life/ Major Events
	Cainozoic (From 65 million years to the present times)	Quaternary	Holocene	0 - 10,000	Modern Man
			Pleistocene	10,000 - 2 million	Homo Sapiens
		Tertiary	Pliocene	2 - 5 million	Early Human Ancestor
			Miocene	5 - 24 million	Ape: Flowering Plants and Trees
			Oligocene	24 - 37 million	Anthropoid Ape
	Eocene		37 - 58 Million	Rabbits and Hare	
	Mesozoic 65 - 245 Million Mammals	Cretaceous Jurassic Triassic		65 - 144 Million	Extinction of Dinosaurs
				144 - 208 Million	Age of Dinosaurs
				208 - 245 Million	Frogs and turtles
	Palaeozoic 245 - 570 Million	Permian		245 - 286 Million	Reptile dominate-replace amphibians
				286 - 360 Million	First Reptiles: Vertebrates: Coal beds
		Carboniferous		360 - 408 Million	Amphibians
				408 - 438 Million	First trace of life on land: Plants
		Devonian Silurian		438 - 505 Million	First Fish
				505 - 570 Million	No terrestrial Life : Marine Invertebrate

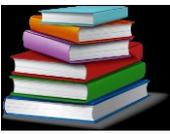
#### What is the Anthropocene Epoch?

- **Paul Crutzen**, a late Nobel Prize-winning scientist, first presented the concept of the Anthropocene at a science meeting more than 20 years ago.
- Global warming, sea level rise, ocean acidification, widespread soil erosion, the onset of lethal heat waves, the degradation of the biosphere, and other negative changes in the environment are phenomena that are connected to this epoch.

#### 6.11.16 EARTHQUAKE SWARM

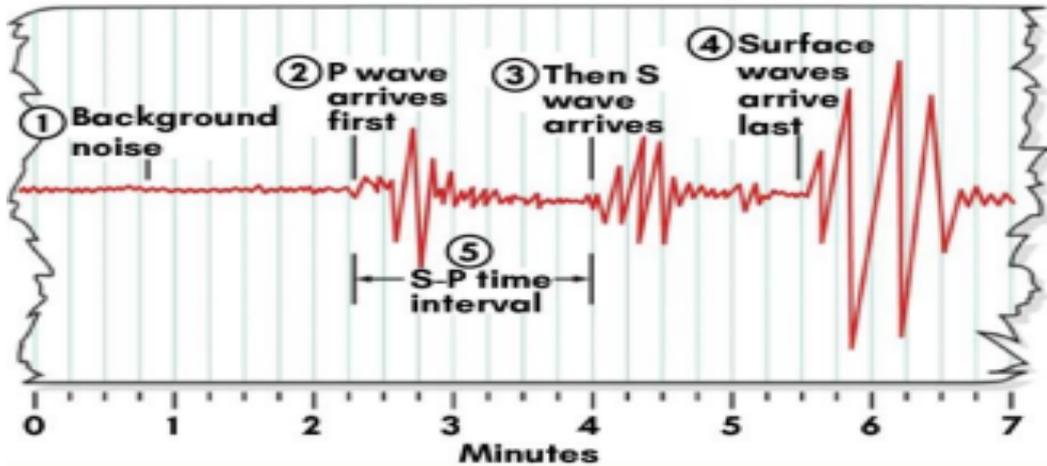
##### Key Points

- In 24 hours, 2,200 earthquakes were recorded in Iceland.
- Because of its location on the Mid-Atlantic Ridge, Iceland is the biggest and most active volcanic area in Europe.
- These earthquake swarms are primarily caused by divergent plate motions in the ridge region, which also result in the formation of Hotspots, through which a vertical plume of hot, molten rock emerges from the mantle.
- Two of Iceland's main seismic zones are the Eyjafjallajökull volcano and Mount Fagradalsfjall.
- **Earthquakes and Earthquake Swarm:**
  - Any abrupt earth trembling brought on by seismic waves travelling through the Earth's rocks (Body Waves (P and S) and Surface Waves (Rayleigh and Love).
  - Only solids may be traversed by S-waves.
  - Earthquake swarms are collections of several earthquakes that happen quickly and without any known foreshocks, mainshocks, or aftershocks.
  - Swarms of earthquakes may endure for several hours, days, or even weeks.



- Despite the possibility of bigger earthquakes within the swarm sequence, they primarily consist of low to moderate magnitude events.
- They frequently occur at the Earth's crust's relatively modest depths.
- They often develop along existing fault networks, which continually accumulate stress and strain.

### Mechanism of Earthquake



① The earthquake happens at time 0.	② The first P waves arrive a little over 2 minutes later.	③ The first S waves arrive 4 minutes later.
④ The surface waves, which travel the long way around Earth's surface, arrive last.	⑤ The S-P interval, here slightly less than 2 minutes, tells the seismologist how far away the earthquake was.	

#### 6.11.17 KAAS PLATEAU

##### Key Points

- In the Maharashtra district of Satara sits the Kaas Plateau, often referred to as Pathar or Valley of Flowers. It is a part of the Western Ghats biome.
- Its name is taken from the rudraksha family's Kaasa tree, botanically known as *Elaeocarpus glandulosus*.
- It is constructed from igneous rocks.
- Under the Western Ghats, this plateau is included as a UNESCO World Natural Heritage Site.

#### 6.11.18 UREILITE

##### Key Points

- According to research, the Ureilite meteorite and the Madhya Pradesh crater known as Dhala collided between 250 and 1700 million years ago.
- The seventh-biggest impact crater in the globe, it is also the largest in Asia.
- Three meteor impact craters have been discovered in India. Ramgarh in Rajasthan and Lonar in Maharashtra are the other two.
- A small percentage of the meteorites on Earth are ureilites, an uncommon type of early meteorites.
- They are made up of silicate rock, mostly olivine and pyroxene, with a trace of metal sulphides, a few fine-grained silicates, and less than 10% carbon (diamond or graphite).



## 7.

## SOCIAL ISSUES

## 7.1 RIGHT-BASED APPROACH FOR DEVELOPMENT

**Latest Context:**

Recently, the Government of Rajasthan introduced “The Rajasthan Minimum Guaranteed Income Bill, 2023” in the state legislature.

**More about the news:**

- This bill **proposes to provide a minimum guaranteed income** in the form of a guaranteed wage or through pension.
- The **bill proposes to provide the employment at both the levels i.e. Urban as well as Rural.**
- This bill **aims to implement the directives given under the Article 38(2) (to minimise inequalities) and Article 41 (Right to Work) of the constitution.**
- In past, such kind of approach was also followed by many states like Tamil Nadu, Jharkhand, Himachal Pradesh, etc. during the Covid-19 Pandemic.
- Many experts believe that **such initiatives are advocates for a “right based approach towards development”**.

**What is Right-based approach for development?**

- **A rights-based approach to development is a framework that places human rights at the centre of all development processes and activities.**
- It recognizes that development efforts should not only focus on economic growth and material well-being but also on ensuring that all individuals are able to enjoy their fundamental human rights and live in dignity.
- This approach **emphasizes the interconnectedness of development and human rights**, considering them as mutually reinforcing rather than separate concepts.
- **India has implemented many right based approaches towards development like MGNREGA Act, RTI Act, etc.**

**What is the need for Right-based approach towards development?**

- **Human Dignity and Well-being:** A rights-based approach recognizes the inherent dignity of every individual and emphasizes the importance of ensuring their well-being and quality of life. It goes beyond mere economic indicators and focuses on meeting the basic needs and rights of all people.
- **Addressing Inequalities and Discrimination:** Many societies face deep-rooted inequalities and discrimination that prevent certain groups from fully participating in and benefiting from development efforts. A rights-based approach seeks to address these disparities by promoting equality and non-discrimination.
- **Empowerment and Participation:** Empowering individuals and communities to actively participate in decision-making processes related to their development enhances their sense of ownership. When people have a say in shaping their own development, it leads to more effective and sustainable outcomes.
- **Accountability and Rule of Law:** By placing human rights at the center of development, a rights-based approach holds governments, institutions, and other stakeholders accountable for upholding and protecting those rights. This contributes to a culture of transparency, rule of law, and responsible governance.
- **Sustainable Development:** A rights-based approach recognizes the interdependence of economic, social, and environmental factors in development. It promotes a balanced approach that takes into account the long-term sustainability of development initiatives.
- **Holistic Development:** A focus solely on economic growth can neglect important aspects of human well-being, such as education, health, clean water, and sanitation. A rights-based approach ensures that these fundamental aspects are not overlooked in the pursuit of development.



- **Global Commitments:** Many countries have ratified international human rights treaties and conventions. Making a rights-based approach aligns development efforts with these global commitments, reinforcing the idea that development should be consistent with human rights principles.
- **Catalyst for Peace and Stability:** In societies where rights are respected and protected, there is often greater social harmony, trust in institutions, and reduced conflict. This can contribute to overall peace and stability.

#### Challenges in implementing Right based Approach are:

- **Cultural and Contextual Sensitivity:** Balancing universal human rights principles with cultural and contextual realities can be complex. Some rights may clash with deeply ingrained cultural practices or beliefs, requiring careful consideration and negotiation.
- **Lack of Awareness and Capacity:** Many individuals, communities, and even government officials may not fully understand the concepts of human rights and the implications of a rights-based approach. This lack of awareness can hinder effective implementation.
- **Political Resistance:** Implementing a rights-based approach may challenge existing power structures and vested interests. Governments or authorities might resist changes that could lead to greater accountability or redistribution of resources.
- **Resource Constraints:** Fulfilling all human rights for all individuals requires significant resources. Limited budgets and competing priorities can make it difficult to fully realize these rights, leading to difficult decisions about resource allocation.
- **Institutional Weaknesses:** Weak governance structures, corruption, and lack of capacity within institutions can hinder the proper implementation and enforcement of human rights standards.
- **Measurement and Monitoring:** Assessing progress and outcomes in terms of human rights can be challenging due to the absence of clear indicators and benchmarks. Measuring qualitative aspects such as empowerment and participation is particularly complex.
- **Conflict Areas:** In conflict-affected areas, implementing a rights-based approach can be challenging due to the breakdown of institutions, insecurity, and displacement.
- **Vulnerable and Marginalized Groups:** Ensuring the rights of marginalized and vulnerable groups can be particularly challenging due to their limited access to resources, information, and decision-making processes.

#### Conclusion

- In summary, the need for a rights-based approach towards development arises from the desire to create inclusive, equitable, and sustainable societies where every individual's human rights are respected, protected, and fulfilled.
- Despite the challenges, many organizations, governments, and advocates continue to work towards integrating human rights principles into development efforts.
- Addressing these challenges requires collaborations and a good understanding of the local context.

## 7.2 WORLD FOOD PROGRAMME (WFP) AND GLOBAL FOOD CRISES

#### Latest Context:

In the year 2023, the World Food Programme (WFP) has received funding, which is just half of its operating requirement.

#### More about news:

- As per WFP, **more than 345 million people face high levels of food insecurity in 2023** and this is **more than double the number in 2020** due to COVID19, the Russia-Ukraine war, conflicts, economic decline, etc.
- The number of **hungry people continues to increase** at a pace that funding is unable to match.
- **The cost of delivering food assistance is 44% more as compare to 2019** because of increased food and fuel prices.



### About the World Food Programme (WFP)

- **WFP is the food assistance branch of the United Nations, established in 1961.**
- It is the **world's largest humanitarian organization** focused on addressing global hunger and food insecurity.
- WFP's primary goal is to **provide food aid to people in crisis situations**, such as natural disasters, conflict zones, and areas affected by extreme poverty.
- In addition to providing basic food assistance, WFP **focuses on nutrition programs** to address malnutrition, especially among vulnerable populations like children, pregnant and breastfeeding women, and the elderly. These programs often include specialized nutritional products to treat and prevent malnutrition.
- In some situations, **WFP provides cash or vouchers instead of physical food**. This approach allows beneficiaries to choose the food they need, while also promoting local economies.
- WFP collaborates with governments, other UN agencies, non-governmental organizations, and private sector entities to achieve its goals. These partnerships are crucial for coordinating efforts and maximizing impact.

### What are the reasons for Global Food Crises?

- **Conflict and Instability:** Armed conflicts and political instability can disrupt food production, distribution, and access. Conflict often leads to displacement of populations, destruction of infrastructure, and disruption of agricultural activities, resulting in food shortages.
- **Extreme Weather Events:** Natural disasters such as droughts, floods, hurricanes, and other extreme weather events can destroy crops, disrupt supply chains, and reduce agricultural productivity. Climate change is increasing the frequency and intensity of these events, contributing to food crises.
- **Poverty and Inequality:** Poverty and income inequality limit people's ability to afford nutritious food. Inadequate access to resources, education, and employment opportunities can trap communities in cycles of hunger and malnutrition.
- **Rising Food Prices:** Fluctuations in global commodity markets can lead to sudden spikes in food prices. High food prices can push vulnerable populations deeper into poverty, making it difficult for them to access the food they need.
- **Economic Shocks:** Economic downturns, currency devaluations, and financial crises can impact food security by reducing people's purchasing power and increasing food prices.
- **Lack of Infrastructure and Technology:** Inadequate agricultural infrastructure, outdated farming techniques, and limited access to modern technologies can hinder agricultural productivity and food production.
- **Population Growth:** Rapid population growth can strain food resources, leading to increased demand for food, while agricultural production struggles to keep pace with it.
- **Land Degradation and Soil Fertility Decline:** Poor land management practices, deforestation, and soil degradation can lead to reduced agricultural productivity and less fertile soil, making it harder to grow sufficient crops.
- **Water Scarcity:** Water scarcity, whether due to over-extraction, pollution, or climate-related changes, can negatively impact crop irrigation and livestock husbandry, affecting food production.
- **Disease Outbreaks:** Plant and animal diseases can devastate agricultural production, leading to shortages of certain food items. In the case of livestock diseases, it can affect the availability of meat and dairy products.
- **Trade Disruptions:** Disruptions in international trade, whether due to trade disputes, export bans, or logistical challenges, can affect the availability and affordability of food in many regions.
- **Policy Failures:** Poorly designed or implemented policies related to agriculture, trade, land tenure, and social safety nets can contribute to food insecurity.
- **Lack of Access to Credit and Inputs:** Small-scale farmers often struggle to access credit, quality seeds, fertilizers, and other inputs needed to increase agricultural productivity.



### What can be the ways to tackle Global Food Crises?

- **Invest in Agriculture and Rural Development:** Supporting small-scale farmers with access to improved seeds, fertilizers, modern technologies, and training can increase agricultural productivity. Investments in rural infrastructure, such as irrigation systems and storage facilities, can also enhance food production and reduce post-harvest losses.
- **Promote Sustainable Farming Practices:** Encouraging sustainable farming methods that preserve soil fertility, conserve water resources, and protect ecosystems can contribute to long-term food security.
- **Enhance Climate Resilience:** Implementing climate-smart agriculture practices, such as drought-resistant crop varieties and water-efficient irrigation systems, can help farmers adapt to changing climate conditions.
- **Improve Nutrition and Health:** Nutrition education, micronutrient supplementation, and support for breastfeeding can improve the nutritional status of vulnerable populations, particularly women and children. Combating malnutrition is essential for long-term food security and development.
- **Social Safety Nets:** Establishing social safety net programs, such as conditional cash transfers or food assistance programs, can provide a safety net for vulnerable individuals and families during times of crisis.
- **Empower Women and Youth:** Empowering women and youth in agriculture can lead to increased productivity and innovation. Providing training, access to resources, and equal opportunities can enhance their contributions to food production.
- **Access to Finance and Markets:** Ensuring that smallholder farmers have access to credit, markets, and fair prices for their produce can improve their livelihoods and incentivize agricultural production.
- **Conflict Prevention and Resolution:** Addressing the root causes of conflicts and working towards peace can help prevent disruptions to food production and distribution in conflict-prone areas.
- **Invest in Research and Innovation:** Funding agricultural research to develop new crop varieties, pest-resistant plants, and sustainable farming techniques can drive improvements in productivity and resilience.
- **Improve Food Distribution and Logistics:** Developing efficient supply chains, storage facilities, and transportation networks can help prevent food losses and ensure that food reaches those in need.
- **Water Management:** Implementing effective water management strategies, including water conservation and efficient irrigation systems, can safeguard water resources crucial for agriculture.
- **Promote Trade and Reduce Trade Barriers:** Facilitating international trade and reducing trade barriers can help ensure that food is available even in regions facing shortages.
- **Build Global Partnerships:** Collaborating with international organizations, governments, NGOs, and the private sector can enhance the collective response to food crises.
- **Raise Awareness and Advocacy:** Increasing awareness about food insecurity issues can lead to greater political will and public support for initiatives aimed at addressing them.
- **Address Food Wastage:** Reducing food waste at all levels of the supply chain, from production to consumption, can help make more food available for those in need.
- **Education and Training:** Providing education and training in agricultural practices, nutrition, and food preparation can empower communities to make informed decisions about their food security.

## 7.3 UN WOMEN AND UNDP RELEASED “THE PATHS TO EQUAL” REPORT

### Latest Context:

Recently, a report titled “The Paths to Equal: Twin Indices on Women’s Empowerment and Gender Equality” was jointly published by UN Women and UN Development Programme (UNDP).



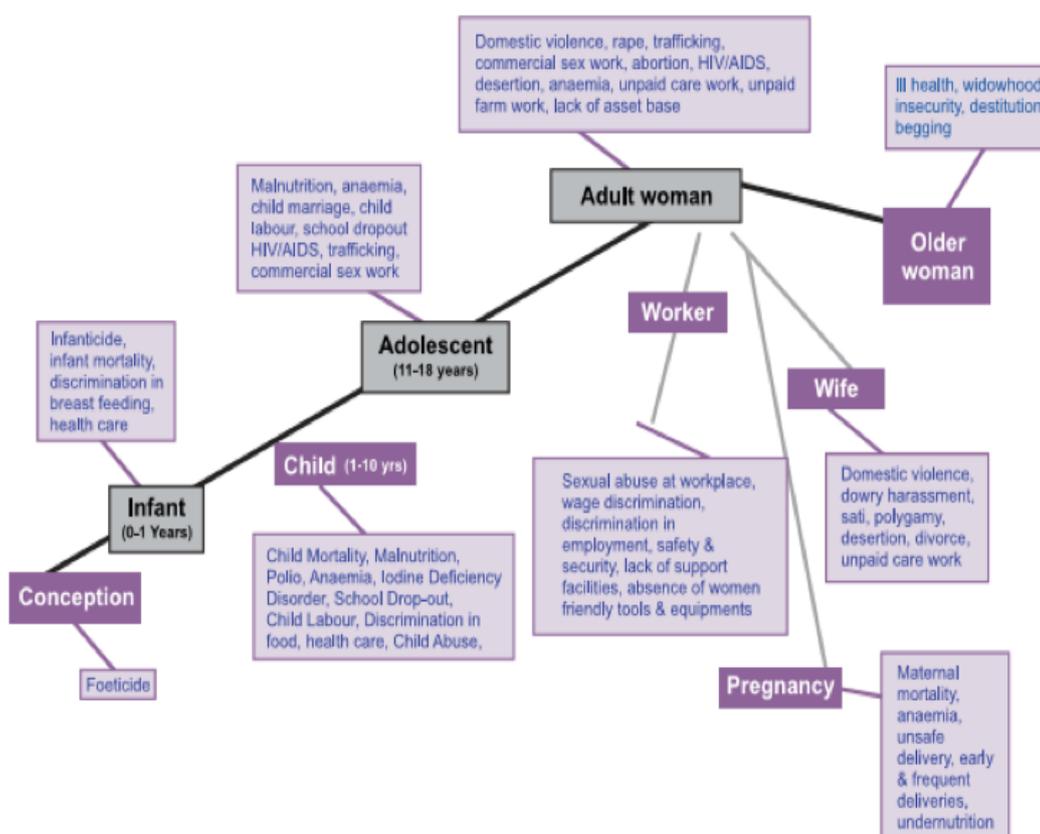
### More about the news:

- Basically, it's the **first-of-its-kind report** that provides a comprehensive analysis of progress made in human development of women and girls.
- Both the UN bodies have **analysed data from almost 114 countries** based on twin indices:
  - a) **Women's Empowerment Index (WEI)**: It measures women's power and freedoms to make choices.
  - b) **Global Gender Parity Index (GGPI)**: It measures gender disparities in key dimensions of human development.

### Key findings of the report are:

- Less than **1%** of women across the world live in countries that have managed to achieve both high women empowerment and gender parity.
- **No country** in the entire world has **achieved high women's empowerment**, while **maintaining a big gender gap**.
- **Women empowerment and gender parity** are categorised as '**low**' in India.
- In terms of **human development**, India has been categorised in '**medium**' category.

### DISCRIMINATION THROUGH THE LIFE CYCLE OF GIRLS AND WOMEN



### What are the challenges in achieving women empowerment and gender equality in India?

- **Gender-based violence**: High level of gender-based violence is still prevalent in India, including domestic violence, rape, dowry-related deaths, and acid attacks. Implementation gaps in laws and social stigma often discourage women from reporting such incidents.
- **Child marriage**: Child marriages are still prevalent in many parts of India, leading to early pregnancies and restricting girls' access to education and opportunities.
- **Limited access to education**: While improvements have been made but girls in rural and marginalized communities still face barriers to education, such as lack of schools, safety concerns during travel, and social norms that prioritize boys' education.
- **Gender wage gap**: Women in India often earn less than their male counterparts for similar work or work of equal value. This wage gap is present across various sectors and industries.



- **Underrepresentation in leadership roles:** Women are significantly underrepresented in political, corporate, and other leadership positions. This lack of representation hinders their influence in decision-making processes.
- **Unpaid care work burden:** Indian women shoulder a significant portion of unpaid care work, including household work and caregiving responsibilities, which limits their time for education, career, and personal development.
- **Inadequate access to healthcare:** Women in India face limited access to quality healthcare, particularly in rural areas and face specific challenges concerning reproductive health and maternal care.
- **Social and cultural norms:** Deep-seated patriarchal norms still persist in various parts of Indian society, impacting women's freedom to make choices and participate fully in public life.
- **Trafficking and exploitation:** Women and girls in India remain vulnerable to human trafficking and exploitation, including sex trafficking and forced labour.
- **Digital gender divide:** Women in India face limited access to digital technologies and the internet, which can restrict their economic opportunities and access to information.



#### Recommendations of the report are:

- To focus on **universal access to sexual and reproductive health.**
- Special attention needs to be given to **address gaps in skills and quality of education.**
- **Discriminatory laws and policies need to be eliminated** on the priority bases.

#### Conclusion and Way Forward:

- Addressing these challenges requires a comprehensive approach involving **government initiatives, civil society engagement, and individual efforts.**
- Policy measures like **legal protections for women, improve access to education and healthcare, promote women's representation in decision-making roles** are required.



## 7.4 MOTHER TONGUE IN FOUNDATIONAL EDUCATION

### Latest Context:

Recently, the Central Board of Secondary Education (CBSE) has directed its affiliated schools to consider Indian languages as optional mediums of instruction to promote multilingual education.

### More about the news:

- The CBSE has advised **using an Indian language listed in 8<sup>th</sup> Schedule of the Indian Constitution as an option from pre-primary classes till Class 12.**
- This direction of CBSE is in **harmony with the National Education Policy (NEP) 2020**, which aims to introduce education in multiple languages and to promote Indian languages.

### What is the importance of schooling in mother tongue?

- **Cognitive Development:** Research suggests that students learn best when instruction is delivered in their mother tongue during the early years of schooling. Cognitive development occurs when children can understand concepts and express themselves clearly, which is easier in their native language.
- **Conceptual Understanding:** Learning complex subjects, such as mathematics and science, can be challenging if the student does not fully understand the language of instruction. Teaching these subjects in the mother tongue helps students grasp abstract concepts and theories more effectively.
- **Language Development:** Schooling in the mother tongue supports strong language skills, both in terms of vocabulary and comprehension. This foundation in the native language facilitates easier acquisition of additional languages, as students have a strong linguistic base.
- **Emotional Connection:** Language is deeply connected to culture and identity. Schooling in the mother tongue helps students maintain a strong emotional connection to their cultural heritage and brings a sense of pride in their identity.
- **Higher Engagement:** Students are more likely to be engaged and participate actively in learning activities when they understand the language being used. When they are taught in their mother tongue, they are more likely to ask questions, discuss ideas, and explore topics with curiosity.
- **Confidence Building:** When students can express themselves fluently and confidently in their mother tongue, it boosts their self-esteem and overall confidence. This confidence can extend to other aspects of their education and life.
- **Parental Involvement:** Parents are often more involved in their children's education when they can understand the content being taught. Schools that offer instruction in the mother tongue facilitate stronger communication between educators and parents.
- **Reducing Educational Disparities:** In many regions, students from marginalized communities face educational disparities. Offering instruction in their mother tongue can help bridge this gap and provide them with a fair opportunity to access quality education.
- **Preservation of Indigenous Languages:** For communities with indigenous languages, providing education in the mother tongue contributes to the preservation of these languages, which may otherwise be at risk of extinction.

### Challenges in using mother tongue in schools are:

- **Lack of Educational Materials:** Developing quality educational materials, textbooks, and resources in every mother tongue can be a significant challenge. Without appropriate materials, teachers might struggle to effectively convey complex concepts.
- **Teacher Training and Proficiency:** Finding teachers who are proficient in both the mother tongue and the subjects they teach can be difficult. In regions with linguistic diversity, teacher training programs might need to focus on language skills as well as subject knowledge.
- **Limited Vocabulary:** Some mother tongues might lack specialized vocabulary for certain subjects, making it challenging to teach advanced or technical topics accurately.
- **Standardization of Curriculum:** Ensuring that the curriculum is standardized across different languages while still being culturally relevant can be complex. Developing curricula that meet national standards while accommodating linguistic and cultural diversity is difficult.
- **Transition to Higher Education or Job Market:** In regions where the mother tongue is not widely used beyond primary education, students might face challenges when transitioning to



higher education or the job market, where proficiency in the dominant language is often required.

- **Parental Expectations and Societal Attitudes:** Parents and communities might have different expectations about the role of the mother tongue in education. Societal attitudes about the prestige of certain languages could influence decisions about language use in schools.
- **Language and Identity:** While using the mother tongue can promote a sense of cultural identity, it might also promote divisions among linguistic and cultural groups. Finding ways to promote linguistic diversity, while encouraging unity is a complex task.
- **Limited Research and Resources:** The implementation of mother tongue-based education might lack research-backed methodologies and strategies. Limited resources could hinder the development and testing of effective teaching approaches.
- **Multilingual Environments:** In regions with multiple languages spoken, deciding which mother tongue(s) to prioritize for instruction can be challenging. Excluding certain languages might lead to feelings of exclusion and marginalization.
- **Assessment and Evaluation:** Designing fair and effective assessment methods that accurately measure students' understanding of concepts and skills taught in the mother tongue can be difficult.
- **Globalization and Communication:** As the world becomes increasingly interconnected, proficiency in a widely spoken global language (e.g., English) is often considered advantageous. This might create pressure to shift away from the mother tongue for perceived economic opportunities.

### Conclusion

- Addressing these challenges **requires collaboration between educators, policymakers, linguists, communities, and other relevant stakeholders.**
- It's important to recognize that a **one-size-fits-all approach might not work** due to the diverse linguistic, cultural, and educational contexts in different regions.
- **Careful planning, ongoing research, community involvement, and flexible strategies** are key to successfully implementing mother tongue-based education, while preparing students for a dynamic and interconnected global landscape.

## 7.5 WATER, SANITATION AND HYGIENE (WASH)

### Latest Context:

Recently, the World Health Organisation (WHO) released “Burden of Disease Attributable to Unsafe Drinking Water, Sanitation and Hygiene” report.

### Key findings of the report are:

- Basically, WASH is a collective term used for Water, Sanitation and Hygiene.
- As per the report, **half of the world’s population still does not have sufficient access to safe drinking water, sanitation and hygiene (WASH).**
- Report also claimed that at least **1.4 million deaths and 74 million disability-adjusted life years (DALYs) could have been prevented** just by adequate WASH.
- **Climate change** can also impact WASH services in many ways including damage to water supply and sewerage infrastructure.

### Findings related to India are:

- India is among the very few countries that **increased sanitation services** by more than **10 percentage points** between 2015 and 2020.
- **Swachh Bharat Mission** has led to reduction of more than 3,00,000 deaths and 14 million DALYs between 2014 and 2019.
- The report assumed that the successful implementation of **Jal Jeevan Mission** could reduce diarrhoeal deaths and DALYs by almost half.



**Unsafe drinking water, poor sanitation, and inadequate hygiene practices can have significant health impacts on individuals and communities. Here are some of the key health effects linked to these issues:**

- **Waterborne Diseases:**

Contaminated drinking water is a major source of waterborne diseases such as cholera, typhoid, hepatitis A, dysentery, and diarrheal diseases. These illnesses can cause severe dehydration, malnutrition, and even death, particularly among children and people with weakened immune systems.

- **Diarrheal Diseases:**

Lack of access to safe water and sanitation facilities contributes to the spread of diarrheal diseases. Diarrhoea is a leading cause of illness and

death globally, particularly in developing countries. It can result in dehydration, electrolyte imbalance, nutrient deficiencies, and can be especially dangerous for vulnerable populations such as young children and the elderly.

- **Neglected Tropical Diseases (NTDs):** Inadequate sanitation and poor hygiene can lead to the transmission of various neglected tropical diseases. Examples include schistosomiasis, trachoma, guinea worm disease, and soil-transmitted helminth infections. These diseases can cause chronic pain, disability, impaired cognitive development, and reduced productivity.

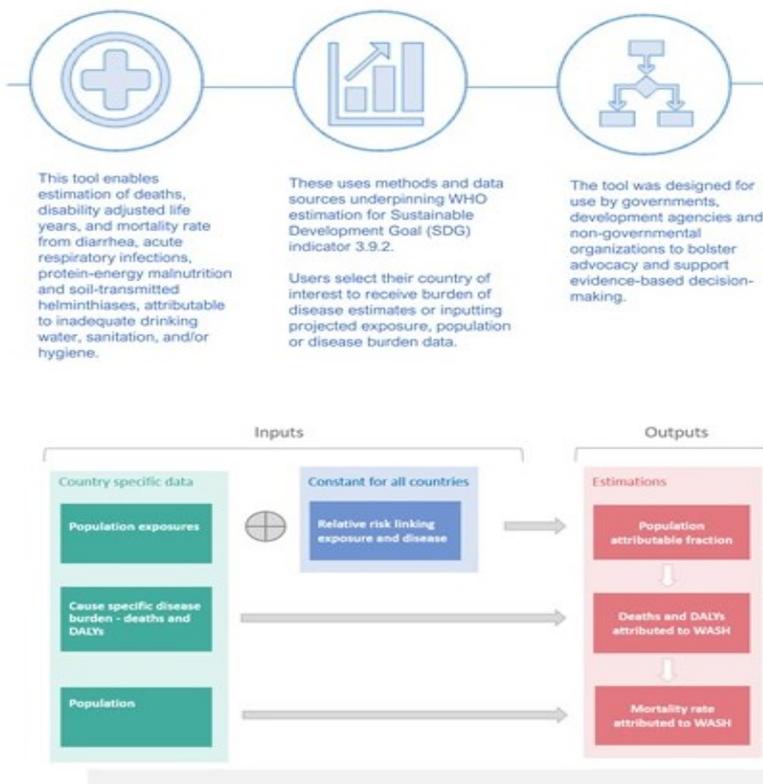
- **Malnutrition:** Poor sanitation and hygiene practices can contribute to malnutrition. Contaminated water and inadequate handwashing facilities can lead to the transmission of pathogens that cause conditions like diarrhoea, which can impair nutrient absorption and lead to malnutrition, especially in children.

- **Stunted Growth and Development:** Chronic exposure to waterborne diseases and malnutrition due to unsafe water and poor sanitation can result in stunted growth and impaired cognitive development in children. This can have long-term effects on their overall health, education, and economic potential.

- **Respiratory Infections:** Lack of access to clean water and sanitation facilities can lead to unhygienic living conditions, including crowded and poorly ventilated spaces. This increases the risk of respiratory infections such as pneumonia, particularly among children and vulnerable individuals.

- **Vector-Borne Diseases:** Inadequate sanitation, stagnant water, and poor hygiene can contribute to the breeding of disease-carrying vectors like mosquitoes. This increases the risk of diseases such as malaria, dengue fever, Zika virus, and yellow fever.

### Tool for estimating the burden of disease from unsafe drinking water, sanitation and hygiene



#### About the WHO

- Basically, the WHO is a **specialized agency of the United Nations (UN)** which is responsible for international public health.
- It was established on **1948** and its headquarters is in **Geneva, Switzerland**.



- The WHO's primary objective is to **promote global health, coordinate international health efforts, and provide leadership in health matters.**
- It plays a **crucial role in setting norms and standards**, providing technical support and guidance, monitoring health trends, conducting research, and fostering collaboration among member countries. It acts as the global authority on public health matters.
- It has a membership of **194 member states**, including nearly all recognized sovereign nations. Each member state appoints representatives to the World Health Assembly, which is the highest decision-making body of the organization.
- The **WHO focuses on a wide range of health issues**, including communicable diseases, non-communicable diseases, mental health, nutrition, environmental health, health systems strengthening, emergency response, and more. It develops policies, strategies, and action plans to address these challenges.
- It **collaborates with various stakeholders**, including governments, other UN agencies, non-governmental organizations (NGOs), academic institutions, and the private sector, to achieve its goals. It works closely with member states to develop and implement health policies and programs.
- Its **funding comes from several sources**, including assessed contributions from member states, voluntary contributions from governments, foundations, and other organizations. It also receives funding for specific programs and projects.

## 7.6 FAO's REPORT ON FOOD SECURITY AND NUTRITION IN WORLD

### Latest Context

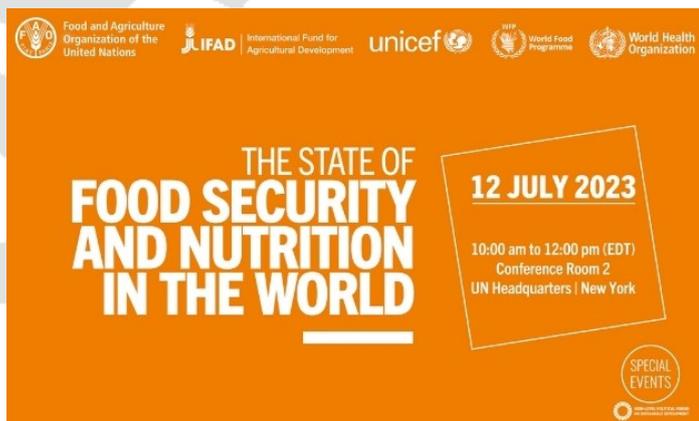
Recently, FAO released the State of Food Security and Nutrition in the World (SOFI) which is an annual report prepared by FAO and other organizations on the progress made by the world on **ending hunger, food security, and nutrition.**

### Key Highlights

- As per the report, the level of undernourishment remained unchanged from 2021 to 2022 but still far above the pre-Covid-19 pandemic levels. It affects **approximately 9.2% of the world population in 2022** in comparison to 7.9 % in 2019.
- There are 122 million more people faced hunger in 2022 in comparison to 2019 due to weather shocks, pandemic, and conflicts.
- As per the reports, food insecurity affects **women more than men** in every region of the world. The gender gap in the realm of food insecurity at the global level narrowed to 2.4 % in 2022 from 3.8 % in 2019 which was widened in the wake of the COVID-19 pandemic.
- Growing urbanization has become a megatrend in the current scenario that combined with the changes in incomes, employment and lifestyle is bringing about change in throughout agrifood systems to consumer behaviour.
- These changes are proffering challenges and opportunities for everyone in accessing healthy diets.

### Challenges

- Increased availability of cheap, energy-dense and highly processed foods and the exclusion of small farmers from formalizing value chains





### Opportunities

- Increased employment along the food value chains and improvements in the variety of nutritious foods.

### Recommendations

- To affordable healthy diets, attention should be laid to connectivity between urban, peri-urban and rural areas to increase access.
- Emphasis should be on improving access to production inputs and irrigation infrastructure.
- To develop technologies and innovations in order to create healthier food environments attention should be made to increasing public investment in R&D.

## 7.8 PERFORMANCE GRADING INDEX (PGI)

### Latest Context

Recently, a report on the Performance Grading Index 2.0 for States and UTs for the academic year 2021–2022 was issued by the **Union Ministry of Education**.

### Facts about Performance Grading Index

- It was **first launched for the 2017–18** school year and has now been extended until the 2020–21 school year.
- Through the **creation of an index for comprehensive analysis**, it evaluates the performance of the school education system at the State/UT level.
- **Aim of PGI 2.0:** to encourage States and UTs to implement multifaceted initiatives that will result in the highly sought ideal educational results that encompass all dimensions.
- The PGI 2.0 framework consists of 73 indicators totalling 1000 points, which are divided into two categories: **outcomes and governance management (GM)**.
- **Learning Outcomes (LO), Access (A), Infrastructure & Facilities (IF), Equity (E), Governance Process (GP), and Teachers Education and Training (TE&T) are the six domains** into which these categories are further subdivided.
- The States/UTs were graded according to PGI 2.0 for 2021–22, with **Daksh** being the highest grade that can be earned by a State/UT that receives more than 940 out of a possible 1000 points.
- **Akanshi-3**, which is for scores up to 460, is the lowest grade.
- For accurate tracking of progress, indicators of PGI 2.0 have been matched to policy initiatives and interventions put in place after the introduction of **National Education Policy (NEP) 2020**.
- The **PGI 2.0** is anticipated to assist States and UTs in identifying the gaps and prioritising areas that need to be addressed in order to guarantee that the school education system is strong at all levels.
- PGI 2.0 intends to encourage States & UTs to implement multifaceted interventions in order to get the best results for education in terms of raising the standard of instruction.
- PGI 2.0 is in line with new NEP 2020 activities that will track metrics pertaining to **Goal 4 of the Sustainable Development Goals (SDGs)**.
- The Unified District Information System for Education Plus (UDISE+), the National Achievement Survey (NAS), the PM POSHAN portal, the PRABAND portal, and the Vidyanjali portal were the main sources of data for many of the indicators in PGI 2.0.

### Key Findings of Performance Grading Index 2.0 for 2021-22

- The highest Grade, Daksh, has not been obtained by any of the States or UTs.
- Grade Prachesta-2 (score 641–700) has been reached by just 2 States and UTs, namely **Punjab and Chandigarh**.
- **Arunachal Pradesh, Meghalaya, and Mizoram** are the three States/UTs that perform the worst, according to Akanshi 3.
- The States/UTs' maximum and minimum scores for 2021–2022 are 659.01 and 420.64, respectively. States like Arunachal Pradesh, Meghalaya, and Mizoram need to work harder to take the top spot because the difference between the maximum and least scores attained by States/UTs is 23.8% of the maximum points. In 2017–18, this discrepancy was 51%.



### Reasons behind launching PGI 2.0

- To maintain a more current foundation of quality indicators.
- In order to be consistent with fresh efforts under the National Education Policy (NEP) 2020.
- To track metrics pertaining to Sustainable Development Goal 4 (SDG).
- To replace out current indicators that have hit their goals the best.

### Significance

- The ultimate goal of PGI 2.0 is to encourage States and UTs to implement multifaceted initiatives that will result in the highly sought ideal education outcomes across all dimensions.
- For effective tracking of the development, indicators of PGI 2.0 have been matched to policy initiatives and interventions put into place after the introduction of National Education Policy (NEP) 2020.
- The PGI 2.0 is anticipated to assist States and UTs in identifying the gaps and prioritising areas that need to be addressed in order to guarantee that the school education system is strong at all level

## 7.9 NEWS IN SHORTS

### 7.9.1 INSTITUTIONAL DEVELOPMENT PLAN (IDP) FOR HIGHER EDUCATIONAL INSTITUTIONAL

- Recently, the **University Grants Commission (UGC) passed guidelines for Institutional Development Plan (IDP) for the Higher Education Institutions (HEIs)**.
- Even the National Education Policy (NEP) 2020 recognises the significance of IDP and recommends that **each institution should have a strategic IDP**.
- UGC has framed certain guidelines for individual HEIs to develop their own IDP.
- The **necessity for IDPs arises from an understanding that a uniform set of norms may not work for all**, as each HEI requires a different path to progress.

#### Guidelines of UGC framework

- **Physical infrastructure should support the academic and research activities** of various schools and departments of universities.
- The HEIs must also create a **road map of learning and teaching using modern technologies** to move towards the idea of ‘**Digital Universities**’.
- It proposes a “**fast track promotion system**” for faculty members to recognise “very high-impact” research and contribution.
- It mentions that **50% of the total faculty requirement can be contractual** (tenured) or visiting from the profession.
- Each HEI should **maintain the faculty-student ratio** as set by the UGC.

### 7.9.2 TWO NEW HEALTH BILLS INTRODUCED IN PARLIAMENT

- Recently, the Central Government introduced **National Nursing and Midwifery Commission (NNMC) Bill, 2023 and the National Dental Commission (NDC) Bill, 2023** into the parliament.
- These bills were introduced **to improve the education in the paramedical (including nurses and midwives) and dental sector, respectively**.

#### NDC Bill, 2023

- This bill aims to repeal the **Dentists Act 1948**.
- It has a provision to **set up the National Dental Commission (NDC)** to govern dental education and the dental profession in the country.
- It proposes an **exit test for dentists** on the lines of the National Exit Test.



### NNMC Bill, 2023

- It seeks to repeal the **Indian Nursing Council Act of 1947**.
- It has a provision for the **establishment of the NNMC** to make policies and regulate standards for the governance of nursing and midwifery education in India.
- It will also provide a uniform mechanism for admission into nursing and midwifery institutions.

### 7.9.3 SUSTAINABLE DEVELOPMENT GOALS (SDG) PROGRESS REPORT 2023

- It was released by **UN Department of Economic and Social Affairs (UNDESA)**, which monitors the global progress on 17 SDGs.
- As per the report, **progress on more than 50% of SDG targets is weak** and on **almost 30%**, it has become **stagnant or gone into reverse**.
- **COVID-19 pandemic, issue of climate change, biodiversity loss and rising pollution** are making the things even worse.
- The report claimed that by the year **2030**, almost **84 million** children will be **out of school** and almost **300 million** children attending school will be **unable to read or write**.
- If going with the current trends then almost **575 million people will live in extreme poverty** in **2030**.

#### Recommendations of the report are:

- Heads of state and governments should **recommit** regarding the action on SDGs.
- International community should **fulfil the commitments made in Addis Ababa Action Agenda** (it provides a new global framework for financing sustainable development).
- **More targeted policies and actions** are needed to eradicate poverty, reduce inequality with a special focus on advancing rights of women and girls.
- It is also required to **boost capacity of multilateral system** to tackle present challenges.

#### About the SDGs

- The Sustainable Development Goals (SDGs), also known as the **Global Goals**, are a set of **17 interconnected goals established by the United Nations in 2015**.
- The SDGs provide a framework for countries and stakeholders to **work together towards a more sustainable and equitable future** by addressing various social, economic, and environmental challenges.



## 8.

## ETHICS

## 8.1 SCIENCE WITHOUT HUMANITY

## Latest Context

One of the seven deadly sins identified by Mahatma Gandhiji is science without humanity. He argued that if science were to become exclusively technical and technological, it would rapidly deteriorate into man pitted against man. He underlined the need for technology to seek to serve greater human ends.

## Recent Examples of Scientific development sans humanity

- Use of lethal weapons in the Russia-Ukraine conflict despite awareness of the harm they do to people's lives.
- A Chinese researcher created designer babies (children with selected traits) by using gene editing techniques.
- Artificial technology and other disruptive technologies are developing swiftly without taking into account any negative effects, such as invasions of privacy (human dignity).

## Key stakeholders and their interests

Scientific Community	<ul style="list-style-type: none"> <li>• <b>Scientists:</b> Scientific development, personal growth along with public welfare at large.</li> <li>• <b>Institutions:</b> Includes both public and private entities.               <ul style="list-style-type: none"> <li>○ Public institutions are generally guided by the national interest.</li> <li>○ Private institutions generally emphasize more on profit.</li> </ul> </li> </ul>
Regulatory Bodies (national and international)	<ul style="list-style-type: none"> <li>• <b>Regulatory bodies</b> aim to promote utilizing science for the welfare of humanity.               <ul style="list-style-type: none"> <li>○ They aim to bring transparency and accountability among others in the sphere of research and scientific development.</li> </ul> </li> </ul>
Sovereign States	<ul style="list-style-type: none"> <li>• <b>The interest of Sovereign states</b> depends on their national interest.               <ul style="list-style-type: none"> <li>○ This interest can vary with geopolitical conditions and domestic needs among others.</li> </ul> </li> </ul>
Citizens /Individuals	<ul style="list-style-type: none"> <li>• <b>Aspiration of an individual</b> is to improve his/her life with the help of scientific developments along with the overall welfare of the human civilization.</li> </ul>

## Ethical concerns/issues in Science without Humanity

- **Unfair distribution of advantages:** The path of scientific growth is sometimes determined by problems facing the wealthier segments of society.
- For instance, many common issues that affect the lower sectors of society—such as manual scavenging, starvation, etc.—do not receive the attention they need.
- Lack of exact accountability methods and processes to stop the development of potentially dangerous technology. Limited accountability.
- For instance, several nations have developed chemical or biological weapons.
- **Illegal use of technology:** When scientific advancements or methodology are concealed or misused for individual advantage or to advance a certain goal, public confidence is damaged.
- Science frequently employs human people as tools, which is an affront to their dignity and basic human rights. For instance, financially precarious women are sometimes taken advantage of in surrogacy instances.
- As a tool, science is now used by numerous nations to increase their influence. Personal wealth or interest is prioritised over the wellbeing of the entire population.

## Way Forward

- **Scientific Ethics:** The application of scientific ethics must be a fundamental component of the scientific method in order to guarantee that science is used ethically and for the benefit of all.



- Mechanisms for multi-stakeholder involvement establishing platforms for seamless and open communication between scientists, researchers, policymakers, and the general public. Such a discussion can influence the trajectory of scientific advancement.
- The importance of moral education, or an emphasis on principles and values as well as scientific information, needs to be pushed as a component of the educational system.
- **Social effect Indicators:** Typical social effect indicators for technology advancements might be created. This will subtly influence scientists and technocrats to take a more welfare-oriented stance.
- A permanent forum with participation from the major leaders in science and technology throughout the world will offer a place for global discussion.

### Outcome of Scientific Development at a glance

Sphere	 Ethical Values/Principles are not incorporated	 Ethical Values/Principles are incorporated
Development	Skewed development and few get the benefit of it.	Development is sustainable in nature. All get the benefit of scientific development.
Human dignity	It undermines the human dignity	It is given the highest priority in it.
Future of Humanity	It poses challenges such as nuclear and biological weapons are being developed.	Promotes the technologies which ease the life of human beings.

## 8.2 ETHICAL CONDUCT OF CONTROLLED HUMAN INFECTION STUDIES (CHIS)

### Latest Context

A consensus policy statement for the **ethical conduct of CHIS**, also known as Human Challenge Studies, in India has been created by the Bioethics Unit of the Indian Council of Medical Research (ICMR).

### Facts about Controlled Human Infection Studies (CHIS)

- In order to further knowledge of the aetiology, transmission, prevention, and treatment of infectious illnesses in humans, healthy volunteers participate in CHIS, which deliberately exposes them to pathogens in a controlled setting.
- Even though infectious diseases account for 30% of all diseases in India, no such trials have ever been conducted.
- **Clinical Trials on Humans:** The main goal of clinical trials on humans is to evaluate the effectiveness of therapeutic, surgical, or behavioural treatments. In this case, participants avoid contracting an illness; any exposure to germs and any infection that results from that exposure is left up to chance.
- **Human Challenge Studies:** The main goal of these studies is to better understand a disease by examining an affected body. Thus, germs that cause sickness are purposefully introduced to participants.



## Key stakeholders and interests

Participants	<ul style="list-style-type: none"> <li>• <b>Right to receive comprehensive information</b> about the research, ensuring they fully comprehend it and voluntarily participate.</li> <li>• <b>Compensation for Research-Related Harm</b> after proper assessment.</li> <li>• <b>Privacy and Confidentiality</b> of Participants.</li> </ul>
Society	<ul style="list-style-type: none"> <li>• <b>Public health benefits, improved pandemic preparedness</b>, and community empowerment.               <ul style="list-style-type: none"> <li>○ Many infectious diseases are <b>endemic in several developing countries</b>, and <b>resistance to existing drugs is increasing</b>.</li> </ul> </li> </ul>
Regulatory Agency	<ul style="list-style-type: none"> <li>• <b>Responsible stewardship</b> of science and research resources.</li> <li>• Ensure that the <b>social and scientific value</b> of research justifies the potential risks.</li> <li>• <b>Transparency and Accountability</b> in research plans and outcomes.</li> </ul>
Researcher	<ul style="list-style-type: none"> <li>• Researchers are <b>responsible for protecting the environment and resources</b> at all stages of the research.</li> <li>• <b>Minimization of suffering</b> and the promotion of human health.</li> </ul>
Media	<ul style="list-style-type: none"> <li>• <b>Increasing awareness</b> and disseminating information about CHIS.</li> </ul>

## Ethical Concerns

- Intentional exposure to pathogens leading to the development of a human illness is regarded as a violation of the Hippocratic Oath and a violation of the "**do no harm**" ethical norm for medical professionals.
- **Psychological distress:** Lack of social connection and access to emotional support networks can have a negative impact on individuals' mental health, leading to conditions including anxiety, loneliness, and depression.
- **In some situations, informed consent is not followed:** For instance, the 2010 human papillomavirus (HPV) vaccination study gained notoriety for violating informed consent laws.
- **Issues with privacy and confidentiality:** CHIS uses sensitive data that might have an impact on participants' health and wellbeing and expose them to social stigma.
- **Risk to Third Parties & Communities** includes, among other things, hazards of transmission to other people, environmental risks (such as the tainting of nearby groundwater systems), and erosion of public confidence in the event of an accident.
- **Shady ways to solicit participation:** In conventional clinical studies, it's rather customary to advertise the sizable sum of money that volunteers would get in exchange for their participation, as was the case with the Covaxin experiment that was done in Bhopal.

## Way Forward

- **Risk Minimisation Strategy:**
  - **Society:** Participation of the general public in research design.
  - **Volunteers:** Low-risk volunteers are chosen, they are closely watched, they receive early diagnosis, supportive treatment, and if necessary, critical care. Compensation for any damages resulting from the study, as well as suitable insurance coverage.
  - **Third parties:** The choice of locations with strict infection control procedures, including staff protective gear.
- **Responsibility of Researcher:**
  - Informed consent guidelines should follow the 2017 ICMR National Ethical Guidelines.
  - Clinical trial conductors should be appropriately qualified, talented, and experienced researchers and their teams.
  - They must get training in accordance with the ICMR National Ethical Guidelines for Biomedical and Health Research Involving Human Participants and Good Clinical Practise (GCP).
- **Collaboration and data sharing:** Because CHIS is such a complicated field, it may call for many degrees of cooperation between researchers, organisations, institutions, and other nations.
- **Transparent regulatory environment:** Institutions are required to abide by the rules and specifications established by the relevant Indian regulatory agencies, such as the Central Drugs Standard Control Organisation (CDSCO) and the bio-safety monitoring committee.



## 9.

## CULTURE

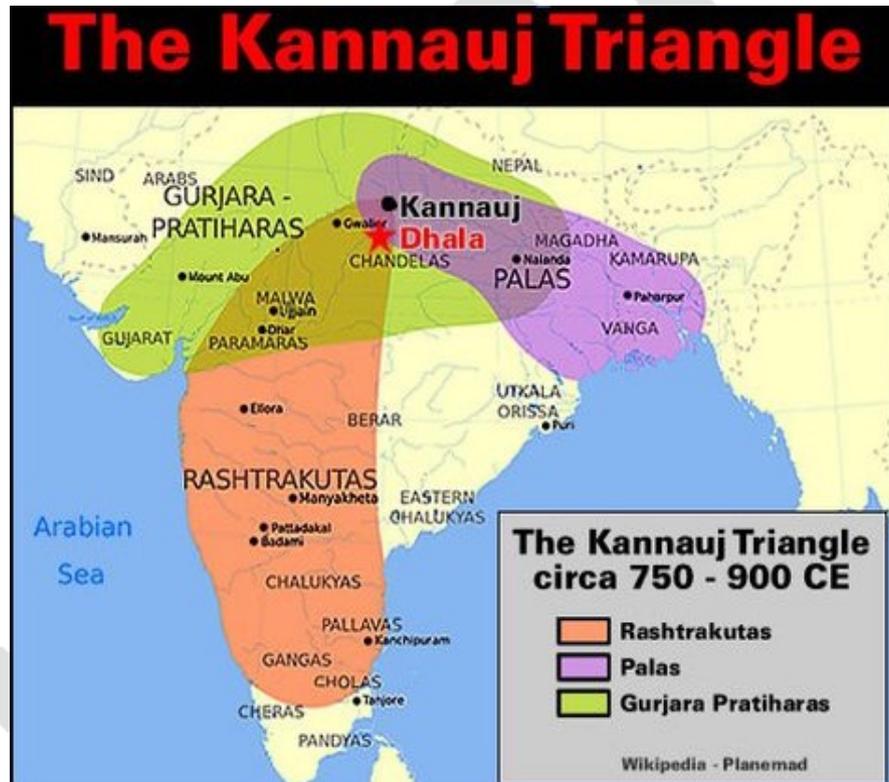
## 9.1 MIHIR BHOJA

## Latest Context:

Recently, a statute of Raja Mihir Bhoja was unveiled in Kaithal, Haryana.

## About Mihir Bhoja

- Reign and Dynasty:** Mihir Bhoja ruled from around 836 CE to 885 CE. He was a member of the Pratihara dynasty, which is also known as the Gurjara-Pratihara dynasty. The dynasty had its capital in Kannauj, a city in present-day Uttar Pradesh.
- Expansion of the Pratihara Empire:** Mihir Bhoja is credited with expanding the Pratihara Empire to its zenith. Under his rule, the empire stretched across a significant part of North India, encompassing areas in present-day northern India, Rajasthan, and parts of central India.
- Patronage of Art and Culture:** Mihir Bhoja was known for his patronage of art, culture, and learning. He supported scholars and poets, which led to a flourishing of literature during his reign. He is often praised for his contributions to Sanskrit literature.



- Works of Mihir Bhoja:** One of the notable works attributed to Mihir Bhoja is the "Sarasvati-Kanthabharana," a treatise on poetics. He is also believed to have been a patron of the famous Sanskrit poet Rajashekhara, who composed several works during this period.
- Legacy:** Mihir Bhoja's reign marked a period of stability and prosperity in North India. His patronage of art and culture contributed to the cultural development of the region. However, after his death, the Pratihara Empire started to decline, eventually become vulnerable to external invasions and internal strife.

## Tripartite struggle:

- Mihir Bhoja was also involved in tripartite struggle for Kannauj with Palas in the East and Rashtrakutas in the Deccan.
- He fought wars with Pala king Devapala. Later, according to Gwalior prashasti, Bhoja defeated the son of Devapala.
- During his reign, Amoghavarsa and Krishna II were Rashtrakuta kings ruling over Kannauj. Bhoja captured Kannauj from Rashtrakutas and extended his empire up to the river Narmada.



## 9.2 BASTILLE DAY AND FRENCH REVOLUTION (1789-1815)

### Latest Context:

Recently, PM Modi attended Bastille Day Parade as a Guest of Honour in France.

### About Bastille Day

- **Historical Background:** The Bastille was a fortress and prison in Paris that had come to symbolize the tyranny and oppression of the Bourbon monarchy. The attack on the Bastille by a mob of revolutionaries on July 14, 1789, marked the beginning of the French Revolution and the overthrow of the monarchy.
- **Symbolism:** Bastille Day symbolizes the birth of the French Republic and the end of absolute monarchy in France. It also represents the principles of liberty, equality, and fraternity, which became central to the French Republic's ideals.
- **Celebrations:** Bastille Day is celebrated throughout France with various festivities, including parades, fireworks, concerts, and parties.
- **Military Parades:** The Bastille Day military parade in Paris is one of the oldest and largest military parades in the world. It showcases various branches of the French armed forces, including the French Army, Navy, and Air Force, as well as foreign military units.

### Reasons for French Revolution (1789)

- **Social Inequality:** One of the primary causes of the French Revolution was the high social inequality in France at the time. The society was divided into three estates, with the clergy and nobility enjoying significant privileges while the common people (the third estate) faced heavy taxation and had limited political power.
- **Financial Crisis:** France was facing a severe financial crisis in the late 18th century, fuelled by a series of costly wars (including the American Revolutionary War) and a system of taxation that placed a disproportionate burden on the Third Estate. The monarchy was heavily in debt, and attempts to reform taxation faced resistance from the nobility.
- **Enlightenment Ideas:** Enlightenment philosophers and writers, such as Voltaire, Rousseau, and Montesquieu, popularized ideas of individual rights, liberty, and the separation of powers. These ideas inspired many French intellectuals and played a role in challenging the existing social and political order.
- **Economic Injustice:** The French economy was characterized by a rigid system of feudal privileges, trade restrictions, and monopolies that hindered economic growth and development. Commoners often faced economic hardships, while the nobility enjoyed economic privileges.
- **Food Shortages:** Poor harvests and food shortages, especially in the late 1780s, led to widespread hunger and suffering among the French population. Rising bread prices and food scarcity contributed to social unrest.
- **Ineffectual Monarchy:** King Louis XVI's weak and indecisive rule contributed to the crisis. His inability to address the country's financial and social problems effectively eroded confidence in the monarchy.
- **Political Opposition:** Political opposition to the monarchy and the Estates-General, the representative body of the three estates, grew as enlightenment ideas spread. The Third Estate, feeling underrepresented and marginalized, pushed for political reforms.
- **Radicalization:** Over the course of the revolution, radical factions and leaders emerged, leading to events like the 'Reign of Terror' and the rise of figures like Maximilien Robespierre. These radical elements further fuelled the revolution's intensity.
- **External Threats:** France faced external threats from other European monarchies, who were concerned about the spread of revolutionary ideas and the fate of the French monarchy. These threats led to the Revolutionary Wars and further radicalization within France.

### Impact of French Revolution on the world

- **Spread of Revolutionary Ideas:** The principles of liberty, equality, and fraternity that emerged during the French Revolution inspired political movements and revolutions in other countries. These ideas influenced subsequent revolutionary movements, including the Latin American Wars of Independence, various European uprisings in the 19th century, and anti-colonial struggles in the 20th century.
- **End of Absolute Monarchies:** The revolution led to the downfall of absolute monarchies not only in France but also in other European countries. Monarchs in places like Spain, Portugal, and Austria were forced to make concessions and grant constitutional reforms to maintain their power.
- **Napoleonic Wars:** The rise of Napoleon Bonaparte as a military leader and later as Emperor of the French had a profound impact on Europe. The Napoleonic Wars reshaped the political map of Europe, and his legal reforms (Napoleonic Code) influenced legal systems in many countries.



- **Spread of Nationalism:** The French Revolution contributed to the rise of nationalism as people across Europe began to identify more strongly with their own national identities. This led to the unification of Italy and Germany in the 19th century and the dissolution of empires.
- **Secularization:** The French Revolution played a role in the secularization of society. It resulted in the separation of church and state in France and influenced similar movements in other countries, leading to the decline of the political power of religious institutions.
- **Human Rights and Civil Liberties:** The revolution's emphasis on human rights and civil liberties had a lasting impact on political thought and legal systems worldwide. Concepts such as due process, freedom of speech, and individual rights gained prominence.
- **Colonialism and Anti-Colonial Movements:** The French Revolution's ideals influenced anti-colonial movements in colonial territories, as people sought to apply the principles of liberty and equality to their own struggles against colonial rule.

#### Conclusion:

The French Revolution was a complex and dynamic process that evolved over the course of a decade, resulting in significant social, political, and cultural changes in France and inspiring similar movements worldwide.

## 9.3 SHORT NEWS

### 9.3.1 ANUBHAV MANTAPA

#### Key Points

- Bharat Mandapam is the new name for the International Exhibition-cum-Convention Centre (IECC) at Pragati Maidan in New Delhi.
- The concept of Anubhav Mantapa, first proposed by Lord Basaveshwara in the 12th century, is the source of Bharat Mandapam.
- One of the first parliaments in history was the Anubhava Mantapa, when Sharanas (poets and socio-spiritual reformers) discussed changes in many areas.
- Great Yogi Prabhudeva served as President, while Lord Basaveshwara served as Prime Minister.
- Members were chosen or proposed by higher Mantapa officials rather than elected by the general populace.

### 9.3.2 PORPANAIKOTTAI SITE

#### Key Points

- A Sangam Age gold stud, a bone point, and a carnelian bead were discovered during excavations at the Porpanaikottai site in Tamil Nadu's Pudukottai district.
- Sangam Age refers to the era of prehistoric Tamil Nadu and Kerala from around the sixth century BCE to roughly the third century CE.
- The fort area exhibited traces of water bodies inside the site, and the excavation site indicated a burial location.
- The finding of a carnelian bead—which is often found in northern India—proved that there was trade taking place there.
- A Porpanaikottai was a weaving industry site, according to the finding of bone point tools.

### 9.3.3 TANKAI SHIPBUILDING METHOD

#### Key Points

- An initiative to resurrect the Tankai method of shipbuilding, which has been used for 2000 years, will be launched by the Ministry of Culture and the Indian Navy.
- Instead of using nails, this technique involves sewing the wooden planks together to build the ship.



- This approach provided adaptability and toughness, reducing their vulnerability to shoal and sandbar damage.
- Techniques for building ships changed as a result of the advent of European ships.

### 8.3.4 OL CHIKI SCRIPT

#### Key Points

- On the occasion of Hul Diwas, the Prime Minister wished the Santhal tribe's members in the Santhali language's Ol Chiki script.
- Santali was added to Schedule VIII of the Indian Constitution, which specifies the official languages of India, along with Bodo, Dogri, and Maithili, by the 92nd Constitutional Amendment Act.
- The Ol Chiki script was developed by Raghunath Murmu in 1925.
- A Munda language, Santhali is mostly spoken in Jharkhand, West Bengal, and Odisha. It is also spoken in Bangladesh, eastern Nepal, and Bhutan.
- Santhali is spoken by 7.3 million people in India, according to the 2011 census.
- The Santhal revolt of 1885 is commemorated on June 30 as Hul (revolution) Diwas.
- One of the earliest manifestations of insurrection against the British colonial government was the Santhal uprising (1855–1856).
- Their expulsion from the Birbhum and Manbhum areas of modern-day Bengal and subsequent exploitation by zamindars, police, and the British are linked to the Permanent Settlement Act of 1790.
- The Damin-i-Koh area of Jharkhand's Rajmahal Hills was the scene of the uprising.
- It was led by the two brothers Sidhu and Kanhu Murmu.

### 9.3.5 KUI LANGUAGE

#### Key Points

- The Kui language has been considered for inclusion in the 8th Schedule by the Odisha Cabinet.
- The **biggest tribes in Odisha**, the **Kondh/Kandha**, speak the Kui language, which is a **member of the Dravidian family of languages**.
- It shares a close relationship with **other Dravidian languages like Gondi and Kuvi**.
- Throughout history, it was also known to as **the Kuinga language**.
- Its **dialects are Khondi and Gumsai**, and it writes in the **Odia script**.
- **Schedule 8 of Indian Constitution:**
  - It includes the country's official language and now has **22 languages**.
  - The Constitution **only initially mentioned 14 languages**; the others have been added over time.
  - **Sindhi** was adopted in **1967**, **Konkani, Manipuri, and Nepali** in **1992**, and **Santali, Dogri, Maithili, and Bodo** by the **92nd Amendment Act of 2003**.
- **Inclusion of New Language:**
  - There are currently no set requirements for a language to be taken into consideration for the Eighth Schedule.
  - Despite the creation of two committees under **Pahwa (1996)** and **Sitakant Mohapatra (2003)** to provide a definite criterion, the goal was not met.

#### Benefits of inclusion of Kui Language in 8th Schedule

- The Kui language and culture will be preserved, promoted, and spread.
- Activities like publication, content production, and recognition will pick up momentum.
- Establish a research and study environment that is centred on the promotion, preservation, and spread of the Kui language.



### 9.3.6 ZO PEOPLE

#### Key Points

- **Zo people include:**
  - The ethnic group of the Chin, Kuki, and Mizo is dispersed over Bangladesh, India, and Myanmar.
  - The Chin, Kuki, Mizo, Lushei, Zomi, Paitei, Hmar, Ralte, Pawi, Lai, Mara, Gangte, Thadou, etc. are only a few of the numerous sub-tribes and clans.
- It is said that tribes travelled from China to Tibet and then settled in Myanmar.
- A number of Tibeto-Burman languages are spoken there.

### 9.3.7 KER PUJA

#### Key Points

- Two weeks after Kharchi Puja, Tripura celebrates a celebration in honour of the guardian deity Ker.
- To establish a safe space for the celebration, Agartala's gates are shut down. Participants are also forbidden from dancing, singing, or even wearing shoes.
- A few other northeastern states as well as Bangladesh's Chittagong Hill Tracts also have it.